Local Government Infrastructure Audit

June 2013

JUNE
2013

ALTERNATIVE MEDIA PUBLICATIONS
Special arrangements can be made for our publications to be provided in large print or an alternative media format. If you need this service, please contact our Operations Group on 02 9289 4000.

NSW GOVERNMENT | **Premier** & **Cabinet**
Division of Local Government

Foreword by the Minister

The NSW Government is committed to building the infrastructure that is critical to making NSW number one. In doing so, the Government recognises that much of the essential infrastructure that we rely upon on a day-to-day basis falls under the care and control of our local councils.

As a result, one of the Government's key election commitments, now included under Goal 19 of the NSW 2021 Plan, was to undertake a council-by-council audit of the local government infrastructure backlog. This report delivers on that commitment.

In August 2011, I hosted a forum for all NSW councils designed to establish a long term strategic blueprint for the local government sector. One of the most pressing challenges identified at the Destination 2036 forum was the capacity of councils to provide and maintain infrastructure assets.

This report confirms what many have been thinking and saying – there is a large local government infrastructure backlog in NSW and some councils face real and significant challenges in terms of maintaining and renewing the infrastructure that is critical to their communities and the NSW economy. Not surprisingly, the audit has also found that many of those councils with substantial backlogs are also struggling financially.

Clearly, the status quo is not an option. Rather, the NSW Government, together with councils, the Federal Government and other key stakeholders will need to continue to work together to address the challenges identified in this report.

The results of this audit, together with the NSW Treasury Corporation's Report on the Financial Sustainability of NSW Local Government Sector and the work of the Independent Local Government Review Panel and the Local Government Acts Taskforce, will provide direction for all councils in NSW to establish strong communities through these partnerships.

I would like to extend my thanks and appreciation to all councils for their cooperation in participating in this audit. I would also like to thank the External Reference Group and the staff of the Division of Local Government for their work in compiling what I believe will prove to be an excellent resource into the future.

The Hon Don Page MP

Minister for Local Government

Contents

Appendices

Executive
Summary

1. Executive Summary

Strong and sustainable communities that optimise the use of public resources is what residents and rate-payers of NSW are looking for. As a result, the management of assets and in particular infrastructure assets, is an extremely important component of a council's function.

This is recognised by the NSW Government in the actions of the NSW 2021 State Plan. One of the actions was to carry out this Infrastructure Audit of NSW councils.

The key objectives of this Audit are to:

1. Provide information in relation to the infrastructure backlog in NSW

2. Assess the reliability of the information provided by councils to determine the backlog

3. Identify trends in infrastructure needs by area and asset type

4. Identify current infrastructure risk exposure.

Councils are responsible for $131 billion worth of assets. Infrastructure assets are the systems and networks that provide services to communities such as roads, buildings, water supply, sewer networks and stormwater drainage. Infrastructure assets account for $81 billion of councils' assets.

The Integrated Planning and Reporting framework implemented between 2009 and 2012. It seeks to promote strong communities through partnerships and effective planning. The framework requires all councils in NSW to have asset management planning in place that is integrated with the long term financial planning and strategic direction of council.

This Audit was conducted using a survey of councils' infrastructure management processes and practices, historical financial information and through visits to a number of councils. Detailed information on the methodology is available in Section 3 of this Report.

The net value of infrastructure assets for NSW councils is $81 billion

1.1 The Infrastructure Audit Key Findings

- The total infrastructure backlog for all NSW councils was estimated to be $7.4 billion at 30 June 2012, of which $4.5 billion relates to roads and related assets and $1 billion relates to buildings

- The backlog in the northern coastal area of NSW equates to 29% of the State total

- The infrastructure backlog is over $1,000 per head of the NSW population (Figure 2)

- Between 2004/05 and 2011/12, as a proportion of the written down value of councils' total assets, the backlog fell from over 18% to approximately 10%

- This reduction is primarily due to the introduction of Integrated Planning and Reporting and fair value

- When compared to the councils' estimated required annual maintenance amounts, the majority of councils in NSW are underspending in the area of asset management. Projections indicate a continuation of this trend

- Infrastructure backlog data is not audited and it does not provide information about how councils propose to bring assets to a satisfactory standard

- Councils appear to have better infrastructure practices and processes in place for the asset classes of roads and related assets, water supply, sewer networks and stormwater drainage

- Indications are that better data is being gathered and used by NSW councils to manage their assets since the introduction of IP&R

- While asset data is being improved 37% of councils still need to implement or improve their infrastructure management practices and procedures (Figure 1)

- Many councils still need to determine levels of service in consultation with their communities for all asset classes

- Generally speaking, councils with the largest bring to satisfactory standard per capita, have the weakest financial position with a negative outlook as well as the poorest infrastructure management assessment

- How councils manage the assets that are considered to be in a poor or unserviceable condition is important to the community

- The financial position impacts significantly on a council's ability to deliver infrastructure.

- There are a number of funding and financing strategies that may help councils to reduce their backlog and/or to prevent the backlog increasing such as:

  - Borrowings (especially for councils with low or no debt)

  - Local Infrastructure Renewal Scheme (subsidised interest rates)

  - Special rate variations

  - Grants from other levels of government

- Further work is required in relation to strategic and operational asset risk management

1.2 Recommendations:
Moving from Backlog to Sustainability

While the notion of backlog has proven persistent in describing growing deficiencies in the provision of infrastructure in the past, a significant shift in thinking is required to move from this highly subjective way of reporting on "The State of the Infrastructure in NSW Local Government", towards honest community conversations about balancing real needs with available resources in each local government area. The following provides recommendations based on the four areas identified as the most important in achieving sustainable infrastructure service levels:

Skilled People:

1. Ongoing asset management capacity building programs be developed that assist councils in meeting asset management requirements

2. Awareness of the importance of sustainable asset management be raised amongst Elected Representatives and Senior Management within the sector

3. Collaboration within the sector continues to develop specialised infrastructure management training programs for Local Government Practitioners

4. Innovative solutions be investigated to address the skills shortage within the field and promote sector wide collaboration

Appropriate Processes:

5. Integrated Planning & Reporting Guidelines and Manual strengthen the focus on asset management practices, in order to assist councils in implementing appropriate systems and processes

6. Targeted capacity building programs to be developed with a specific focus on improving council capacity in the fields of

   a. Community Service Level Negotiations

   b. Risk Management and Infrastructure Vulnerability Assessments and

   c. Identification of Critical Infrastructure

Reliable Data:

7. Clearly defined and specific asset management measurement parameters (for example: satisfactory standard, actual condition, renewal, upgrade etc), be developed with the sector for inclusion within each council's delivery program and annual reporting requirements

8. A summary of proposed asset management improvements to be included in councils' delivery programs. Summary to include expenditure on maintenance, renewals, new or upgraded assets, an assessment of the condition of assets, critical assets and information in relation to levels of service provided

9. Councils to report on their progress on achieving what was set out in the delivery program each year. The report should identify the condition levels of assets across all asset categories and report on actions to be taken with regard to assets reported as being in a poor or very poor condition (as defined in the Integrated Planning & Reporting Guidelines)

10. Aspects of asset management to be subjected to an audit. Audit parameters to be developed to ensure a level of assurance that asset management information is reliable

11. Delete Special Schedule 7 from the financial reports in 2014

Adequate Resources:

12. Councils consider using debt to help address backlog issues where they have the capacity

13. Councils are encouraged to apply for Local Infrastructure Renewal Scheme funding for backlog infrastructure projects

14. Councils should be encouraged to consider applying for a special variation to rates for backlog purposes

15. Support to be provided to those councils that have weak financial outlooks to obtain grant funding from other levels of government to address asset management requirements

16. Examine the distribution of Financial Assistance Grants to see if a greater share can be provided to councils with less capacity, to help manage infrastructure

17. Councils are made aware of the risks involved in underfunding annual maintenance and are encouraged to include, in each operational plan, the actual required annual maintenance made

1.3 Results of the Audit

Based on the information provided by NSW councils an assessment was made of the infrastructure management practices and processes of the councils. Below is a map (Figure 1 – Infrastructure Management Assessment) that shows the assessments that were assigned to each of the councils. The assessment process is detailed in Section 3 of the report and comprehensive information regarding the overall State results is contained within Section 5.3 of this Report.

Further analysis of the results of the Infrastructure Audit are displayed in Figure 2 - Infrastructure Bring to Satisfactory Standard (BTS) – Per Capita. This map shows level of the cost of backlog works per person within a local government area. As the population density decreases, the cost per person generally increases.

Section 4.4 provides further insights of the results on a per capita basis, including collated results for each of the regions within NSW. The average for the State is approximately $1,000 with an average of $631 required for roads and related assets.

As the population density decreases, the cost per person generally increases.

NSW Local Government Areas Infrastructure Management Assessment

Asset rating
- Very Strong
- Strong
- Moderate
- Weak
- Very Weak
- Distressed
- Data Incomplete
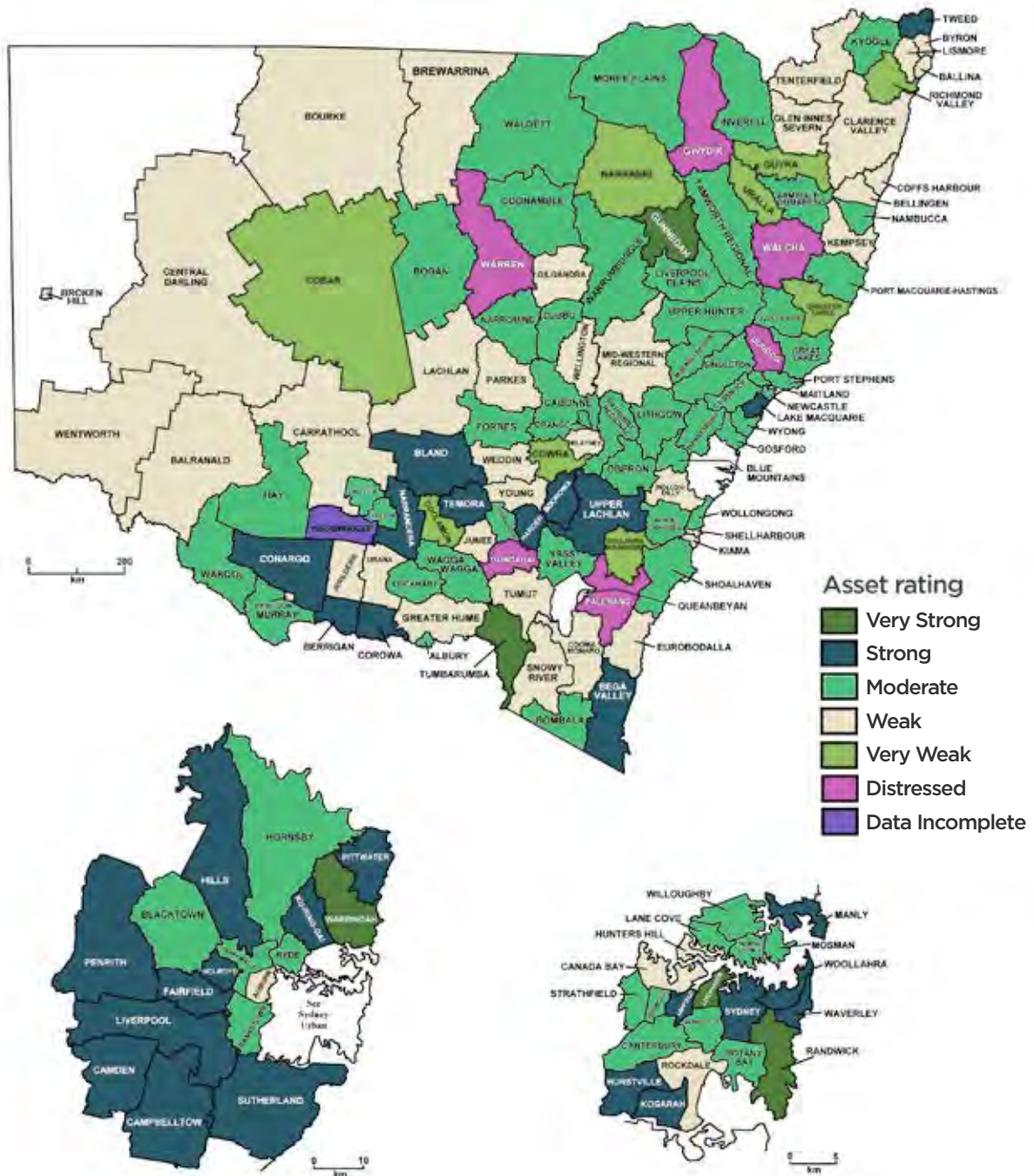
Sydney Local Goverment Areas

Sydney Urban Local Goverment Areas

Figure 1 - Infrastructure Management Assessment

NSW Local Government Areas Infrastructure - BTS Per Capita
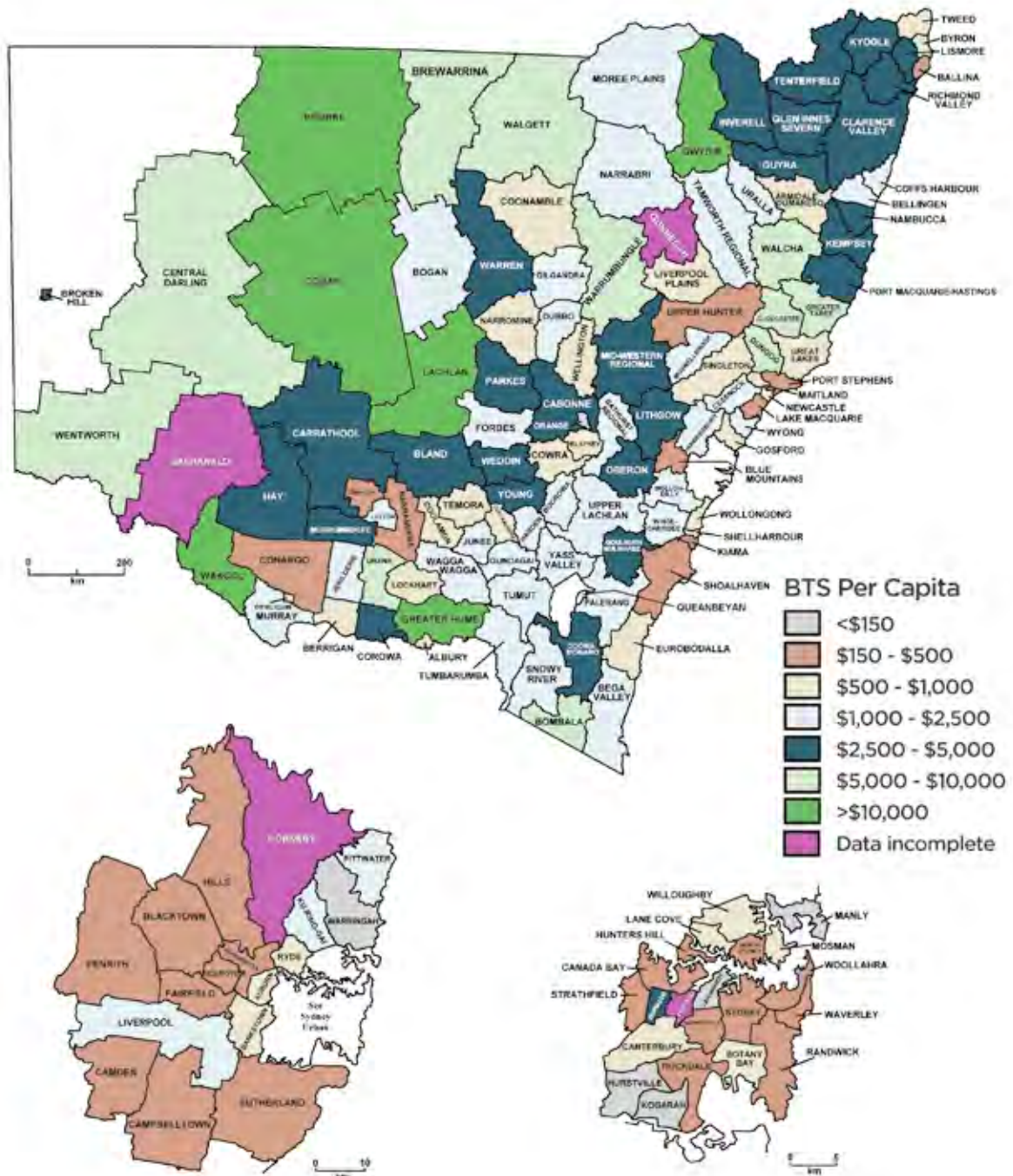
Sydney Local Goverment Areas

Sydney Urban Local Goverment Areas

Figure 2 - Infrastructure BTS Per Capita

1.4 The Importance of Asset Management Planning

The introduction of mechanisms such as Integrated Planning & Reporting and the fair value of assets, together with an increased focus on sustainability has lead to significant improvements in asset management planning within NSW.

This Infrastructure Audit provides a base on which further asset management improvements can be measured.

It is important to recognise that asset management is all about managing risk and not a compliance exercise. The risks to be managed can either be strategic or operational in nature. The greatest strategic risk is whether a council is sustainable and therefore able to provide the services desired by the community within councils financial capacity.

In order to achieve this, good decisions need to be based on accurate and realistic asset management information.
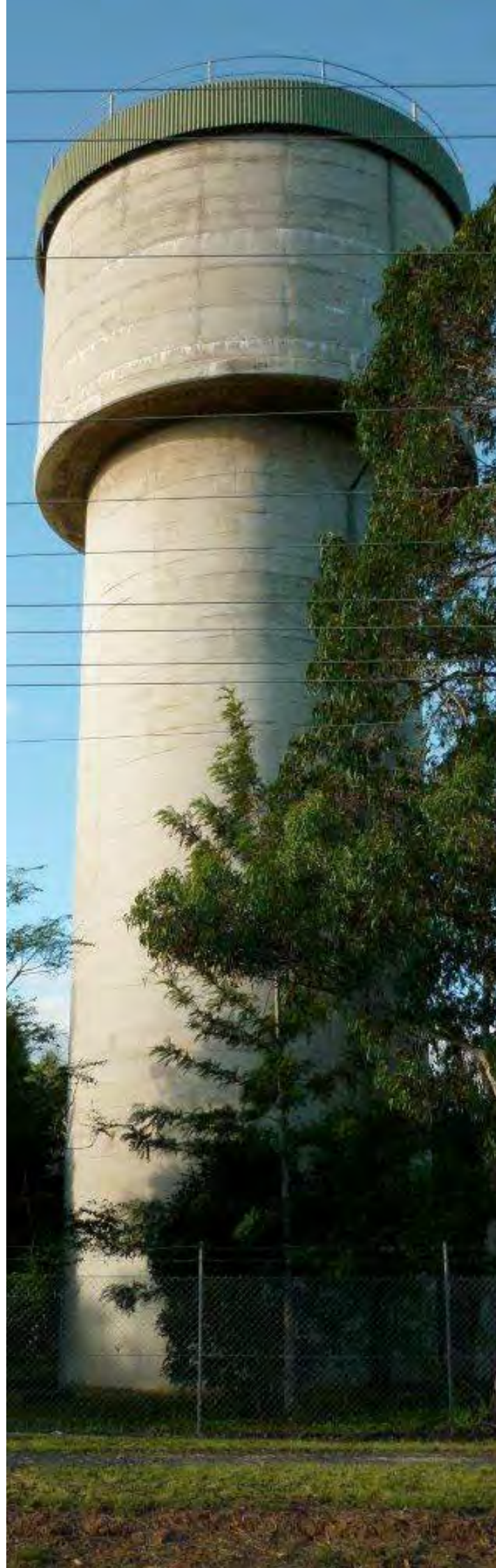
Introduction

2.1 Background to this Report

In 2011, the NSW Government announced the Local Infrastructure Backlog Policy. The policy comprises four inter related elements; an audit of each council's infrastructure backlog, a scheme to provide interest subsidies, setting up a system for financial benchmarking and requesting loans or guarantees from the Commonwealth Government where required.

In announcing the policy, the NSW Premier, the Hon Mr Barry O'Farrell MP, stated that "The findings of the audit will assist the NSW Government in identifying precisely where the State's infrastructure needs lie – and we will work with Councils to deliver on those needs for local communities."

Each and every one of us desire a community that is strong and sustainable and that the use of all public resources is maximised. To this end the management of assets and in particular infrastructure assets is an extremely important component of a council's function.

The sustainability of a council is underpinned by their ability to provide the services that the community desires while maintaining infrastructure assets and being able to plan for the future.

2.2 Objectives of the Infrastructure Audit

The key objectives of this Local Government Infrastructure Audit (the Audit) are to:

1. Provide information in relation to the infrastructure backlog in NSW
2. Assess the reliability of the information provided by councils to determine the backlog
3. Identify trends in infrastructure needs by area and asset type
4. Identify current infrastructure risk exposure.

During the course of the Audit, the Division of Local Government (the Division) has endeavored to identify good asset management practices and principles by councils, increase awareness of asset management issues and the impact of sound asset management.

The Audit has involved the collection and analysis of data from councils through an audit survey, desktop reviews, financial assessments by NSW Treasury Corporation (TCorp) of all councils, gap analysis and assistance for Local Government Reform Fund (LGRF) councils, and an on-site review of 35 councils to determine the reliability and accuracy of the data provided.

The review and analysis of the data provides for a sound understanding of the current situation as it relates to the infrastructure backlog, reliability of data used and reported on by councils in NSW and the areas of most concern.

2.3 Structure of this Report

In presenting the findings from the Audit, this report has been structured as follows:

Section 1

An executive summary of key findings and recommendations

Section 2

Provides background on the Audit objectives and local government infrastructure, including a definition of 'infrastructure backlog'

Section 3

Provides details of the methodology used to conduct the Audit

Section 4

Sets out the infrastructure backlog, as reported by councils. This includes an assessment of the backlog for the different asset classes and regions

Section 5

Highlights the trends in infrastructure needs, both from a regional and asset class perspective

Section 6

Examines what is actually occurring within local government in terms of infrastructure management and tests the reliability of the data provided by councils

Section 7

Looks at the future infrastructure requirements as planned by councils over the next four years and some of the funding strategies that are available to councils

Section 8

Looks at the risk exposure that councils face when dealing with their infrastructure requirements
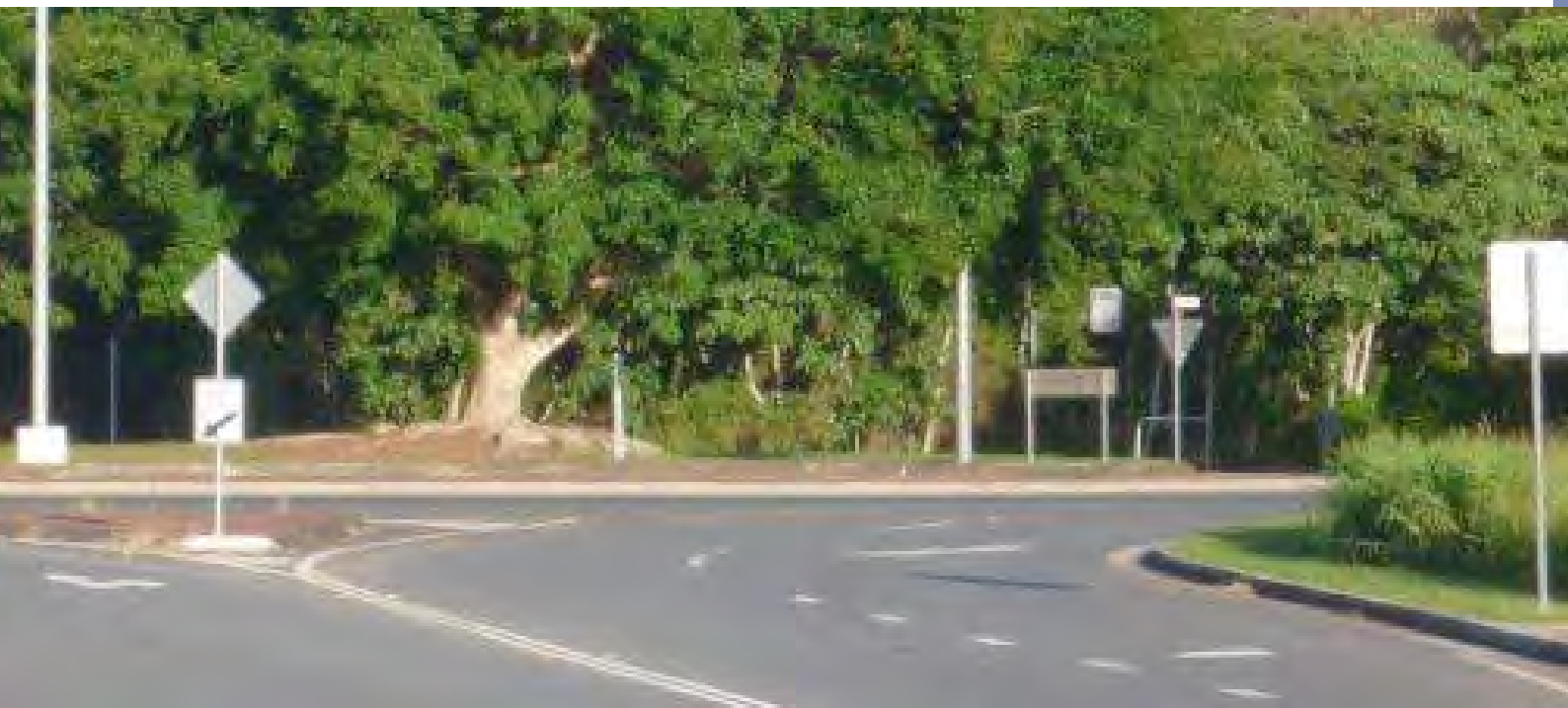
2.4 Characteristics of NSW Local Government Infrastructure

The NSW local government sector consists of 152 general purpose councils and 14 county councils. Their geographic and population characteristics vary considerably, from densely populated urban councils to large remote councils with dispersed populations.

All NSW councils are the custodians and trustees of public assets and as such they are required to effectively plan for, account for and manage the assets for which they are responsible. The importance of this function is demonstrated in the councils' charter within the Local Government Act, 1993 (the Act).

Assets owned and controlled by councils in NSW include cash, investments, infrastructure, property, plant and equipment, receivables, inventory and intangible assets. In 2011/12, NSW councils were the custodians of assets with a total net value of $131.85 billion[1] (see Figure 3).

The focal point of this report is the infrastructure assets of councils. Infrastructure assets are defined in the International Infrastructure Management Manual (IIMM) as:

> *"Infrastructure assets are stationary systems (or networks) that serve defined communities where the system as a whole is intended to be maintained indefinitely to a specified level of service by the continuing replacement and refurbishment of its components"* [2]

The net value of infrastructure assets for NSW councils as at 30 June 2012 is $81 billion[3]. This accounts for 61.5% of all local government assets in NSW.

Figure 3 illustrates the value of each of the infrastructure asset classes. As can be seen, roads and related assets (e.g. bridges, and footpaths) represent more than 50% of total infrastructure assets.

---

[1] All facts and figures in this report relates to 152 General Purpose councils + Water Supply & Floodplain Management County Councils unless otherwise stated.
[2] National Asset Management Steering (NAMS) Group, International Infrastructure Management Manual (IIMM), 2011
[3] The net value or the written down value, is the fair value less accumulated depreciation and amortisation.

Figure 3 – Breakdown of Total Council Assets and Infrastructure Assets 2012

Plant & Equipment $1.4bn

Infrastructure

Land $37.9bn

Other Assets $4.6bn

Cash & Investments $6.9bn

Sewer Network $8.4bn

Water Supply $7.9bn

Buildings $8.3bn

Other Structures $7.9bn

Stormwater Drainage $9.4bn

Roads & Related Assets $45.4bn
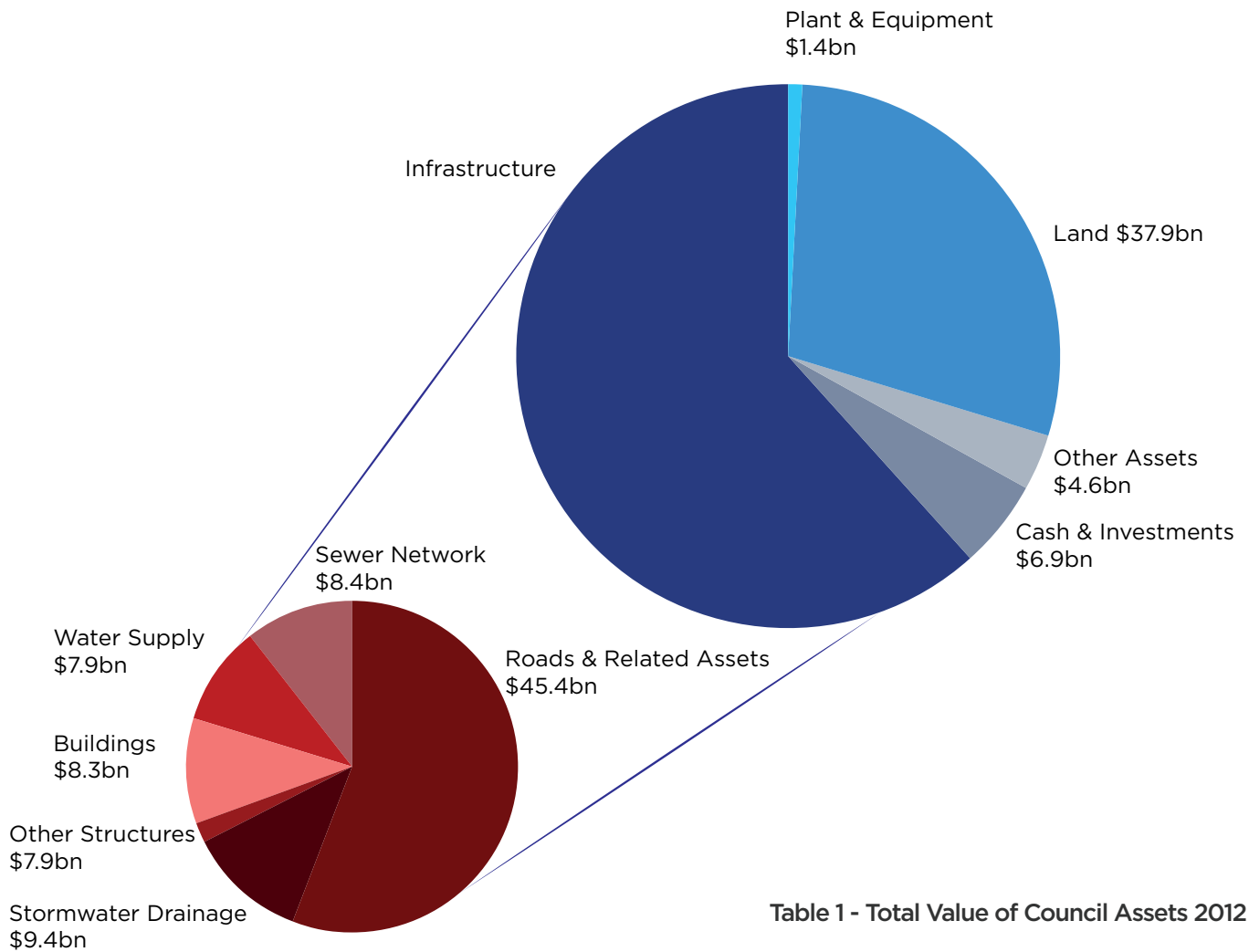
Table 1 - Total Value of Council Assets 2012

Council Assets	Value ($m)
Cash & Investments	6,900
Plant & Equipment	1,400
Land	37,900
Other Assets	4,600
Infrastructure	
Roads & Related Assets	45,400
Water Supply	7,900
Sewer Network	8,400
Stormwater Drainage	9,400
Buildings	8,300
Other Structures	1,600

2.5 Asset Management in NSW Local Government

Prior to 2010, the only legislated asset management requirement for councils was to report at the end of each year in the council's annual report on the condition of their public works. Later this report was required to be included in the Annual Financial Statements.

In 2010, the Local Government Act 1993 (the Act) was amended to include the Integrated Planning & Reporting (IP&R) framework.

The IP&R framework was implemented on a phased basis over the three years from 2009 to 2012. Councils elected the year in which they implemented IP&R. Ninety five councils implemented IP&R on 1 July 2012.

Since the introduction of IP&R all councils in NSW are required to have an asset management system in place.

The Planning and Reporting Manual for Local Government in NSW 2010 lists the main components of an asset management system as:

- Asset registers
- Asset condition assessments
- Asset maintenance and management systems
- Strategic planning capabilities
- Predictive modelling
- Deterioration modelling
- Risk analysis
- Lifecycle costing

As illustrated in Figure 4, the asset management system is part of a council's resourcing strategy (long term financial plan, workforce plan and asset management). The resourcing strategy is to be integrated with a council's community strategic

Figure 4 - Intergrated Planning and Reporting
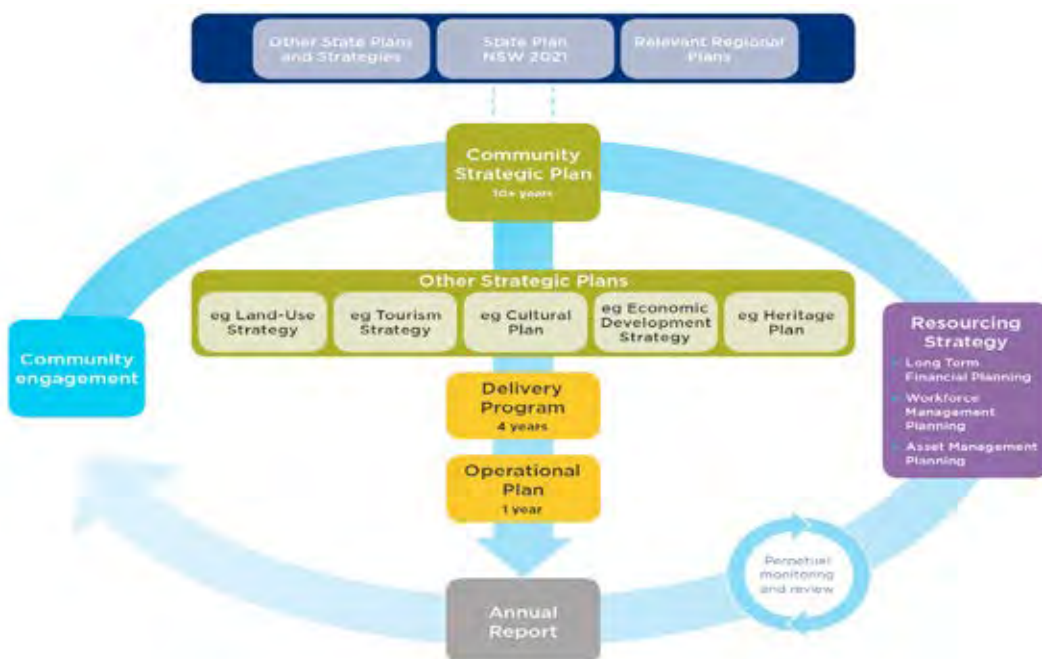
plan "that identifies the community's priorities and aspirations for the future and to plan strategies for achieving these goals"[4], a four year delivery program and a 12 month period operational plan.

The IP&R system emphasises that strong and sustainable local government requires sound planning processes to ensure that the community's assets are managed efficiently and effectively. Asset management planning should have a service delivery focus and the assets provided should be appropriate to meet the needs of the community, as set out in the community strategic plan.

[4] NSW Department of Premier & Cabinet, Division of Local Government, Planning and Reporting Guidelines for Local Government in NSW, 2010.

2.6 Infrastructure Backlog

An aspect of asset management that has gained notoriety is the concept of an "infrastructure backlog".

It is not a concept that is unique to local government in NSW or Australia. For example, in March 2012 it was reported that the City of Atlanta in the United States had "...an estimated $922 million backlog to fix its infrastructure — its roads, its bridges and its sidewalks"[5].

2.6.1 What does "infrastructure backlog" mean?

"Backlog" is defined in the Australian Infrastructure Financial Management Guidelines as "...the value of asset renewals projected to occur prior to the reporting date. The value of unfunded renewals is reflected in the current levels of service"[6].

This means that the work required to ensure an asset is able to continue to provide the same level of service, has not been carried out at a particular reporting date (usually the end of the financial year).

A backlog may result from:

1. a lack of maintenance that causes the asset to fall below the agreed level of service and requires earlier capital renewal - the cost difference between when the renewal would have occurred to when it occurred is the backlog cost, and/or

2. capital renewal not occurring when programmed.

This Audit is constrained to these two circumstantiates and as such, it should only apply to existing assets. It does not include infrastructure needs that are currently unmet, for example, provision of sewer services to an existing population centre that does not currently have access to the service.

Within NSW, the infrastructure backlog has been assessed as the estimated cost to "bring the assets back to a satisfactory standard" (referred to as BTS).

infrastructure backlog has been assessed as the estimated cost to "bring the assets back to a satisfactory standard"

[5] M Saporta, An infrastructure puzzle — Atlanta leaders keep working on solutions, SaportaReport, 17 December 2012, http://saportareport.com/blog/2012/12/an-infrastructure-puzzle-atlanta-leaders-keep-working-on-possible-solutions/ viewed March 2013.
[6] Institute of Public Works Engineering Australia,(IPWEA), Australian Infrastructure Financial Management Guidelines, 2012.

2.7 Council's Reporting Requirements

When the Act was introduced, councils were required to prepare a report on the condition of public works (public buildings, public roads and water supply, sewer network and stormwater drainage works) together with:

- an estimate (at current values) of the amount of money required to bring the works up to a satisfactory standard (BTS)

- an estimate (at current values) of the annual expense of maintaining the works at that standard and

- the council's program of maintenance for that year in respect of the works.

This report was published in councils' annual reports for some time and has now formed part of the annual financial statements and is referred to as Special Schedule 7. Information about the valuation of the assets and the depreciation is also included.

It is important to note that, while this schedule is included as part of the financial statements, it is not subject to councils' annual external audit.

2.8 Infrastructure Studies

It is important to acknowledge that this Audit and its findings have been informed by earlier studies and research on the status and future of local government.

Appendix 2 outlines the findings that identified the need for more data about the state of local government infrastructure, the emergence of infrastructure backlog in NSW local councils and the factors that appear to be contributing to it.

2.9 Local Government Asset Management in Other Jurisdictions

A snapshot of the progress made in local government asset management in other Australian jurisdictions and New Zealand was developed by Jeff Roorda and Associates (JRA) for the Division.

Information from this report is at Appendix 3.

Infrastructure Audit Methodology

3. Infrastructure Audit Methodology

This section of the Report provides details of the methodology used to undertake the Infrastructure Audit.

The Audit has been undertaken through a review of historical information, a survey of current practices and processes and through visits to some councils.

The review of historical information has involved using information from councils' annual financial reports. This information was used largely to determine the infrastructure backlog for NSW.

The remainder of the Audit was undertaken through:

- a desktop review of every NSW council and county council

- a maturity gap analysis of a number of councils and

- an on-site audit of a sample of councils.

These different methods of gathering information and data were essential in providing a reality check to the state of infrastructure in NSW.

3.1 Desktop Component

In order to determine the level of infrastructure backlog and each council's ability to address the backlog in the future, councils were asked to provide information on a range of asset management and financial matters. Using the information submitted, councils' IP&R documents and previous years financial data, each council was assessed against each of the following categories:

- Infrastructure management assessment
- Financial assessment
- Community needs in relation to infrastructure and
- Council capacity.

The components of the desktop audit for each of these categories is summarised in figure 5.

The desktop audit was conducted on data provided by councils as part of the Infrastructure Audit survey issued to councils on 5 July 2012. Due to the timing of the Audit, data supplied by councils related to 2010/11 along with forecast estimates for 2011/12 and beyond.

Council Desktop Assessment

Infrastructure Management Assessment
- Current funding position
- Current infrastructure status
- Infrastructure management

TCorp Financial Assessment
- Financial capacity
- Long term sustainability
- Benchmarks

Community Assessment
- Community Strategic Plan
- Delivery Program

Council Capacity
- Long Term Financial Plan
- Delivery Program
- Workforce Plan

Figure 5 - Desktop Audit Process

3.1.1 Infrastructure Management Assessment

The assessment of a council's infrastructure position took into account the following:

- Current funding position
- Current infrastructure status
- Infrastructure management.

The **current funding position** was assessed by considering:

- A council's infrastructure status as at 30 June 2011, taking into account the estimated cost to bring assets to a satisfactory standard (BTS), required annual maintenance and actual maintenance expenditure for each category of assets (sourced from council's Financial Reports Special Schedule 7). This data provided a snapshot of the situation at the end of the 2010/11 financial year. It gives an indication of the estimated infrastructure backlog at that time and whether a council is maintaining its assets as required
- The level of a council's backlog in terms of how many years of total annual revenue it equates to
- Annual maintenance expenditure in 2010/11 as a percentage of council's required annual maintenance, to determine whether a council is maintaining its assets sufficiently to keep assets at their current standard
- The number of years it would take a council to address the backlog if all surpluses, after capital items, were used for this purpose.

A council would be said to have a 'Very Strong' infrastructure funding position if its infrastructure backlog equated to less than one year's total annual revenue, expenditure on maintenance was equal to or greater than the estimated required annual maintenance, and forecast surpluses (after capital items) across a council's 10 year plan were sufficient to meet the backlog within this planning period, assuming all surpluses were applied to addressing the backlog.

The **current infrastructure status** was assessed by considering the general condition of assets as per Special Schedule 7 and/or current asset management plans for each category of assets.

A council with the majority of its assets in good to very good condition (condition 1 or 2 on the 5 point condition hierarchy) would be said to be 'Very Strong'.

The **infrastructure management assessment** was based on the information provided in the Audit survey in relation to asset management e.g. assets recorded in an asset register by component, asset management plans for all assets, service level determination, risk assessment, condition assessment etc.

A 'Very Strong' score was assigned to a council that had met all the requirements outlined in the survey for all categories of assets, including its natural assets.

An **overall infrastructure assessment** was based on the results of the above three assessments. If two or more of the assessments were 'Very Strong', then the overall score would be 'Very Strong'. Where the components were assessed differently, eg 'Distressed', 'Strong' and 'Very Weak', a score was determined that reflected the overall situation based on the information available in the three individual assessments.

3.1.2   Financial Assessment

TCorp has undertaken financial assessments of all councils on behalf of the Division and provided results of their analysis in their report Financial Sustainability of the New South Wales Local Government Sector[7]. The financial assessment component of the desktop review utilised the assessments made by TCorp.

TCorp adopted a robust and easily understandable methodology to assess each council in NSW. This assessment was performed in respect of financial capacity, sustainability and performance measures. The key areas focused on for each council were:

• Financial capacity

• Long term sustainability

• Financial performance in comparison to a range of similar councils and measured against prudent benchmarks.

TCorp prepared an individual report for each council, providing an overview of its existing financial performance and position, a review of financial forecasts including its capacity to meet increased debt commitments, future sustainability and benchmarking and comparisons with other councils.

TCorp summarised the results of their assessments providing each council with a Financial Sustainability Ratio (FSR) based on ten key benchmark ratios used to assess a council's performance. Further analysis provided an outlook that took into account the prospective movement of a council's FSR in the short to medium term. The council's financial performance was then classified as 'Very Strong', 'Strong', 'Sound', 'Moderate', 'Weak', 'Very Weak' or 'Distressed'.

The FSR together with the short to medium term outlook formed the basis of the financial component of the Audit.

TCorp's report provides detailed information on the ratios, benchmarks and results for individual councils.

3.1.3   Assessment of Community Needs Integration with Infrastructure Planning

The community's needs in respect to infrastructure management were assessed by:

• Reviewing each council's Community Strategic Plan (CSP) to determine the community's priorities regarding infrastructure assets and the services provided by Council assets and

• Reviewing the Delivery Program (DP) to identify the strategies and actions that address the community's needs and infrastructure management in general.

3.1.4   Council Capacity

In order to assess a council's capacity with regard to infrastructure management in the longer term, a review of the council's Long Term Financial Plan (LTFP), DP and Workforce Plan was undertaken.

A council is considered to have the capacity to adequately manage its infrastructure assets going forward, if there is evidence of funding in its LTFP to adequately address the goals and strategies outlined in its CSP and DP to manage infrastructure assets, as well as identifying specific staff requirements for asset management over the four years of the plan.

3.2 Maturity Gap Analysis

In October 2009, the Federal Government announced funding of $25 million to assist councils around Australia to improve their asset management and financial planning capabilities.

NSW applied for and was successful in, obtaining funding of $3.25m, part of which was used to provide targeted financial assistance to 42 councils that were identified as having limited resources and capability. The councils selected for this assistance were in Group 3 of the IP&R implementation; had a population of less than 10,000 and met criteria on financial and technical capacity to implement adequate asset management and long term financial planning. This funding is referred to as the Local Government Reform Fund (LGRF).

An important target for these councils was to achieve a core level of infrastructure management maturity, including the completion of Asset Management Plans (AMP) and LTFP as part of the IP&R targets.

The selected councils were required to undertake an objective analysis of their asset management and financial planning maturity in June and July 2011. The assessment was carried out using the NAMS.PLUS assessment methodology in accordance with the Federal Government's National Asset Management Assessment Framework.

The selected councils were from DLG Groups 4, 8, 9 and 10 with the majority from Groups 9 (18 councils) and 10 (19 councils). The councils are located in 9 different regions, the majority of which are in the Murray Lower Darling (Murray), Orana, Riverina and Central West regions. Appendix 6 lists councils and their relevant DLG regions and groupings.

Each council underwent an asset management maturity and gap analysis in two stages. The overall results were reported in a paper titled National Asset Management Framework, Project Report 2012[8].

The first stage involved an analysis of each council's asset management processes, financial planning and related documentation. An action plan was developed as a result.

The second stage involved an assessment of each council's progress in implementing their action plan and whether or not they had achieved 'core level maturity' in the specific areas. 'Core level maturity' is the minimum requirement for asset management under the Institute of Public Works Engineering Australia (IPWEA) and the Division's IP&R framework.

This Audit has drawn on the results of this analysis to assess the 'robustness' of asset management process and procedures for these 42 councils.

[8] Jeff Roorda and Associates, National Asset Management Framework, Project Report by JRA, 2012.

3.3 On-Site Audit Component

In addition to the maturity gap analysis for 42 councils, the Division engaged Morrison Low Consulting Pty Ltd to undertake an independent on-site audit of 35 councils from throughout NSW to assess the accuracy and reliability of the information provided as part of the Audit survey and the data reported in Special Schedule 7.

Councils were selected initially on the basis of low and high scores from the desktop audit, with additional councils selected from across the remaining 'middle' scores. Care was taken to select councils from across the various council profiles (i.e. regional, coastal, metropolitan and large rural).

In addition, to 'test' the adequacy and consistency of the LGRF gap assessments, two LGRF councils were selected for an on-site audit.

3.3.1 Process and Methodology

The methodology for the onsite audit was based on achieving consistent and repeatable results across a range of councils while recognising the differences between councils in terms of size, asset base and capacity. The Audit comprised four categories:

- asset management systems and processes
- physical inspection of assets
- infrastructure backlog and
- a set of common questions to be answered by the councils.

3.3.2 Asset Management Systems and Processes

Key roles within the council that have responsibilities for asset management within the organisation (strategic, operational and financial) were interviewed over a two day period.

The independent audit assessed each council against the following categories and subcategories.

An assessment against each category based on an A – F (see Table 13) scoring was then determined and an overall weighted score again based on A – F was also provided.

Asset Management Systems and Processes

Asset Knowledge / Data

- Asset Classification / Hierarchy
- Attributes and Location
- Condition Data
- Lifecycle Cost Data
- Valuation, Depreciation and Age / Life Data

Asset Knowledge Processes

- Asset Accounting / Valuation

Strategic Asset Planning Processes

- Strategic Long Term Plan
- Asset Management Policy and Strategy
- Levels of Service
- Risk Management
- Financial Planning and Capital Investment
- Asset Management Plans

Operations and Maintenance Work Practices

- Operations / Maintenance Management
- Critical Assets

Information Systems

- Asset Register
- Systems Integration

Organisational Context

- Organisational Strategy
- Asset Management Review/Improvement
- Asset Management Roles and Responsibilities

Figure 6 – Independent Audit Asset Management Systems and Process

3.3.3 Physical Inspection of Assets

An inspection of a sample of the council's physical assets was conducted. Typically the inspection sampled a few assets across different asset classes and reviewed the condition matrix and the most current asset inspection reports, as well as field inspections to confirm the reliability of the asset registers. The results of the inspection were reported, however, it is acknowledged that due to the small sample size, limited conclusions can be drawn from the inspections.

3.3.4 Infrastructure Backlog

A comparison of the council's infrastructure backlog (as set out in Special Schedule 7 in 2010/11) against a standard methodology for assessing the infrastructure backlog was also undertaken. The infrastructure backlog number was considered to be that cost to bring an asset up to condition rating 3 (average condition, maintenance required).

The purpose of the assessment was to:

- comment, as part of the independent audit, on whether the infrastructure backlog is of sufficient size to be of concern to the council and therefore the NSW Government

- comment, as part of the independent audit, on the level of confidence in the infrastructure backlog number that each council has specified

3.3.5 Common Questions

The councils were asked a common set of questions to help provide consistent and comparable results. The on-site audit questions are at Appendix 10B.

3.4 Analysis of Aggregate Data

Throughout the Audit, information was assessed and comparisons made in three different ways:

3.4.1   Whole of State Analysis

This analysis was undertaken to identify trends from year to year across the State and examine different asset classes to see where the greatest needs are within the State.

3.4.2   Regional Analysis

In order to determine the infrastructure needs in particular regions within the State, the data was analysed using the regions identified in the NSW 2021 State Plan. It should be noted that a region may include strong performing as well as poor performing councils of varying sizes. However, the analysis focuses on the regions without taking into account the individual council differences.

A map showing the regions is included at Appendix 4.

3.4.3   The Division Group Analysis

Data was analysed on the basis of NSW Division of Local Government Groups (DLG Groups) as defined in the Comparative Information on NSW Local Government Councils 2010/11 publication, in accordance with ABS australian classifcation of local government. The DLG Groups are classified first as urban or rural. Urban councils are further classified into capital city, metropolitan developed, regional town/city or fringe. Rural councils are then divided into agricultural or remote. For all classifications the final step is based on population. There are 11 groups of councils.

A map showing the Groups is included in Appendix 5.

The IP&R system emphasises strong and sustainable local government

Infrastructure Backlog

4. Infrastructure Backlog

Key Findings

The Backlog

- The total infrastructure backlog for all NSW councils as at 30 June 2012 was approximately $7.4 billion

- In dollar terms, the total reported infrastructure backlog has increased by approximately $1 billion since that reported in the Independent Inquiry into NSW Local Government in 2006

- The cost to address the backlog equates to approximately $1,000 per head of NSW population

- When put into context of the value of councils' infrastructure assets (written down value (WDV)), the relative "magnitude" of the backlog has reduced from approximately 18% of WDV in 2004/05 to 10% of WDV in 2011/12

- Based on the bring to satisfactory amounts compared to written down value of the assets, the largest backlogs are in the Far West, Northern Rivers and Mid North Coast regions

- On a per capita basis, the Far West has the biggest backlog, at about $4,700 per capita, followed by Orana ($3,730), Mid North Coast ($2,890), Murray ($2,850) and Northern Rivers ($2,820)

- This decrease appears to be primarily due to improved asset management planning and more accurate asset management reporting by councils

- Backlog data is not audited nor does it provide information in relation to how councils are going to address the assets that are not considered satisfactory

Condition of Major Asset Classes

- The current condition of council assets varies considerably between asset classes and from region to region despite the decreasing backlog to WDV of assets

- The largest backlog exists in the roads and related assets class with a State average of 12% of WDV. The BTS for roads and related assets is estimated at approximately $4.5 billion (51% of the total backlog)

- The backlog for building assets is approximately 10.5% of their WDV with a BTS of around $1 billion

- The water supply and sewer network asset backlogs appear to have increased in recent years when compared to other infrastructure asset classes

Infrastructure Maintenance

- The majority of councils appear to be under-spending on annual asset maintenance when compared to their estimates for required annual maintenance

- In 2011/12, councils on average spent only 74% of the overall required annual maintenance estimates

- Expenditure on maintenance has not increased over the past 4 years at the same rate as other expenses

4.1 Introduction

This section examines the infrastructure backlog of councils in NSW, as reported through Special Schedule 7. The backlog is examined as a whole for NSW and then analysed on the basis of asset classes to see where the greatest needs are.

A regional analysis of the backlog was also undertaken to find out if there are differences in backlogs across NSW.

To understand the magnitude of the backlog the data was also examined using population as a denominator.

Maintenance of assets is vitally important when discussing infrastructure backlogs and to this end the maintenance data of councils is also examined.

- As a percentage of the asset base the backlog has decreased since 2004/05

- There were three significant drivers which have influenced backlog reporting:

  - Fair value

  - Integrated planning and Reporting

  - Focus on Sustainability

NFRASTRU

4.2 Reported Infrastructure Backlog

As at 30 June 2012, councils (including county councils but excluding 8 weed authorities) reported an estimated cost to bring infrastructure assets[9] to a satisfactory standard (BTS) of $7.359 billion[10]. The county councils responsible for water supply sewer networks and floodplain management assets reported a backlog of $50.877 million.

The Independent Inquiry into the Financial Sustainability of NSW Local Government, 2006 estimated that the cost to restore assets to a satisfactory condition, following under-spending on infrastructure renewal, was $6.3 billion.

Table 2 breaks the infrastructure backlog down by the five key asset categories and by region. It shows that:

- Northern Rivers region has the largest total reported backlog at $811.6 million with the Mid North Coast region having the second largest at $738.2 million

- Eastern Sydney has the largest reported backlog for buildings at $177.5m and stormwater drainage at $159.7m

- Northern Rivers region has the largest reported backlog for roads at $654.8m

- Central West region has the largest reported backlog in its water supply assets at $85.9m

- South East NSW had the highest reported backlog for sewer network assets at $136.7m.

[9] In this context, infrastructure assets are considered to be road and related assets (footpaths, bridges, culverts etc) water supply and sewer network assets, stormwater drainage assets and buildings. The figure reported for 'other assets' in councils' Special Schedule 7 have been excluded in this calculation as these assets are generally land, bulk earthworks, library collections, heritage items and the like.

[10] While this audit identifies an estimated backlog of $7.359 billion at 30 June 2012 (excluding 8 weed authorities' data), TCorp has estimated the backlog at $7.236 billion. The variation reflects the exclusion by TCorp of all County Councils from its assessment and more up to date information which was provided to TCorp by councils during their financial sustainability assessment.

[11] It should be noted that some councils did not submit data for BTS in all asset categories and 1 council in the Mid North Coast region did not submit data for any asset categories. In some instances the council does not consider that it has a backlog, however this is not the case for the majority of those councils.

Region	Special Schedule 7 - Total Buildings – BTS ($m)	Schedule 7 - Total Public Roads – BTS ($m)	Schedule 7 - Water Supply Assets –BTS ($m)	Schedule 7 - Sewer Network – BTS ($m)	Schedule 7 - Stormwater Drainage – BTS ($m)	2011-2012 TOTAL BTS (excluding Other Assets) ($m)
Eastern Sydney	177.548	203.500	N/A	N/A	159.689	540.737
Northern Beaches	40.779	47.030	N/A	N/A	42.472	130.281
Northern Sydney	102.536	178.280	N/A	N/A	65.469	346.285
Western Sydney	92.425	302.568	0	7.350	56.671	459.014
South West Sydney	138.418	366.294	N/A	N/A	17.778	522.490
Southern Sydney	16.536	97.125	N/A	N/A	15.398	129.059
Central Coast	30.403	148.677	13.128	70.624	34.283	297.115
Illawarra	70.779	194.496	4.862	1.330	49.845	321.312
Northern Rivers	19.763	654.849	19.605	96.028	21.327	811.574
Mid North Coast	46.324	567.178	37.739	37.401	49.603	738.245
Hunter	140.799	374.081	5.318	12.045	28.285	560.528
South East NSW	46.694	193.138	63.602	136.704	21.366	461.504
New England	15.617	280.518	75.974	35.347	11.330	418.786
Central West	26.291	256.195	85.903	100.447	7.554	476.391
Riverina	8.018	106.176	2.623	20.723	31.007	168.547
Orana	29.728	208.131	53.476	40.362	33.512	365.211
Murray	18.188	300.120	52.898	77.867	12.580	461.653
Far West	16.680	73.885	6.888	0.234	2.188	99.875
County Councils	0.394	N/A	47.746	N/A	2.737	50.877
STATE	1,037.920	4,552.242	469.763	636.464	663.094	7,359.485

Table 2 - Backlog Figures as at 30 June 2012 (as reported in Special Schedule 7 of Councils' Annual Financial Statements[11])

4.3 Backlog Trends Measured Against Asset Value

In order to more accurately assess whether the backlog problem has in fact been increasing in magnitude over recent years, it was necessary to standardise the data due to the varying size of regions and their infrastructure asset holdings. This was done by calculating BTS as a percentage of the WDV of assets (by council and region).

As noted in Section 2, the total WDV of councils' infrastructure assets was $81 billion at 30 June 2012.

4.3.1 Total Infrastructure Assets

Our analysis of the backlog to WDV over the period 2004/05 to 2011/12 indicates there has been a reasonably large reduction in the size of the backlog relative to councils' total infrastructure asset base.

Figure 7 shows that the backlog has fallen from approximately 18% of WDV to 10% over that period. It is likely that this reduction has occurred as a result of three key influences:

- Introduction of fair value: In 2006 councils commenced a staged process of revaluing assets to fair value. This was done progressively over 5 years. This process of revaluing assets necessitated reviews of all infrastructure assets with regards to their remaining useful life and condition. Overall the BTS figures appeared to have been adjusted as each new class of assets was revalued.

- Introduction of IP&R: As previously noted, in 2009/10 the Division introduced the IP&R framework which was implemented in stages by councils in 3 groups over 3 years. The framework placed emphasis on strategic planning, asset management and long term financial planning all of which resulted in more accurate information on which councils could estimate the cost to bring assets to a satisfactory standard. The implementation of IP&R by the Group 3 councils on 1 July 2012 should improve the accuracy of data further in 2012/13.

- Focus on sustainability: When Special Schedule 7 was initially introduced in 2001, there was a common view by many councils that it served as a "budget bid". That is, they inflated the BTS in order to try to secure funding for infrastructure works. Over time, councils have seen that this is not the purpose of the Special Schedule 7 and as a result many have revised their BTS estimates to more accurately reflect a "sustainable" position.

TCorp's analysis also identified an improvement in councils' asset management processes and practices as a result of these developments.

4.3.2 Water Supply and Sewer Network Assets

The eight year review of BTS to WDV data was analysed for all assets as a total and then with the water supply and sewer network assets excluded, as not all councils provide these services.

Figure 7 illustrates that in the period 2004/05 to 2008/09, the percentage of BTS to WDV was higher when water supply and sewer network assets were excluded. This shows that the backlog for water and sewer was relatively lower than for all assets during this period.

In 2008/09 however, this trend reversed, when the percentage results for water supply and sewer network assets increased relative to the other asset categories. This indicates that these assets may be deteriorating or are not being maintained adequately.

% Backlog to Written Down Value of Assets (2005 - 2012)
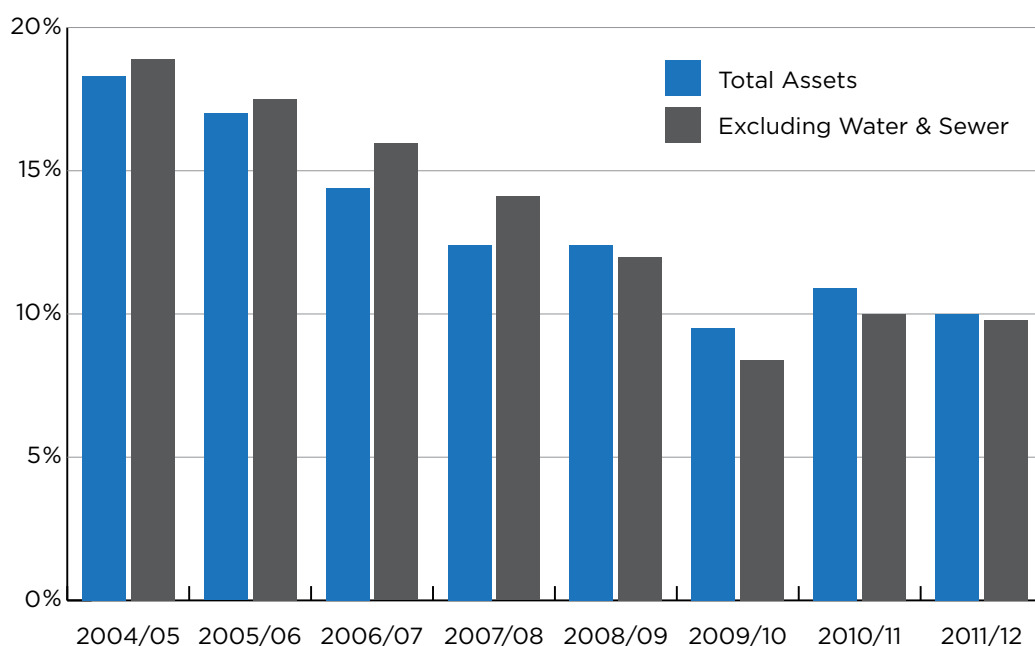
Figure 7 - % Backlog to Written Down Value of Assets

The following detailed analysis of BTS to WDV by region supports this view, with high percentage results for water supply and sewer network assets in some regions.

In reviewing asset management plans and comparing estimates for required annual maintenance and actual maintenance expenditure over the past 4 years, it is evident that some councils have not fully funded the lifecycle costs of their water supply and sewer network assets during that period, despite the related services being able to be funded under a full cost recovery model.

However, the NSW Office of Water's NSW Water Supply and Sewerage Performance Monitoring Report[12] notes that a number of councils have increased changes in 2011/12 and 2012/13 to bring them up to full cost recovery.

[12] NSW Water Supply and Sewerage Performance Monitoring Report 2010/11.

4.3.3 BTS to WDV by Region and by Asset Class

Given the size of the total infrastructure asset stock under local government's control, it is unrealistic to expect that all of the sector's infrastructure assets will be at a satisfactory standard at any one point in time. In this context the total State wide backlog is not an insurmountable problem.

However, the following regional analysis highlights some significant variances between regions and between asset classes.

Table 3 shows those areas in the State with the largest backlogs as a percentage of WDV and the categories of assets largely responsible for the backlog.

Nine regions returned results worse than the State average. These were, in order of the highest percentage to the lowest:

- Far West
- Mid North Coast
- Northern Rivers
- Murray
- Orana
- Central West
- South West Sydney
- South East NSW
- Northern Sydney.

Table 3 – Percentage of BTS to WDV at 30 June 2012

Region	Buildings	Roads, footpaths, bridges etc	Water Supply	Sewer Network	Stormwater Drainage	Total Infrastructure (excluding Other Assets)
Eastern Sydney	12.36%	5.69%	N/A	N/A	21.61%	9.40%
Northern Beaches	10.20%	5.53%	N/A	N/A	11.12%	7.98%
Northern Sydney	13.42%	11.09%	N/A	N/A	6.82%	10.39%
Western Sydney	9.00%	8.46%	N/A	9.37%	3.95%	7.51%
South West Sydney	20.08%	13.05%	N/A	N/A	1.48%	11.12%
Southern Sydney	3.91%	9.55%	N/A	N/A	6.42%	7.68%
Central Coast	9.22%	14.62%	1.26%	3.50%	5.34%	5.88%
Illawarra	10.99%	9.95%	1.02%	0.20%	6.00%	7.03%
Northern Rivers	4.21%	27.50%	1.76%	7.25%	5.30%	14.25%
Mid North Coast	12.91%	25.08%	4.07%	4.23%	12.44%	15.28%
Hunter	16.54%	9.79%	4.19%	12.24%	3.92%	9.97%
South East NSW	12.70%	9.03%	6.99%	18.56%	9.21%	10.53%
New England	3.31%	9.85%	12.77%	7.36%	5.89%	9.13%
Central West	5.26%	11.02%	14.27%	19.93%	2.97%	11.39%
Riverina	2.98%	8.52%	4.58%	5.32%	11.43%	7.55%
Orana	7.82%	11.22%	18.82%	14.93%	24.48%	12.48%
Murray	4.47%	15.63%	8.79%	16.09%	4.99%	12.60%
Far West	16.03%	37.97%	24.54%	14.25%	19.68%	29.42%
County Councils	0.87%	N/A	4.06%	N/A	2.62%	2.91%
STATE	10.44%	12.17%	5.91%	7.62%	7.05%	10.08%

The very high backlog in the Far West region of 29.4% is due to high percentage results in each of the asset categories (i.e. all asset classes have very high backlogs).

Ten regions returned averages to total infrastructure assets equal to or below the State average. County councils had the lowest overall backlog of approximately 2.9%. However it must be noted that county councils have far fewer assets to manage with generally no road or sewer networks and only one has stormwater drainage assets.

These results indicate that some regions have significant problems with large backlogs. It is possible that some councils have been unable to renew assets as planned. Delayed renewal may also result in higher maintenance costs to keep the particular assets operational, even if in a poor condition, thus adding to the financial burden of maintaining assets.

As indicated in Table 3, roads and related assets is the asset class that has the highest backlog as a percentage of WDV with a State average of 12.2%. The region with the largest roads and related assets backlog are the Far West, Northern Rivers and Mid North Coast.

The next largest backlog is for the building assets, with a State wide average result of 10.4%. Seven regions returned results worse than the State average. South Western Sydney had the highest result followed by Hunter and the Far West.

Mid North Coast: The region is made up of six councils. One of these councils had results worse than the State average for all asset categories except building assets. A further two councils reported large backlogs for road assets when compared to the WDV of the assets. The BTS to WDV for these councils for roads was 71% and 51%. This means that the backlog for road assets in these two councils require funds in excess of 70% and 50% of the current value of the assets to bring them

back to a satisfactory standard. It is possible that some of the assets are overdue for renewal.

Northern Rivers: Of the seven councils in this region, all but two councils were worse than the State average for road assets. One council reported a BTS to WDV of almost 80% while two others reported results over 30%. While the region's result for water supply assets is better than the State average, one council reported a BTS to WDV for water supply assets of over 47%.

Murray: The results in the region indicate that sewer network assets in two local government areas are in a very poor to critical condition as these councils reported results greater than 100% (165% and 110%). The results may indicate that the assets are well overdue for renewal and that the replacement costs have been included in the BTS figures. A further council reported a result of 75% for its sewer network assets. Of the 18 councils in this region, three reported results for total infrastructure assets in excess of 35%.

Orana: The asset classes of greatest concern in the Orana region were the sewer network and water supply assets. In respect to the sewer network assets, one council reported a BTS to WDV of 131% and three others reported results ranging from 54% to 77%. It appears that the current state of at least one council's sewer network assets is very poor to critical.

Water supply assets in two council areas of the Orana region also appear to be of concern with BTS to WDV results of 119% and 90%. These figures indicate that renewal costs have been included in the BTS possibly as a result of overdue renewal work.

4.3.4 Road Network Assets - BTS Cost Per Kilometre

As noted, the current state of NSW councils' road network and related assets is of most concern with this category of assets having the highest State average for BTS to WDV. To ascertain the approximate cost of bringing roads to a satisfactory standard based on the extent of a region's road network, the BTS for road assets was calculated on the length of the road network in each council and region. This is not to say that every kilometre of road in each region requires work to bring it up to standard. It is simply a unit calculation on which to do comparisons across regions.

The results are indicative only, as it is acknowledged that the cost of bringing sealed and unsealed roads back to a satisfactory standard vary significantly across councils and that some regions have no unsealed roads while others have a major network of unsealed roads. Additionally, it is acknowledged that only a small portion of any council or region's road network may require work to bring it up to a satisfactory standard.

As some councils consolidate the BTS for roads, bridges and footpaths in their reporting it was not possible to apply a cost per kilometre to their road network only. Where road specific data has not been made available, it was not possible to estimate a kilometre unit cost and consequently the kilometres of road relevant to those councils have been excluded.

Table 4 – BTS cost per Kilometre of Road Network in each Region

No. of Councils	Region[13]	Kilometres of road reported on	Kilometres of road excluded as related BTS data not available	BTS - Roads (excluding bridges, footpaths etc) $	Cost per unit (based on total kms reported on) $
12	Eastern Sydney	2,066	147	127,590,327	61,746
4	Northern Beaches	931		25,671,332	27,559
7	Northern Sydney	1,330	663	105,368,000	79,212
8	Western Sydney	6,174		259,118,000	41,973
6	South West Sydney	4,098		324,461,000	79,169
4	Southern Sydney	1,483		82,998,000	55,952
2	Central Coast	2,190		132,459,000	60,493
5	Illawarra	4,652		154,690,000	33,254
7	Northern Rivers	8,441		386,673,000	45,808
6	Mid North Coast	5,013	1,328	287,117,000	57,276
11	Hunter	9,674	658	273,179,000	28,239
13	South East NSW	11,814	2,069	132,248,000	11,194
13	New England	20,690	1,699	216,795,000	10,478
12	Central West	18,239	907	167,337,000	9,175
10	Riverina	12,394	779	50,346,000	4,062
12	Orana	21,749		144,240,200	6,632
18	Murray	23,249	613	257,468,000	11,074

[13] The Far West Region has been excluded from this anaylsis as neither of the councils in the region reported on raods specfically.

The regions with the lowest BTS amount per kilometre are Riverina, Central West, Orana, New England, Murray and South East NSW. However, it should be noted that in the Central West region, almost half of the road network and the related BTS costs were omitted from the analysis as four of the 12 councils in this region did not report on roads specifically. Similarly, around 30% of the road network was omitted from the analysis in the South East NSW region as five of the 13 councils did not report on road assets separately. While other regions also had roads omitted from the analysis, the number of kilometres involved in each region was minimal.

The backlog per kilometre of road in the other regions ranged from $27,559 per km to $79,169 per km.

regardless of how the data is analysed, Far West, Orana, Mid North Coast, South East NSW, Central West, Murray and Northern Rivers are in the worst state with respect to infrastructure

4.4 The Backlog on a per capita basis

The BTS for each asset category was analysed on a per capita basis[14] to give a clear indication of the cost per person to restore the assets to a satisfactory standard for the State and in each region. Using the population allows for a great understanding of how significant a region's backlog is and how it compares to other regions in the State.

As indicated in Figure 8, the State average cost per capita for total infrastructure assets was calculated to be $1,014 with regional per capita rates ranging from $278 to $4,704. The regions with per capita costs in excess of $2,000 were South East NSW, New England, Central West, Northern Rivers, Murray, Mid North Coast, Orana and Far West.

BTS Per Capita by Region
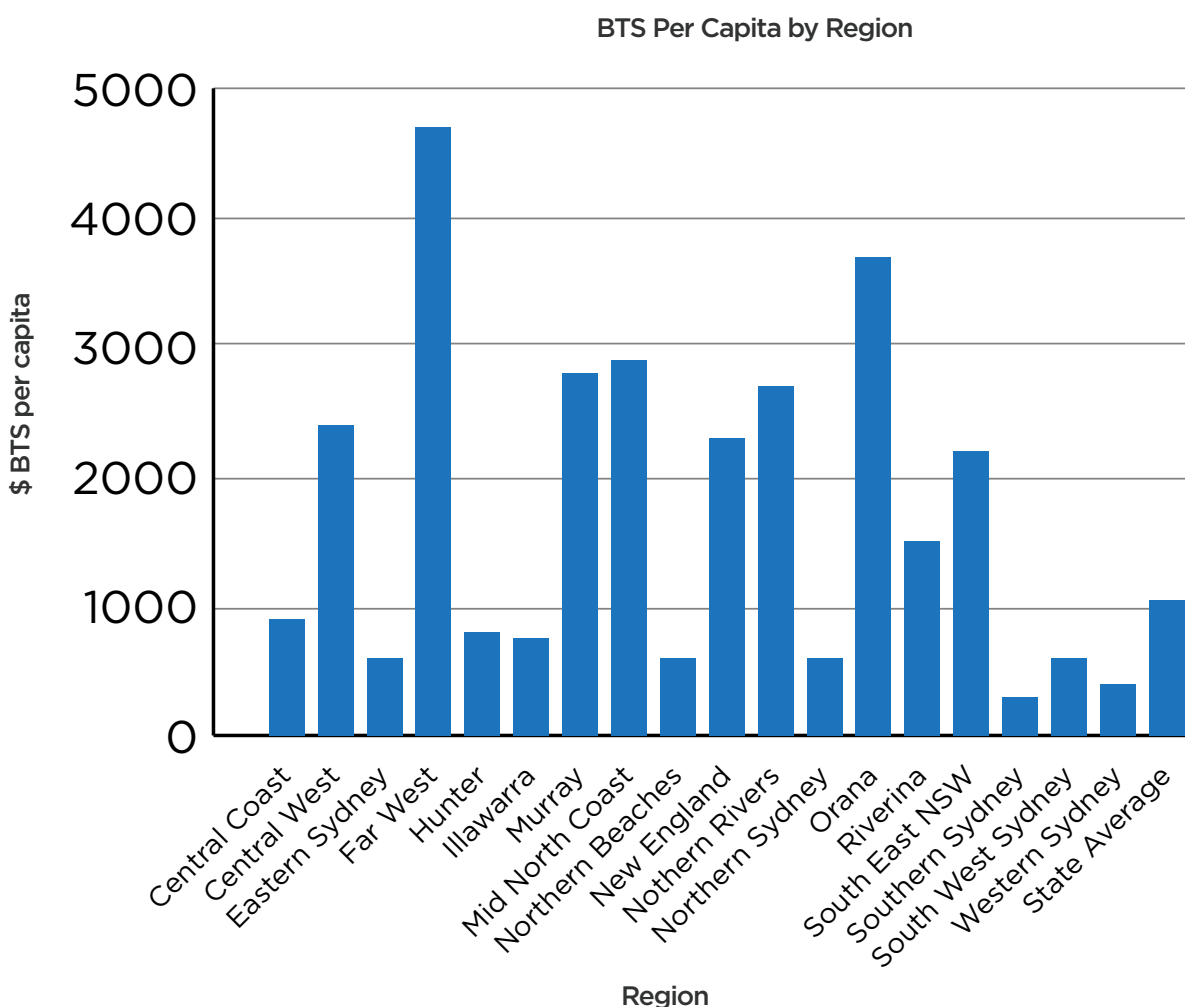
Figure 8 - BTS per Capita by Region

The highest per capita cost based on the State average was for road and related assets with a per capita cost of $631 per person. Across the regions, the per capita cost for these assets ranged from $168 in the Northern Beaches region to $3,480 in the Far West region.

Based on the data available the highest per capita cost for roads and related assets is in the Far West, Northern Rivers, Mid North Coast, Orana, Murray, New England and Central West regions. In each of these regions the per capita cost is in excess of $1,000 per person.

The next most expensive per capita cost was for buildings with a State average of $144. The results show that roads and buildings assets have the highest per capita cost which is in line with the results for BTS to WDV with roads followed by building assets.

4.4.1   Maintenance Expenditure on a Per Capita Basis

The actual maintenance expense and the estimated required annual maintenance data was also analysed on a per capita basis to determine the cost per person of current maintenance and estimated required maintenance. The results are provided in Appendix 7B.

Actual Maintenance Per Capita

The State's average per capita cost for 2012 actual maintenance expense on total infrastructure assets was calculated to be $159 per capita, with rates ranging from $78 to $504 across the regions.

The asset category with the highest per capita cost was road and related assets, with a State average of around $93, followed by buildings at $33.

The regions with the highest per capita cost for actual maintenance in both the roads and building asset categories were Orana, Far West, Riverina and New England regions.

Required Annual Maintenance Per Capita

Required annual maintenance is the amount estimated by councils for planned, cyclic and emergency maintenance in a financial year.

The average per capita estimate for total infrastructure annual maintenance amounted to $215. When actual maintenance expenditure is compared with this estimate, it is evident that councils on average expended only 74% of the estimated maintenance expense in 2012.

As for actual maintenance, the road and related assets category had the highest per capita estimate followed by buildings assets.

The New England region had estimates above the State average in all asset categories except stormwater drainage. Generally, the regions that were highlighted as having high per capita maintenance expenditure, also had high per capita estimates in some asset categories.

4.5 Annual Asset Maintenance

Council infrastructure assets are generally assets that need to be maintained at a certain level or in a specific condition, in order for council to provide the necessary and desired services to its community.

It is evident from the current state of infrastructure assets and the variance between what councils estimate as being required for maintenance and what they actually spend on maintenance, that councils are not adequately maintaining their infrastructure assets. The Local Government Code of Accounting Practice and Financial Reporting (the Code) states that required annual maintenance is what should be spent to maintain assets in a satisfactory standard.

A review of councils' annual financial statements clearly shows that the majority of councils are consistently underspending on annual infrastructure asset maintenance when compared to the estimates reported for required annual maintenance.

On average[15] over the past four years, councils have funded only 74% of the total estimated required annual maintenance. This shortfall in funding has been an ongoing trend over a number of years and would appear to have contributed to the deterioration of council assets and the overall infrastructure backlog.

The cost of maintenance of an asset generally increases exponentially when planned and cyclic maintenance is not carried out. Inadequate

maintenance may also result in a shortened useful life of the asset and the need for earlier than planned renewal.

The comparison of actual annual maintenance expenditure to that estimated as necessary to maintain assets in their current state is shown in Figure 9.

Figure 9 highlights the substantial variance between the estimated required maintenance and actual annual maintenance expenditure (as a percentage of WDV) from data reported by councils over the past four years.

Councils have estimated that they should be spending approximately 4.1% of the value of the roads in maintenance. They are actually spending less than 2%.

The largest variance between required and actual maintenance over a four year period occurs in the stormwater drainage asset class. The estimated required maintenance is 2.5% and the actual is only about 0.6%. Lack of maintenance can only cause further deterioration of assets and therefore require earlier renewals.

Average Actual and Estimated Required Annual Maintenance (2008/09-2011/12) as a percentage of WDV of Infrastructure Assets (2012)
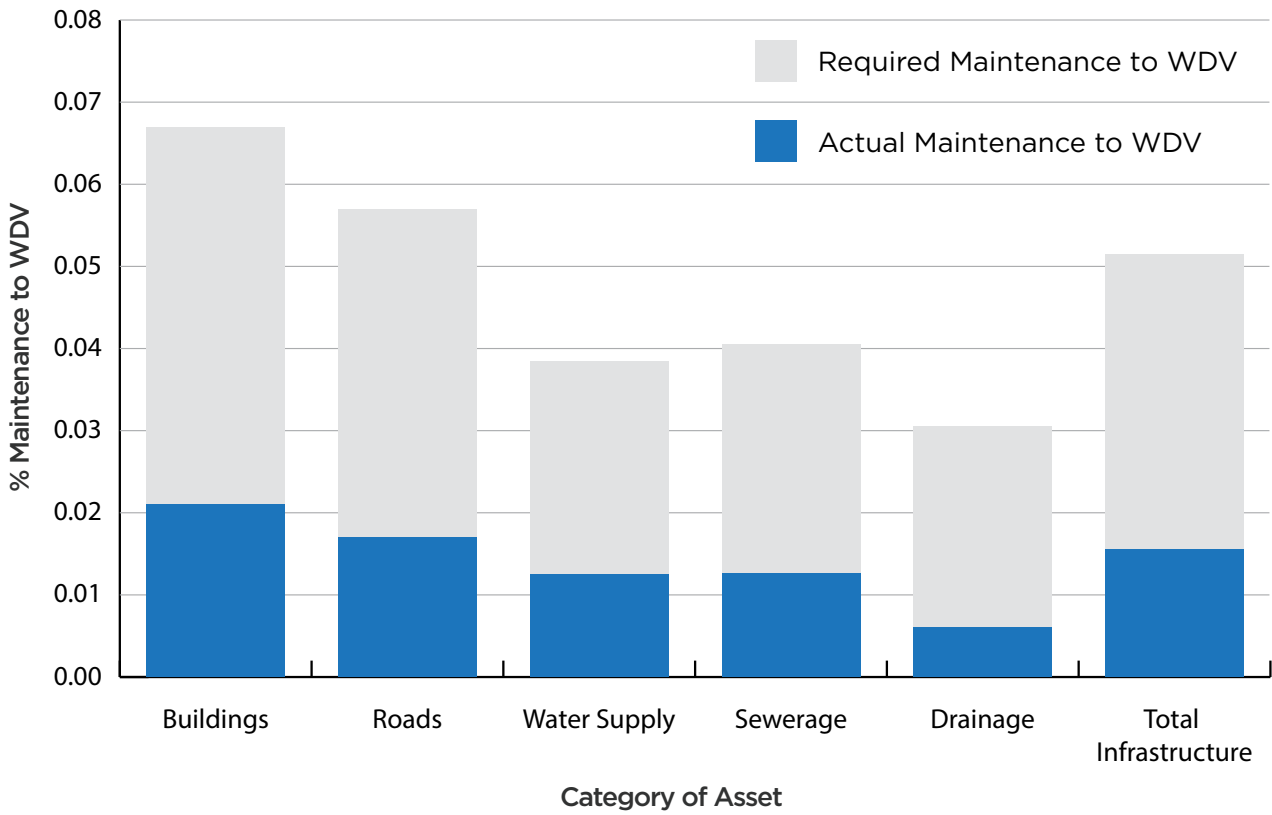
Figure 9 – Average Actual and Estimated Annual Maintenance as a Percentage of WDV.

4.5.1 Actual Maintenance and Estimated Required Annual Maintenance

While some variance between actual and required maintenance can be expected due the nature of maintenance and estimates for unplanned maintenance works, the level of actual expenditure when compared to the estimates clearly indicates that maintenance is not being fully funded. This information was then analysed to see if there were differences in the level of maintenance required and spent on maintenance across the regions.

It was noted that a number of councils reported identical amounts for estimated and actual maintenance which is an unlikely scenario due to the nature of maintenance as explained above. Additionally, the data in Special Schedule 7 is not audited and therefore the information should be used as an indication only of councils' maintenance trends.

To determine the extent of any shortfall in the funding of required annual maintenance, actual annual maintenance was compared to the estimated required annual maintenance for each council. The expenditure and estimates for maintenance were analysed as a percentage of the assets WDV. This was necessary as maintenance (actual – Table 5 and required – Table 6) is, in part, related to the age and remaining useful life of the assets, which is reflected in the WDV reported in a council's annual financial statements.

Analysis of the four year average actual maintenance expenditure to WDV highlighted the variance in results across the regions. The State average for total infrastructure assets (excluding other assets) was 1.54%.

As illustrated in Table 5, twelve regions had results better than the State average for total infrastructure assets. Far West region had a result of 3.15%, indicating that it is allocating funds for maintenance (as a percentage of WDV) in excess of all other councils. Outside of the Far West region the highest result was 1.97%. The five regions with actual maintenance expenditure below that of the State average were, in order of worst to better: Illawarra, Northern Beaches, Central Coast, County Councils, Mid North Coast, Northern Rivers and Central West.

By asset category, the highest State average for actual maintenance to WDV was for buildings followed by roads assets.

The estimated required annual maintenance as a percentage of WDV (refer Table 6) indicated that the State average for total infrastructure assets was 2.1% (compared to 1.5% for actual annual maintenance). Similarly, the State average for each of the asset categories was higher for estimated required annual maintenance confirming the fact that councils' overall actual maintenance was less than that estimated as required.

Table 5 - Actual Maintenance to WDV – 4 Year Average (2008 to 2012)

Actual Maintenance	Asset Categories					
Region	Buildings	Roads, footpaths, bridges etc	Water Supply	Sewer Network	Stormwater Drainage	Total Infrastructure (excluding Other Assets)
Eastern Sydney	2.21%	1.51%	NA	NA	0.99%	1.62%
Northern Beaches	1.95%	0.92%	NA	NA	0.47%	1.07%
Northern Sydney	2.08%	1.99%	NA	NA	0.67%	1.63%
Western Sydney	2.55%	1.77%	NA	2.07%	0.57%	1.63%
South West Sydney	3.36%	2.21%	NA	NA	0.41%	1.97%
Southern Sydney	2.38%	1.56%	NA	NA	1.09%	1.70%
Central Coast	1.39%	1.88%	1.25%	0.73%	0.74%	1.11%
Illawarra	1.43%	1.14%	1.45%	1.05%	0.25%	1.04%
Northern Rivers	1.23%	1.73%	0.94%	1.54%	0.38%	1.39%
Mid North Coast	1.69%	1.52%	0.97%	1.41%	0.49%	1.32%
Hunter	2.91%	1.49%	2.79%	2.43%	1.40%	1.74%
South East NSW	1.71%	1.80%	0.92%	1.78%	0.56%	1.54%
New England	2.22%	1.80%	1.67%	1.26%	0.84%	1.73%
Central West	1.19%	1.34%	1.36%	2.40%	0.55%	1.40%
Riverina	1.55%	2.32%	1.83%	1.06%	0.49%	1.77%
Orana	2.15%	2.08%	1.76%	1.11%	0.44%	1.89%
Murray	1.31%	2.04%	1.26%	1.53%	0.54%	1.66%
Far West	1.15%	4.48%	0.64%	5.01%	4.51%	3.15%
County Councils	1.01%	NA	1.36%	0.94%	0.23%	1.18%
STATE	2.09%	1.73%	1.27%	1.31%	0.64%	1.54%

*where only 3 years' data available, average worked on 3 years

The categories with the highest State averages were similar to the actual maintenance results, with buildings being the highest followed by road assets. Eleven councils returned results that were worse than the State average for total infrastructure assets.

The best result was the Far West region with 10.17%. In spite of this, when compared to its actual maintenance result of a low 3.15% it is evident that the councils in this region have substantially underspent on maintenance compared to their estimated required annual maintenance.

Table 6 - Required Maintenance to WDV – 4 year average (2008 – 2012)

Required Maintenance	Asset Categories					
Region	Buildings	Roads, footpaths, bridges etc	Water Supply	Sewer Network	Stormwater Drainage	Total Infrastructure (excluding Other Assets)
Eastern Sydney	2.28%	1.83%	NA	NA	1.47%	1.89%
Northern Beaches	2.19%	1.33%	NA	NA	0.92%	1.44%
Northern Sydney	2.46%	1.94%	NA	NA	1.15%	1.83%
Western Sydney	2.72%	2.29%	NA	2.04%	0.92%	2.04%
South West Sydney	4.36%	2.57%	NA	NA	0.64%	2.38%
Southern Sydney	2.92%	2.09%	NA	NA	1.51%	2.22%
Central Coast	1.88%	2.85%	1.49%	1.16%	1.65%	1.68%
Illawarra	2.38%	1.67%	1.35%	1.06%	0.91%	1.51%
Northern Rivers	1.77%	2.79%	1.09%	1.64%	0.70%	1.96%
Mid North Coast	2.24%	2.38%	1.63%	1.60%	1.13%	1.98%
Hunter	4.59%	2.01%	2.42%	2.40%	2.21%	2.44%
South East NSW	2.53%	2.48%	1.04%	2.14%	29.46%	3.56%
New England	1.88%	2.28%	1.78%	1.85%	0.82%	2.07%
Central West	1.73%	1.93%	1.22%	2.69%	0.58%	1.81%
Riverina	1.62%	2.76%	2.05%	1.35%	0.69%	2.11%
Orana	2.06%	2.33%	2.04%	1.29%	0.65%	2.09%
Murray	1.40%	2.28%	1.24%	1.49%	0.57%	1.79%
Far West	1.60%	16.10%	1.19%	5.24%	9.92%	10.17%
County Councils	0.82%	NA	0.97%	0.68%	0.76%	0.88%
STATE	2.56%	2.29%	1.35%	1.54%	1.79%	2.08%

*where only 3 years' data available, average worked on 3 years

4.5.2 Total Maintenance Expenditure to Total Operating Expenses

To gain an understanding of maintenance funding trends, total maintenance expenditure was compared to total operating expenses over four years. While total expenditure has increased each year, the amount expended on maintenance has not increased to the same degree. This indicates that the amount allocated to maintenance has not increased in line with the increases for other expenses. However, it may also indicate that councils are undertaking renewal work thus reducing the cost of maintenance.

The following table looks at total actual maintenance expenditure against total expenses. The same comparison was carried out excluding water supply and sewer network assets as not all councils have these assets and this may have skewed the results. The table also highlights the percentage increase for total expenses and actual maintenance from 2008/09 to 2011/12.

Table 7 – Total Maintenance Expenditure to Total Operating Expense

Maintenance to Total Operating Expenditure	2008/09 ($000's)	2009/10 ($000's)	2010/11 ($000's)	2011/12 ($000's)	% increase 2008/09 to 2011/12
Total Expenses	8,184,292	8,510,293	9,485,239	9,733,548	18.93%
Total Actual Maintenance	1,063,994	1,089,288	1,152,474	1,164,306	9.43%
Total Maintenance (excl water supply &sewer network)	846,886	870,270	946,724	968,597	14.37%

The following graph highlights the increasing trend of total operating expenditure while the maintenance expense does not follow the same trend. This highlights that across NSW the expenses of councils are rising and that while the cost to maintain assets is also likely to increase (at least in line with CPI), the actual monetary amount spent on maintenance is remaining the same.

Maintenance Expenditure to Total Expenses
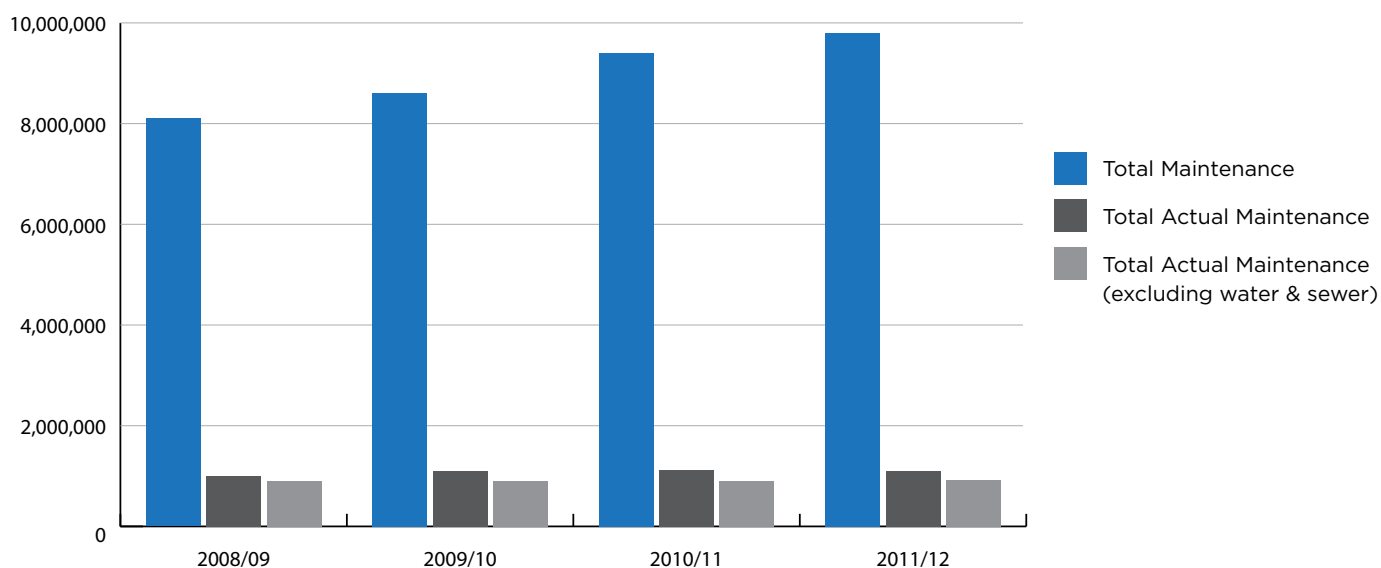
Figure 10 – Maintenance Expenditure to Total Expenses

Some councils appear not to fully fund the lifecycle costs of water supply and sewer network assets

4.6 Summary Analysis of Backlog Data

When assessing the State's infrastructure situation, the outcomes from the following analyses were taken into account:

- 2012 BTS to 2012 WDV of infrastructure assets (excluding 'other assets')
- year average actual annual maintenance expenditure to WDV
- year estimated required annual maintenance to WDV

The purpose of looking at the results of these three assessments was to establish the size of each region's backlog, as a percentage of the value of its written down assets and the extent to which councils within the regions had maintained their assets. By looking at these results together it is possible to see the regions with poor results in all assessments and across all asset categories (i.e. those with the highest level of backlog together with the lowest levels of estimated and actual maintenance expenditure by asset category).

While it is acknowledged that a State average in any analysis cannot be construed as an ideal or desired level to be achieved, it is a measure against which regions could be assessed. It is not possible for example, to specify what percentage of WDV a council or region should apply to its assets given the fact of the varying community needs, finances, demographics etc are all unique to each council and region.

When assessing the results of the above analyses these regional variances were not identified. The combined view of the three analyses highlights the regions most likely to have councils that are struggling to finance maintenance, renewal and the existing backlog.

Most regions have specific categories of assets in which they returned results worse than the State average, but it must be realised that regions are made up of a varying number of councils and some councils within each region may be worse or better than the region's overall result.

A number of regions returned results worse than the State average in each of the three analyses across a number of asset categories. In such cases it indicates that for the relevant asset categories, the region had a high level of BTS and a low level of both actual maintenance and estimated required annual maintenance when compared to the State average. In all cases but one, being the Murray region in respect to water supply assets, actual maintenance expenditure was less than the amount estimated for required annual maintenance.

Table 8 - Summary of Regions with Results Worse than State Average for all Assessments (BTS, Actual Maintenance and Required Annual Maintenance to WDV) in each of the Listed Asset Categories.

Councils with results worse than State average in all 3 assessments	Asset Categories					
	Buildings	Roads, footpaths, bridges etc	Water Supply	Sewer Network	Stormwater Drainage	Total Infrastructure Assets
Northern Beaches					X	
Illawarra	X					
Northern Rivers						X
Mid North Coast	X				X	X
South East NSW	X		X			
Central West						X
Riverina					X	
Orana				X	X	
Murray			X			
Far West	X		X			

The above table identifies the regions that had results worse than the State average for the assessments of BTS to WDV; actual maintenance to WDV and required annual maintenance to WDV by asset category, including total infrastructure assets. The asset class for roads and related assets was the only asset class where each region obtained a result better than the State average for at least one assessment. In this asset category, five regions were better than State average in all assessments, six regions had one result worse than the State average and seven regions had two results worse than State average.

In the case of Mid North Coast which has the highest number of results worse than the State average, it has a high BTS result for the roads and related asset category at 25.08% of WDV. As the region's estimated required maintenance was above the State average at 2.4% it does not appear in the above list. Nevertheless, the amount allocated to actual maintenance was only 1.5% of WDV which was worse than the State average and amounted to only 64% of the amount estimated as required over the past four years.

In addition to the results shown in the above table, the Far West region also had the highest BTS as a percentage of WDV for roads and related assets at 38%. A BTS of that level is of concern. While the results for actual and estimated required maintenance for the roads and related assets were above the State average, the amount expended over the past four years on actual maintenance amounted to only 24.9% of that estimated as required for annual maintenance over this period.

To obtain an understanding of the cost impacts associated with the above results by region, the following analyses were undertaken.

- cost of BTS based on the size of road networks
- per capita cost of infrastructure assets by asset class.

These results were used to add an extra dimension to the overall results.

When analysing the cost per kilometre of the BTS, actual maintenance and estimated required annual maintenance for roads and related assets in each region, the regions lised in Table 9 were found to have backlog costs per kilometre greater than double that of the State average in each assessment area.

In addition to having backlog cost per kilometre double that of the State average, Mid North Coast region had results worse than the State average for BTS to WDV, actual maintenance to WDV and required annual maintenance to WDV in the buildings and stormwater drainage asset categories (see Table 8). None of the other councils listed in Table 9 had results worse than State average for any asset category,

although Northern Rivers region's results for total infrastructure assets was worse than the State average.

The result is somewhat different when assessing the BTS of each region on a per capita basis. Appendix 7B provides details of the per capita cost of infrastucture assests by asset class, by region.

The regions with the highest cost per capita in three or more asset categories over the three assessment areas included Far West, Orana, Mid North Coast, South East NSW, Central West, Murray and Northern Rivers regions. These regions have returned poor results consistently against the State average in a number of asset categories.

This result emphasises that regardless of how the data is analysed, these regions are in the worst state with respect to infrastructure and appear to require the most assistance. In some instances, the population in some of these areas is very low and consequently costs per capita are extremely high.

Table 9 – Backlog Costs per Kilometre of Road

Region	BTS - roads backlog cost per kilometre $	Actual Maintenance -roads cost per kilometre $	Required Annual Maintenance - roads cost per kilometre $
Northern Sydney	79,212	8,177	14,453
South West Sydney	79,169	13,082	16,473
Eastern Sydney	61,746	11,369	16,137
Central Coast	60,493	6,450	8,789
Mid North Coast	57,276	5,438	7,543
Southern Sydney	55,952	10,294	13,304
Northern Rivers	45,808	4,425	7,040
Western Sydney	41,973	9,853	10,814

4.7 Infrastructure Backlog Reporting

As stated in the introduction, councils have been required to report through Special Schedule 7 on the condition of public works and to include:

- an estimate of money required to bring assets up to a satisfactory standard
- an estimate of the annual expense of maintaining assets at that standard
- the council's program of maintenance for that year in respect of the works

However, Special Schedule 7 does not provide the council nor the community with information in relation to the level of assets that are not in a satisfactory standard nor the plans for the furture of these particular assets.

Trends in Infrastructure Needs

5. Trends in Infrastructure Needs

Key Findings

- The following regions appear to need the greatest assistance as they achieved poor results when compared to the State average across a number of asset categories and when assessed using different measures.

  - Far West
  - Orana
  - Mid North Coast
  - South East NSW
  - Central West
  - Murray – Lower Darling
  - Northern Rivers

- Councils appear to have better asset management practices and processes in place for the following asset categories:

  - Roads and related assets
  - Water supply
  - Sewer networks

- The highest incidence of assets that are unable to provide a service were in:

  - Buildings
  - Bridges
  - Stormwater drainage

- The larger councils will greater population and less area are in a better position to be able to manage their infrastructure.

5.1 Regional Assessment

From the analysis of all the information in this audit, observations were made in relation to the performance of each region. There are a number of factors that affect the performance and sustainability of local government. These include population growth and decline, population density, demographics, natural disasters, cost increases and availability of appropriately skilled council staff.

Table 10 shows each assessment area and the regions that were considered to have the poorer results. The types of councils that make up each region are also described below.

The region that appeared in the table most often was the Far West region. This area is represented by two councils, one of which is classified as a small urban regional town (DLG Group 4). The other is a rural remote council with a population of between 1,000 and 3,000 (DLG Group 9).

The Mid North Coast was the next region that did not appear to be performing well. This region is made up of two large urban regional towns (DLG Group 5), one medium sized urban regional town and one small urban regional town (DLG Group 4). The remaining two councils are classified as large rural agricultural (DLG Group 11).

There are five councils in the Northern Rivers region that are classified as small or medium urban regional towns (DLG Group 4), one large urban regional town (DLG Group 5) and one large rural agricultural council (DLG Group 10). This region performed poorly in three of the areas of assessment.

New England was the fourth region that had three or more areas of assessment that were considered poor. There is only one small and one medium regional town in the New England region (DLG Group 4). There are also two small (DLG Group 8), one large (DLG Group

10) and one very large rural agricultural council (DLG Group 11), in this region.

The results of the regional analysis were consistent with the sustainability findings from the TCorp report.

It was noted by TCorp that two regions of NSW had particularly lower sustainability outlooks when compared to other regions. These were the north coast region and the western region. The factors affecting the north coast region were found to be:

- highly prone to floods and storms
- high tourist numbers
- popular areas for retirees
- larger variety of services demanded by differing populations

The western region had the following characteristics identified:

- declining populations
- large council areas and large road networks
- very low population densities
- low rate bases, large dependence on grants
- susceptible to natural disasters (drought, floods & bushfires).

These characteristics affect the ability of councils to manage their infrastructure as well as their sustainability.

Area of Assessment	Region with Poor Results	
BTS as % of WDV	Far West	Mid North Coast
	Murray	Northern Rivers
BTS per Capita	Far West	Mid North Coast
	Murray	Orana
Actual Maintenance to WDV	Central Coast	Mid North Coast
	Central West	Northern Rivers
Actual Maintenance per Capita	Far West	Orana
	New England	Riverina
Required Maintenance to WDV	Eastern Sydney	Northern Rivers
	Mid North Coast	Western Sydney
Required Maintenance per Capita	Far West	New England
	Orana	South East NSW
Infrastructure Management	Central West	New England
	Far West	South East NSW
Financial Assessment	Far West	Murray
	Mid North Coast	Northern Rivers
Community Needs Identified	Central West	Riverina
	New England	Western Sydney

Table 10 - Regional Findings

The results of the regional analysis were consistent with the sustainability findings from the TCorp report.

5.2 DLG Group Assessment

The analysis above on the regions together with the analysis set out in Section 6 (Data Reliability) on council capacity has highlighted that there are groups of councils (based on size and population) that are more capable of managing their infrastructure from both a management sense and a financial sense.

The information on infrastructure management assessment and financial assessment presented in Figure 16 - Infrastructure Management Assessment and Financial Assessment has been presented in a table below based on the DLG Groups.

Table 11 – DLG Group Findings

Infrastructure /Financial Assessment	DLG 1	DLG 2	DLG 3	DLG 4	DLG 5	DLG 6	DLG 7	DLG 8	DLG 9	DLG 10	DLG 11
Strong/Very Strong	1										
Strong/Strong							1				
Very Strong/Sound		1	1						1		
Strong/Sound		3	2	1				1		2	
Moderate/Sound									1		
Very Strong/Moderate			1								1
Strong/Moderate		3	2		2	1	1			2	
Distressed/Strong									1		
Moderate/Moderate		4	5	11	3		3		3	5	5
Weak/Moderate		1	3	4						2	2
Very Weak/Moderate									1		1
Strong/Weak			1				2		2	1	1
Moderate/Weak		2	2	3	1	1	1		1	1	2
Weak/Weak				4		1		2	3	4	4
Very Weak/Weak				1					1	1	1
Distressed/Weak									1		1
Moderate/Very Weak				1	1				1	3	2
Weak/Very Weak				3	1			1	2	2	
Very Weak/Very Weak				1						1	
Distressed/Very Weak									1	2	
Weak/Distressed									1		
Very Weak/Distressed				1							
* Excludes 1 council	1	14	17	30	8	3	8	4	20*	26	20

The table above shows the assessments for the infrastructure management and the financial positions of the councils by their respective DLG Group. As mentioned earlier in the report the DLG Groups are based on two factors. The first is whether the council is urban (capital city, metropolitan developed, regional town/city or fringe) or rural (agricultural or remote). The second step is based on population (Refer to map in Appendix 5).

The councils in the green section of the table are the ones that appear to have the greater capacity (this correlates with the top right hand side of the graph in Figure 16). The DLG Groups that have the majority of councils in this section are Groups 1, 2, 3, 5 and 7. The percentages of councils represented in this section respectively are 100%, 79%, 65%, 63% and 63%.

The councils in these groups are classified as either, capital city, metropolitan developed, regional towns or fringe with large or very large populations (greater than 70,000).

On the other end of the spectrum are the councils that have less capacity to maintain their infrastructure from both a management and financial sense. This is

represented in Table 11 in the bottom part of the table highlighted in orange.

The DLG Groups with the highest percentage of councils in this section are Groups 8 (75%), 9 (50%), 10 (50%) and 11 (40%). There are only four DLG Groups that are classified as rural and all these are represented in this analysis.

Interestingly the councils in DLG Groups 4 and 6 are fairly evenly spread from those that appear to have a greater capacity to those with less capacity to manage their infrastructure. The councils in these groups are regional towns/cities or regional urban centres but have populations of less than 70,000 residents.

From this analysis it would appear that the larger councils are in a better position to be able to manage their infrastructure. TCorp in their financial sustainability report also noted this trend of population density as being one of the factors affecting sustainability.

From this analysis it would appear that the larger councils are in a better position to be able to manage their infrastructure.

5.3 Asset Class Assessment

The asset class that requires the greatest amount of money to bring the assets to a satisfactory standard is the roads and other related assets class. The BTS for this asset class is $4.552 billion of the $7.359 billion required for the State for all assets. The second largest BTS of $1.037 billion is for the buildings class of assets.

Analysis of the BTS and maintenance (actual and required) was examined for the asset classes of roads and related assets, buildings, water supply, sewer network and stormwater drainage. Of these buildings and stormwater drainage were found to have the highest number of regions that had a BTS above the State average and the maintenance levels were lower than the State average.

From the information gathered in the audit it appears that councils have better asset management practices and processes in place for roads and related assets, water supply, sewer networks, stormwater drainage and buildings.

Asset management practices and processes for other structures, parks and recreation assets have been implemented by the majority of councils with these assets. Airports, foreshore and natural assets have less asset management practices in place than the other classes.

Councils were asked to provide information in relation to assets that they have that do not provide a service. The asset classes that had the highest number of councils with assets not providing a service were buildings, bridges, and stormwater drainage.

Bridges are another class of assets which councils provide and maintain. They provide vital links for rural and regional NSW. 144 NSW councils are responsible for bridges, with 85% stating they have asset management plans for these assets. Many bridges that councils maintain are of timber construction, some of which are over 50 years old.

Currently councils have reported that the estimated amount to bring bridges to a satisfactory standard is $343.22 million. Councils currently spend $15.57 million annually to maintain bridges, however these councils estimate that the required annual maintenance for these bridges should be $29 million.

In the past there have been a number of programs that provided additional funding to assist councils replace timber bridges and upgrade these assets. The NSW Government invested $60 million in a Timber Bridge Partnership, to upgrade council managed timber bridges on regional roads, on a 50:50 cost sharing basis, concluding in June 2011.

Programs such as the Timber Bridge Partnership are highly successful projects, in assisting council to address their infrastructure backlog of these assets.

Many partnership programs have been highly successful in assisting councils to address their infrastructure backlogs

Data
Reliability
Testing

6. Data Reliability Testing

Key Findings

- Valuable data has been gathered through the:
    - Annual financial statements
    - Infrastructure Audit Survey
    - Maturity gap analysis of 42 LGRF councils
    - On-site audit of 35 sample councils
    - TCorp Financial sustainability assessment of all NSW general purpose councils
- Indications are that better data is being gathered and used by NSW councils to manage their assets since the introduction of IP&R
- Council have more comprehensive asset management practices and processes in place for roads and related assets, water supply, sewer networks and stormwater drainage
- Approximately 37% of councils need to implement or improve infrastructure management practices and procedures
- Only nine of the 35 councils audited on-site had lifecycle costings of assets at the core level or better

- Around 50% of the audited councils have adequate condition assessments, processes and procedures
- Approximately 75% of councils have adequate valuation and asset life data
- Many council are yet to determine levels of service in consultation with the community
- Generally speaking, councils with the largest BTS per capita, have the weakest financial position with a negative outlook and the poorest infrastructure management assessment. (see Appendix 9 for summary results)
- High to medium level of confidence in the backlog figures assigned to some of the sample councils that had on-site audits
- The financial position impacts significantly on a council's ability to deliver infrastructure and rated services:
    - Only one could was rated as Very Strong in the short to medium term
    - 44% of councils were rated as Moderate while 30% were rated as Weak

6.1 Introduction

This section examines what is actually occurring within local government in terms of infrastructure management. It examines:

- the maturity and gap analysis for the councils that were a part of the Local Government Reform Fund program

- councils' financial information, together with the survey results for the asset management practices and processes implemented by councils
- the results from the on-site audits

6.2 Analysis of Local Government Reform Fund Councils

As discussed in Section 3, 42 councils received Federal Government funding to assist them to achieve a core level of infrastructure management maturity.

Each of these councils underwent an asset management maturity and gap analysis in 2 stages. The first stage involved an analysis of each council's asset management processes, financial planning and related documentation. An action plan was developed as a result.

The second stage involved an assessment of each council's progress in implementing their action plan and whether or not they had achieved 'core level maturity' in the specific areas. 'Core level maturity' is the minimum requirement for asset management

under Institute of Public Works Engineering Australia (IPWEA) and the Division's IP&R framework.

The results of the assessments were that all 42 councils have substantially improved their asset management and financial planning. Despite this overall improvement, the majority of the councils did not reach 'core level maturity' in all areas. As can be seen from the following graph the majority of councils met the core level of maturity in the areas of strategic planning, annual reporting and budgeting and asset management policies.
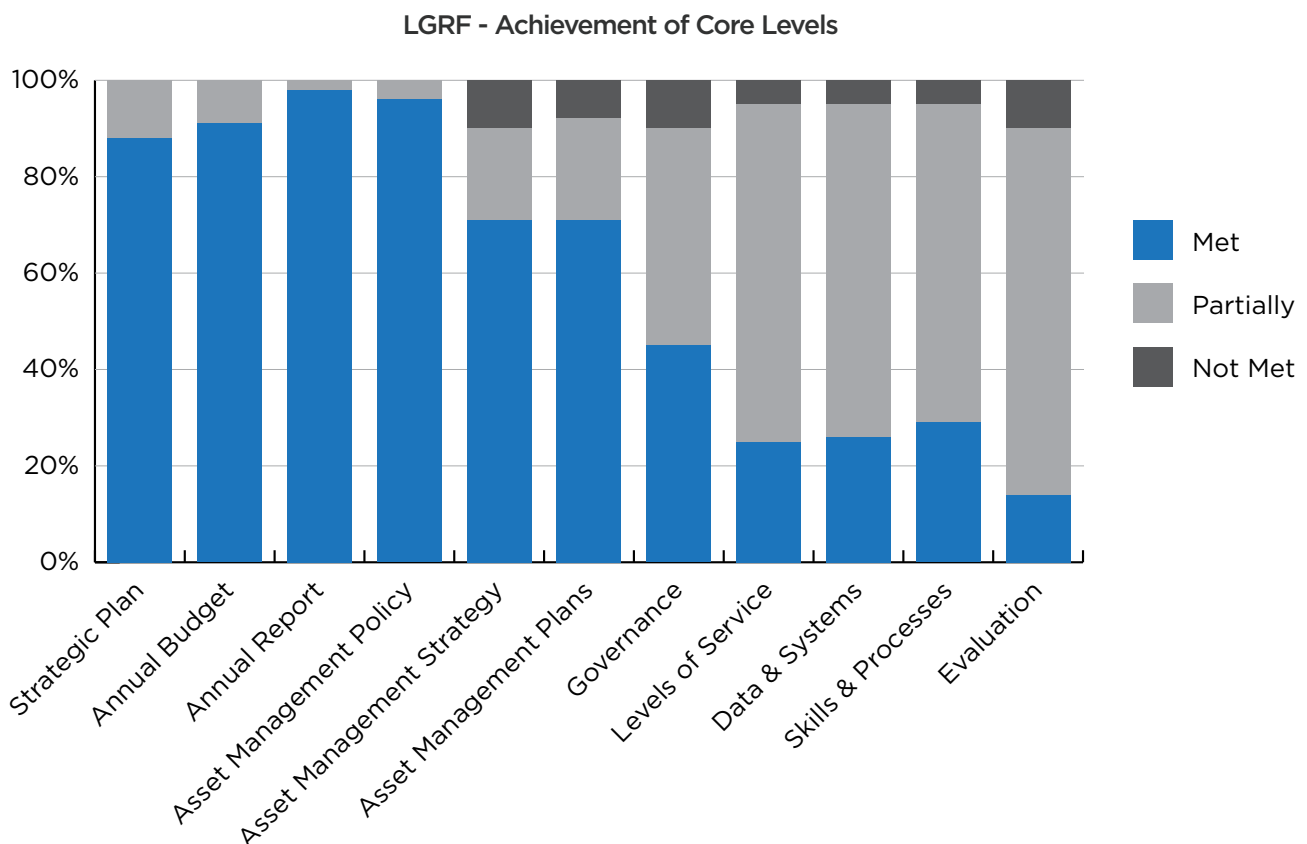
Figure 11 – LGRF Achievement of Core Levels

The lowest levels of compliance were in the areas of governance, levels of service, data and systems, skills and processes and evaluation. These are the supporting processes that enable councils to develop, implement and monitor strategic objectives. This may be due to resourcing issues, as these processes can be labour intensive. Another factor may be training. In many councils training is focussed on safety and limits on financial resources may inhibit training in the area of asset management.

The first assessment of the councils in June 2011 found 24 had met or partially met the governance component. By June 2012, 90% or 38 councils had met or partially met the component.

Levels of service need to be established for all council assets in consultation with the community in order to provide affordable services at an acceptable cost and level of risk to the community. At the end of the review period, 10 councils had met this component with a further 30 partially meeting it.

In terms of data and systems, the emphasis is on the collection of data to measure asset management performance, identify funding gaps and to benchmark with other councils. Eleven councils met this requirement, with a further 29 making significant progress towards meeting the target.

Access to appropriately skilled staff is an essential part of asset management and sustainability, as is having enough staff to undertake the work and implement the plans. To achieve this, continuous improvement programs are necessary.

The data indicates that councils have made significant progress in 2012 in this area, but that further work will be required moving forward.

The final component covers evaluation where performance indicators are used to identify certain directions being taken by a council and to assess whether or not desired outcomes are being achieved. This is an area that councils are struggling with and further work is required.

The results of this analysis were examined on both a regional and DLG group basis, but no significant trends were observed.

In conclusion, the LGRF was essential in providing targeted financial assistance to councils that were identified as having limited resources and capability in terms of asset management and IP&R. It is vital that the momentum created through this fund continues.

6.2.1 Findings – LGRF

The LGRF maturity gap analysis is very informative in demonstrating what councils were able to achieve and where the future focus needs to be.

- Compliance is stronger in developing strategic plans, annual budgets, annual reporting and developing asset management policies and strategies

- Asset Management Plans are in place for 70% of the reform fund councils

- Further capacity building is necessary for councils, particularly in the area of governance

- Levels of service, data and systems and skills and processes are areas that have improved considerably, but further work is required

- LGRF was essential in providing targeted financial assistance and it is vital that the momentum created through this fund continues.

6.3 Analysis of Desktop Reviews

The desktop review assessed councils in respect to their financial performance, infrastructure management capability and the extent to which community needs that are dependent on assets have been addressed.

A summary of the outcomes of these assessments indicates that while councils have a reasonable understanding of the assets required to provide their communities with services, there is still a considerable amount of work needed to ensure that the infrastructure assets are well managed and appropriately financed. The overall results of the assessments are shown in Figure 12.

Infrastructure Management Assessment
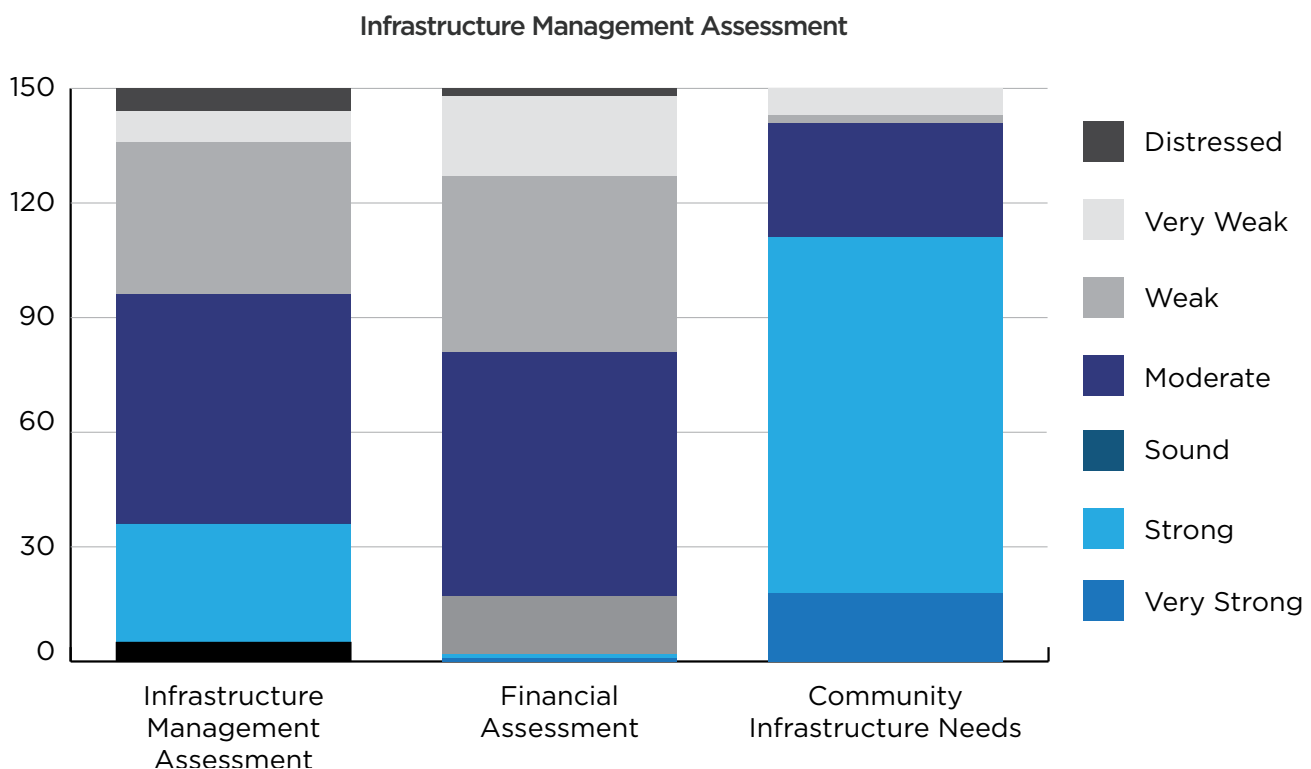
Figure 12 – Infrastructure Audit Assessment

The financial assessment, as determined by TCorp, shows that 46% of councils in NSW are in the range of 'Weak' to 'Distressed' in their short to medium term financial outlook (four years out). Further, the results of the infrastructure management analysis indicate that approximately 37% of councils still have infrastructure management practices and procedures to implement and/or improve.

6.3.1 Infrastructure Management Component

An assessment of the infrastructure management practices and processes was undertaken and each council was rated from 'Very Strong' to 'Distressed'. Appendix 11 provides a detailed analysis of each rating.

Councils that were assessed as 'Very Strong' appeared to have manageable BTS, were spending close to or more than what they estimated was needed for asset maintenance, had asset management plans, registers, asset condition data and established levels of service for their asset classes.

Councils assessed as being 'Distressed' had significantly large BTS, their actual maintenance to estimated required annual maintenance was low, they had developed some asset management plans however did not have established levels of service, condition data or undertaken risk management.

The majority of councils appear to have 'Moderate' infrastructure management processes and practices in place.
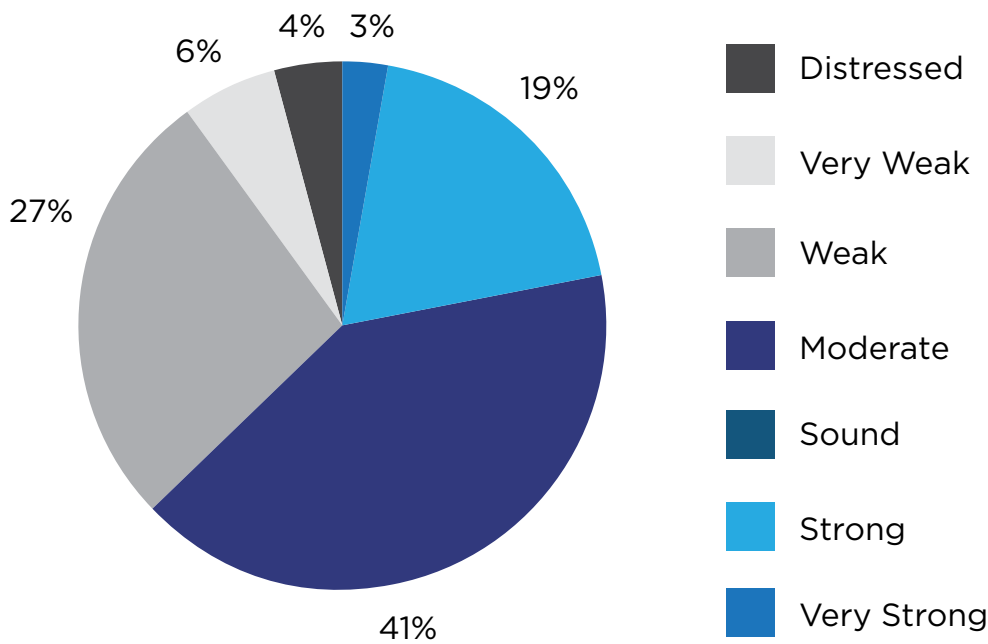
Figure 13 – Infrastructure Management Assessment

Based on the information provided by councils on their asset management practices and processes, it appears that data provided by councils with 'Very Strong' to 'Moderate' assessments is fairly reliable.

It is anticipated that the results will further improve in future years, following the required review of councils' planning documents under the IP&R framework and the council elections in 2012. It is also anticipated that councils' staff knowledge, understanding and practices will also improve as skills and experience further develop.

Regions where infrastructure management is considered weakest are:

- New England
- Northern Rivers
- Murray
- Mid North Coast

The majority of metropolitan councils in the Northern Beaches, South West Sydney and South Sydney have been assessed as 'Strong' or 'Very Strong' in infrastructure management.

The following table provides a summary of the assessment results across councils in each region.

	Very Strong	Strong	Moderate	Weak	Very Weak	Distressed
Eastern Sydney	2	4	5	1		
Northern Beaches	1	2	1			
Northern Sydney		1	5	1		
Western Sydney		3	4	1		
South West Sydney		4	1	1		
Southern Sydney		3		1		
Central Coast			2			
Illawarra			3	2		
Northern Rivers		1	1	4	1	
Mid North Coast			2	3	1	
Hunter		1	9			1
South East NSW		4	2	5	1	1
New England	1		5	2	3	2
Central West			6	5	1	
Riverina	1	2	3	2	1	1
Orana			6	4	1	1
Murray		4	6	7		
Far West				2		

Table 12 - Assessment Results of Regions

Information gathered from councils included responses to questions associated with asset management practices and processes specific to each category of asset. The responses help identify those areas of infrastructure asset management processes and practice where councils need to undertake further development.

Councils were asked the following questions (in respect to each category of assets) to assess their current position in relation to asset management:

- Does council have an asset management strategy?
- Does council have an asset management plan?
- Does council have all assets recorded in an asset register?
- For assets recorded in an asset register are they recorded as individual components/segments?
- Have service levels for these asset classes been established?

- Do any asset classes have assets that are not able to provide a service?
- Does council assess useful lives every 12 months?
- Has council undertaken general risk assessments for assets?
- Has council undertaken natural disaster risk management studies and climate change impact assessments for assets?
- Does council inspect assets every 12 months?

The table below shows the overall State results from five of the questions that are considered to be of greatest importance in establishing the current status of infrastructure management. As all councils do not have assets in all asset categories the number of councils for each asset category has been specified. The percentage of councils with a positive result to each question (apart from the question of councils with assets that are unable to provide a service) has been determined on the relevant number of councils in each category.

	Roads	Bridges	Foot paths	Water Supply	Sewer Net work	Storm-water	Bldigs	Other S'tures	Parks	Rec Assets	Fore shore	Natural Assets	Air ports
Number of councils with assets	151	144	151	94	99	152	157	122	148	147	52	104	71
% councils with asset plans	95%	85%	89%	86%	87%	83%	83%	58%	76%	77%	63%	29%	50%
% councils with assets in register	97%	93%	94%	95%	94%	93%	94%	76%	89%	87%	69%	32%	79%
% councils with determined levels of service	78%	67%	72%	75%	78%	59%	60%	39%	63%	61%	51%	25%	50%
% councils that have assessed risk	82%	77%	81%	69%	70%	68%	70%	52%	74%	71%	67%	44%	68%
% councils with assets not able to provide a service	9%	19%	11%	11%	7%	18%	23%	18%	14%	16%	16%	13%	9%

Table 13 - Current Status of Infrastructure Management

These results show that some councils have yet to complete asset management processes for all classes of assets. However, it is recognised that this process will take time and resources to complete. The results also highlight that in each asset class, there are councils that have assets that are no longer able to provide a service.

The road and related assets category of assets is the best managed, while natural assets are not very well managed. This may of course be related to the importance placed on these asset classes by communities and the resources available to manage all assets.

Do councils have asset management plans for their assets?

A number of councils are still to implement asset management plans for all assets, with natural assets being the class requiring the most work. All councils except those in the South West Sydney region, are yet to complete plans for the asset class of other structures.

For the roads and related assets class of assets, 95% of councils in NSW have completed asset management plans. The regions where some councils have yet to complete asset management plans are the Hunter, Murray, Mid North Coast, New England, Orana and Southern Sydney regions. Seven councils have yet to complete asset management plans for roads.

The regions of Central West, Murray, Mid North Coast, New England, Northern Rivers, Orana, Riverina, South East NSW and the county councils are yet to complete asset management plans for water supply and sewer network assets. This equates to 69% of the regions who provide water and sewer services.

Only eight of the 21 regions have all councils in the region that have completed asset management plans for stormwater drainage.

The Mid North Coast and New England regions are yet to implement asset management plans for all classes of assets. Councils in these regions that have not completed asset management plans fall within the DLG Groups 4, 5, 9 and 10. One council in the New England region has not completed any asset management plans, with one council in the Mid North Coast Region having only completed plans for two of the 13 asset classes.

The remaining 17 regions have implemented plans for some asset classes, while all councils in the South West Sydney region have completed asset management plans for all classes of asset except natural assets.

Appendix 9B provides an overview of the results to the question of asset management plans by asset category and region.

Do councils have all assets recorded in an asset register?

While many councils reported that asset management plans have yet to be developed, it is evident that most have all infrastructure assets recorded in asset registers. This result is encouraging as it is essential for all assets to be recorded in asset registers to ensure that asset management plans are developed on the basis of accurate asset information.

Roads are the largest asset class and the fact that 97% of councils have all their roads recorded in asset registers shows that the data relevant to roads is fairly reliable.

From the information provided by councils, it is evident that not all councils have all their infrastructure assets recorded in asset registers. The asset classes of other structures, parks, recreation assets, airports, foreshore and natural assets appear to be the asset classes that require the most attention in this respect. Recording assets in registers may also require the assets to be componentised in terms of life expectancy and depreciation rates.

The regions with the most complete asset registers for roads are the Hunter, Murray and Western Sydney regions. Each of these regions has only one council that has yet to fully register all roads assets. Far West also has one council in the region yet to complete asset registers for roads, however there are only two councils in this region.

Far West, Murray, Orana and New England regions have yet to complete asset registers for sewer network assets, while all of these regions except New England also have to complete registers for water supply assets.

Two councils in the Murray region are yet to complete asset registers for 10 asset classes. One council in the Western Sydney region has yet to complete all of its eight asset registers.

Appendix 9C provides an overview of the results to the question of assets being recorded in asset management registers.

Have councils established appropriate levels of service?

Councils were asked if they had determined levels of service for each class of assets. From the information gathered from councils' asset management plans and that provided by councils in the audit survey, it appears that councils answered this question on the basis of current levels of service, not those agreed with the community, and referred to as 'desired' levels of service.

The majority of councils stated in their asset plans that the desired level of service had yet to be determined as part of the council's IP&R processes and community consultation. Consequently those councils reporting that levels of service had been established had based this on current levels of service which may or may not meet the community's expectations.

This is consistent with the findings and recommendations of the Road Management Report, Road Asset Benchmarking Project, 2011. One of the recommendations from that report was for councils to improve asset management capability to provide services to the communities in a sustainable manner. The survey indicated that the current level of road infrastructure services councils are providing to their communities is not sustainable.

The asset categories of roads and sewer network assets achieved the highest response rate of 78% for councils having determined levels of service for these assets.

Of those councils providing water supply and sewer network services, only 64% have determined some level of service. No region has determined levels of service for stormwater drainage assets.

Central West, Mid North Coast, Northern Beaches, New England, Orana, South East NSW, Southern Sydney Regions have not completed levels of service for any asset class. One to two councils in each region have not undertaken any levels of service for any class of assets, while some have only undertaken levels of service for one or two asset classes.

Results from the levels of service question indicate that the majority of councils need to consult with their communities to determine desired levels of service. This is important as asset management plans and long term financial plans need to reflect the appropriate level of maintenance and renewal expenditure necessary to maintain a council's assets at a standard that will continue to provide services to the community at agreed levels of service.

The skills needed to undertake this are rather specialised and may not be readily available. To tap into the required skills councils may need to work on a regional basis (perhaps through an appropriate Regional Organisation of Councils) in order to progress this requirement.

Appendix 9D summarises the results of this question from the perspective of 'current levels of service'.

Are councils actively managing risk?

A significant number of councils have not undertaken risk assessments for all asset classes.

Key findings show that the Central Coast region is the only region in which all councils have undertaken risk assessment for all asset categories.

A number of councils in the Central West, New England, Riverina, Southern Sydney, Orana and South East NSW regions are yet to undertake risk assessments on all classes of asset.

Of interest is that certain councils in the Central West, Murray, Mid North Coast, New England, Orana and South East NSW regions that have not undertaken risk assessments for certain asset classes, are also the councils that have not determined levels of service.

Appendix 9E summarises the results of this question and identifies the regions where councils have undertaken risk management for each asset category.

Do any asset classes have assets that are no longer fit for service?

A number of councils reported that some assets recorded in asset registers were no longer able to provide a service.

Overall, 23% of councils indicated that some buildings can no longer provide the required service, 19% have bridges recorded as not fit for service and 18% have unserviceable stormwater drainage assets.

The Central Coast region reported having water supply and building assets that are no longer able to provide the required service.

The Eastern Sydney and Hunter regions have the greatest number of asset classes with assets unable to provide the required service. Half of the councils in Eastern Sydney have buildings and stormwater drainage assets which are no longer fit for service.

It is unclear whether the assets have been depreciated fully but still being used partially to provide reduced services, or whether they have been 'closed' due to deterioration and failure while awaiting replacement.

In the Far West region, both councils identified assets in six asset classes that were no longer able to provide a service. In the South West Sydney region all councils with foreshore assets reported that some assets are no longer fit for service.

One county council has stormwater drainage assets and reported that some assets within the asset class are no longer fit for service.

Appendix 9F summarises the results of this question and identifies the regions where councils have determined asset which do not provide any service.

6.3.2 Financial Sustainability Outlook

The financial assessments of councils were undertaken by TCorp. The results below show that, based on their own forecasts, the financial position of most councils will deteriorate over the next four years. Issues influencing this are councils' forecasting deficits, councils' forecasts on longer term time frames rather than just 12 months, the realisation of whole of life costs that need to be considered by councils and council areas diminishing populations.
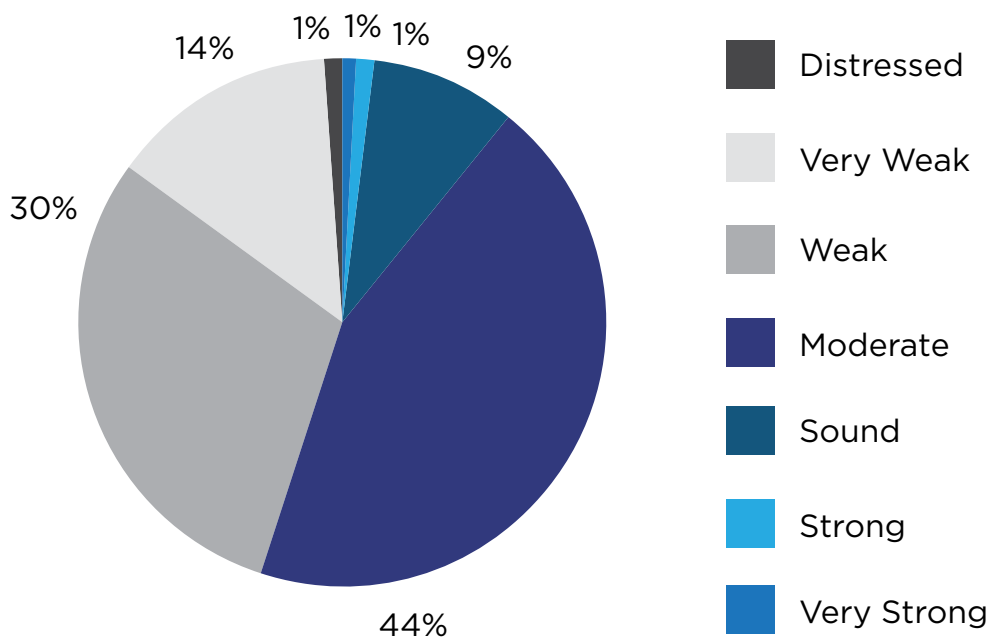
Figure 14 – Financial Sustainability Outlook

TCorp identified that some councils providing water supply and sewer network services continue to report deficit results for these funds.

The provision of water and sewer services should be operating on a full cost recovery basis, with fees not restricted by rate pegging. Councils should ensure these funds are not a burden on the general fund.

TCorp also recommended that councils ensure they increase their charges in line with the cost of providing the service, and not just the CPI. Councils provide a number of services where full costs are not recovered, placing a further financial burden on councils.

The table below shows that the councils in the Far West region have been assessed to be 'Very Weak', with one of these councils having a financial sustainability outlook of 'Distressed'. A significant number of councils in the Murray, Northern Rivers, Mid North Coast and Orana regions have also been assessed to be 'Weak' or 'Very Weak'. These declining financial outlooks may inhibit councils required ongoing commitment to the maintenance and renewal of assets.

	Very Strong	Strong	Sound	Moderate	Weak	Very Weak	Distressed
Eastern Sydney	1		3	5	3		
Northern Beaches			2	2			
Northern Sydney			1	6			
Western Sydney		1		3	4		
South West Sydney			1	2	3		
Southern Sydney				4			
Central Coast				2			
Illawarra				4	1		
Northern Rivers				2	1	4	
Mid North Coast					1	4	1
Hunter				7	2	2	
South East NSW			2	3	8		
New England				6	3	4	
Central West				7	5		
Riverina			3	4	3		
Orana		1		4	3	4	
Murray			1	5	9	3	
Far West						1	1

Table 14 – Financial Sustainability Outlook by Region

In respect to depreciation reported by councils, TCorp stated in its report that depreciation rates, expenses and methodologies varied across councils and that depreciation rates as a proportion of infrastructure asset values were higher for the councils they had rated as weaker in terms of financial sustainability. It appeared from this that assets were not being depreciated at a rate that appropriately reflected the remaining useful life of the assets.

TCorp identified that sufficient depreciation expense had not been forecast by many councils and in some cases, the long term financial plans included a static amount across the future 10 years. The Division has also noted that the forecast depreciation expense for many councils is not realistic, especially in cases where the expense is the same for all years of the long term financial plan. Overall it appears that the depreciation expense may be understated thus impacting on the written down value of some councils' assets.

Council Capacity

The IP&R framework ensures that councils give proper consideration to the assessment, management and planning of infrastructure assets. The process of integrating asset management to long term financial planning assists councils to manage infrastructure priorities in the most efficient manner. Councils need to focus on the sustainability aspects of infrastructure management to enable them to meet the community's expectations regarding the provision of services and infrastructure.

Figure 15 below shows the relationship between councils' infrastructure management and financial assessments. The higher the number on each axes the higher the assessment was for that component. On the infrastructure management capacity axis the distressed assessments are ranked at zero, followed by the very weak at one and so on until very strong at number six.

Again on the financial assessment axis the higher numbers represent the stronger financial assessments.

The graph shows, that there is a large group of councils whose assessments for infrastructure management and finance fall within in the 'Moderate' assessment. Councils should be aiming to have higher infrastructure management processes and practices in place, together with improved financial positions to meet sustainability principles. On the graph this would put

councils in the areas of more than five on each axes of the graph.

There are many councils that have less than 'Moderate' assessments (those councils in the lower left hand quadrant) and these councils and their communities may need to reconsider levels of service and the condition standard of infrastructure in view of available funding.
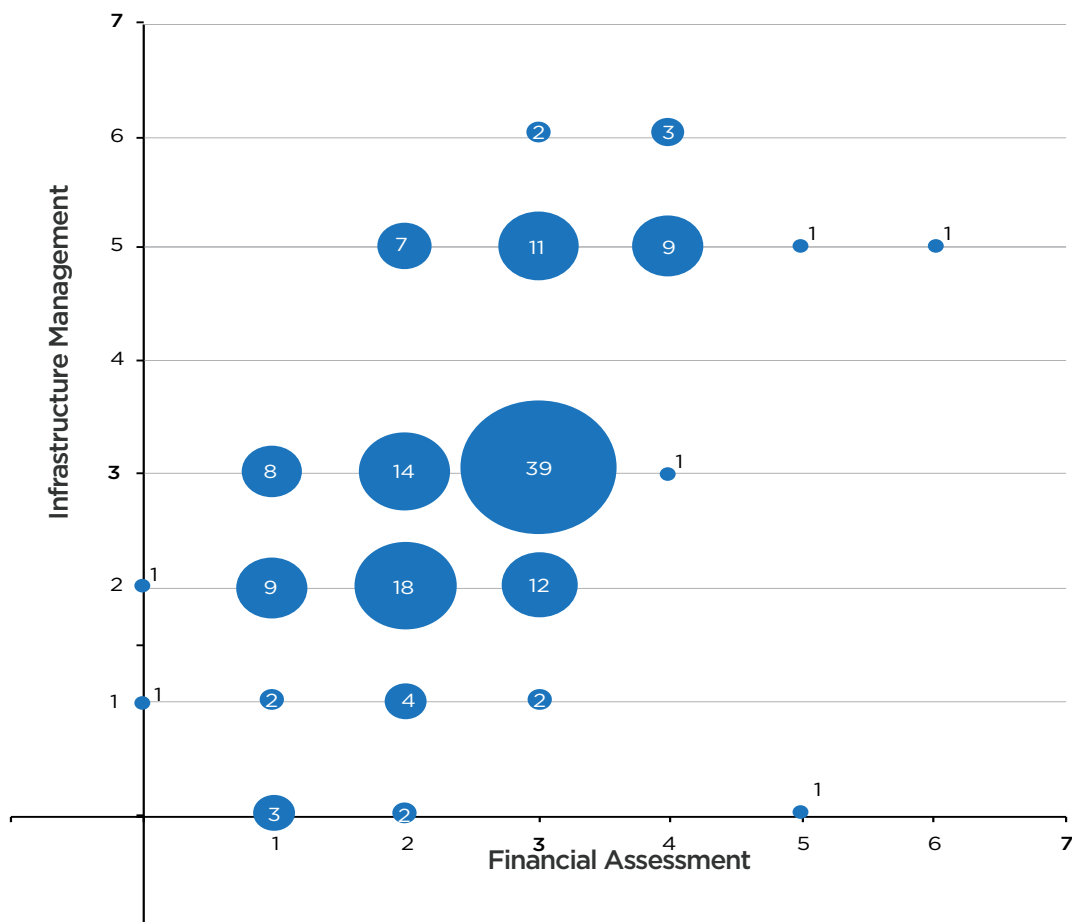
Figure 15 – Infrastructure Management Assessment and Financial Assessment

6.3.3 Community Infrastructure Needs Identification

Infrastructure assets provide necessary and desired services to the community. A council determines its priorities with regard to the infrastructure needed to provide these services in consultation with the community. This analysis has been undertaken at a high level review of council's CSP and DP.

Overall, councils have done well in identifying infrastructure assets that provide the services considered important by the community in their CSP. Those councils assessed as being 'Strong' in this regard account for 62% of councils. Councils that were assessed as 'Weak' or 'Very Weak' were councils in DLG Groups 9, 10 and 11 with one in Group 3 and one in Group 4. Predominantly, these were rural councils with medium to very large populations.
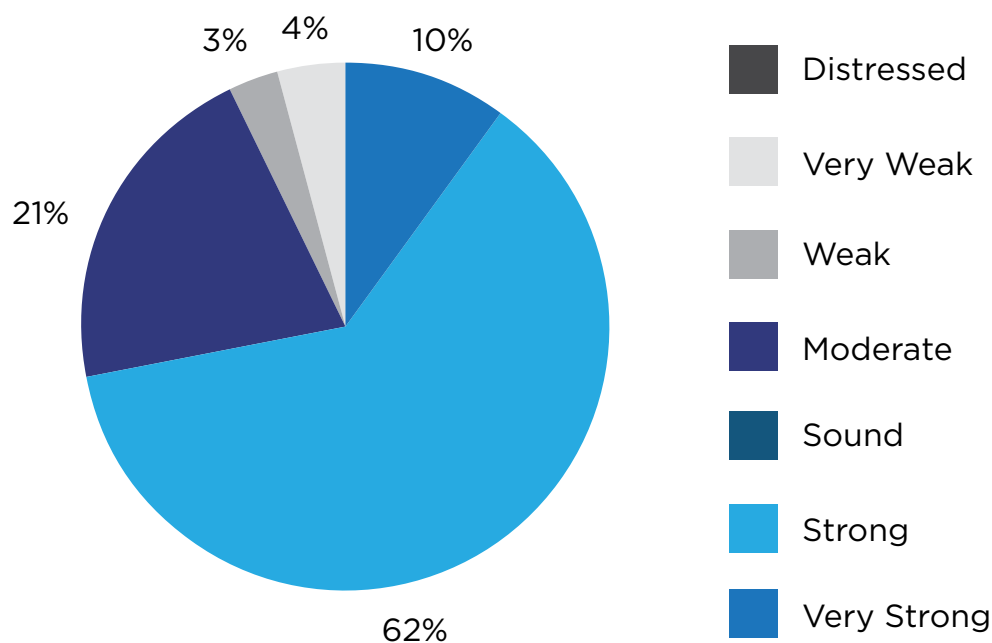
Figure 16 – Community Infrastructure Needs Indentified

6.4 Analysis of On-site Audits

Thirty five councils were selected to have an on-site audit. The purpose of the audit was to validate the results from the desktop reviews and to gain an understanding of the way councils were assessing their assets and in particular the condition of those assets. To be able to test this, a variety of councils were audited.

The councils selected for the on-site audit were:

1.	Armidale Dumaresq	13.	Dubbo	25.	Newcastle
2.	Ballina	14.	Great Lakes	26.	Richmond Valley
3.	Bathurst	15.	Griffith	27.	Rockdale
4.	Bega Valley	16.	Gunnedah	28.	Ryde
5.	Bogan	17.	Guyra	29.	Shoalhaven
6.	Broken Hill	18.	Kempsey	30.	Singleton
7.	Camden	19.	Lake Macquarie	31.	Tenterfield
8.	Canada Bay	20.	Leichhardt	32.	Upper Lachlan
9.	Canterbury	21.	Lithgow	33.	Warrumbungle
10.	Coolamon	22.	Lockhart	34.	Wollondilly
11.	Cootamundra	23.	Muswellbrook	35.	Young
12.	Cowra	24.	Narromine		

Table 15 - Assessment Description Standard

A	At or near best practice
B	Advanced level of competence
C	Core level of competence
D	Basic level of competence
E	Awareness
F	Nothing / limited

Of the councils audited, no council was considered to be at or near best practice as a result of the overall assessment of the asset management systems and processes (bearing in mind that not all councils were audited). One council was considered to be at an advanced level of competence in relation to their overall asset management systems and processes. The majority of councils (83%) fell within the overall assessments of C – core level of competence or D – basic level of competence groups. One council was assessed as having no or limited asset management systems and processes.

The results from the on-site audit are displayed in Figure 17 below. These results were largely consistent with the desktop audit results as the councils that were selected for the audit had desktop scores ranging from Very Strong to Very Weak. The audit included councils that were considered to be performing better, to those that were considered to be average, to those that appeared to have a limited ability to undertake the scale of asset management within the set timeframe.
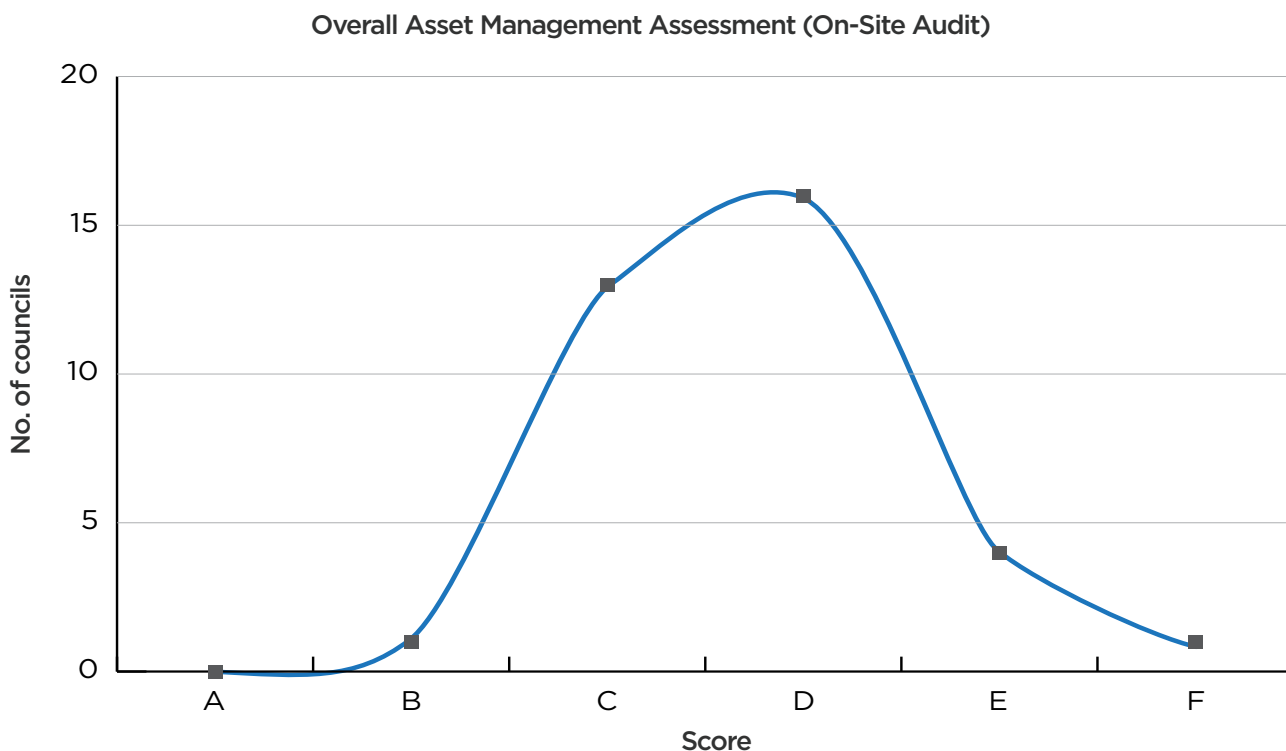
Figure 17 – Overall On-Site Audit Asset Management Assessment

In general the results from the on-site audits were in line with those in the desktop infrastructure management assessment. This suggests that the desktop provided a reasonably reliable assessment overall. Of the seven councils that scored differently in the on-site audit, all but one decreased from the desktop review assessment.

Each of the components of the on-site audit are discussed in the following paragraphs.

6.4.1 Asset Management Systems and Processes

As described in the methodology section of this report the asset management systems and processes of the councils were examined as one of the components of the on-site audits.

The score achieved by each council for the six categories is displayed below in Figure 18.

On Site Audit Asset Management Assessment Scores by Category
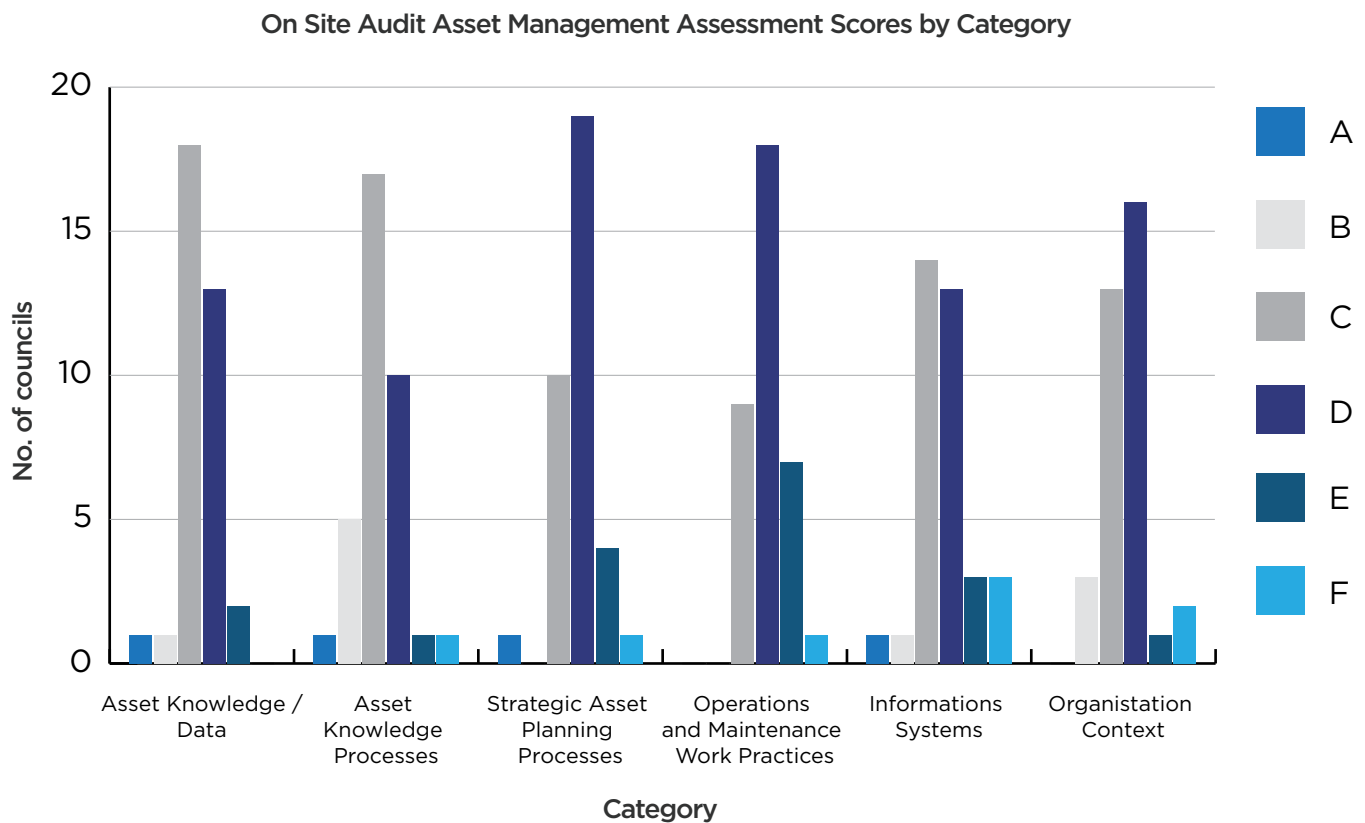
Figure 18 - Asset Management Systems and Processes Scores

6.4.2 Asset Knowledge and Data

In order to have robust asset management councils need information about the assets that they are responsible for, the value, age and condition of those assets together with the service requirements of those assets.

Asset Classification/Hierarchy

Each council would be expected to have a logical structure to the collection and storage of its asset data, including assets uniquely identified and the asset registers to be segmented into appropriate classification levels.

Also it would be expected to find an asset hierarchy that covers all asset classes and is consistent with guidelines and processes. Councils should have guidelines and processes to identify unique assets.

The results from the on-site audit showed that 74% of the councils had a core, advanced or near best practice result for this component, leaving 26% or nine councils that do not meet the core level of requirements.

Lake Macquarie City Council was considered to be at or near best practice in this category. The Council had a comprehensive understanding of all its assets. All asset groups were broken down into segments with the roads being recorded in the pavement management system. The hierarchy of roads was based on usage and was linked to the Council's Transport Plan with five categories. Manuals were used for classifying the roads.

At the lower end of the scoring scale findings for one of the councils stated:

"The structure of asset information is not built on a consistent approach and has been developed within each asset group to suit immediate requirements at particular times. The range of asset information storage methods makes interrogation and reporting on asset trends difficult".

Attributes and Location

For this category attributes of assets such as location, size, material, type and so on would be expected to be recorded in the asset register. Also it would be expected that this information could be represented in a spatial format, with associated mapping guidelines and processes.

The results from the on-site audit showed that 71% of the councils had a core, advanced or near best practice result for this component, leaving 29% or ten councils that do not meet the core level of requirements.

Condition Data

Knowing the physical condition of an asset is important as it provides the base for efficient and successful asset management. Asset condition is critical in managing risk as well as making asset valuation and depreciation more meaningful and reliable[16].

Councils should have written processes for carrying out condition surveys and defect identification assessments, with data recorded in accordance with the asset hierarchy.

---

[16] National Asset Management Steering (NAMS) Group, International Infrastructure Management Manual (IIMM), 2006.

Condition assessment guidelines and processes should be developed and used and there should be a consistent rating system applied. Historical assessment data should be available in a consistent format.

The results from the on-site audit showed that 51% of the councils had a core, advanced or near best practice result for this component, leaving 49% not meeting the core level of requirements. Of the councils that implemented IP&R as at 1 July 2010 there are still three councils that have not yet achieved the core level.

To improve this result the councils not able to reach the core level should be further investigated in order to develop capacity building strategies.

Lifecycle Cost Data

Lifecycle cost data is represented by clear definitions of operations and maintenance, renewals and new/upgrades expenditure. Cost data should be recorded separately for each, with the data used in decision making. There should be a written lifecycle strategy and cost and planning process.

Asset knowledge and data assessment is the area that has the lowest level of councils achieving a core, advanced or at or near best practice level. This information is valuable for making decisions about assets in order to achieve the lowest long-term cost of an asset. Nine councils subject to the on-site audit were able to achieve a core level or greater for this component.

Valuation, Depreciation and Age / Life Data

In order to meet this sub-category, councils should have a common data system used across all asset groups, with current depreciation and replacement cost data in accordance to the appropriate asset hierarchy level. Depreciation should be updated on the basis of annual assessments of useful asset life. Historical accounting data should be available.

Not surprisingly many councils have achieved the core level or better for this component of the asset knowledge and data assessment. The reason for this

could be due to the fact that a lot of this information (such as valuation and depreciation) forms part of councils' financial reports and is therefore subject to scrutiny by council auditors.

> Camden Council was considered to be at or near best practice for this category and the findings were: The current valuation processes are well defined and documented. There is an ongoing relationship between the asset staff and the accounting staff to ensure that valuation information is useable and high quality. The manual describing the processes for depreciation and valuation and condition inspections is well documented and is considered to be of a high standard.

Conclusion

The aggregate results for Asset Knowledge and data are as follows:

Table 16 - Asset Knowledge / Data Summary

Score	Number of councils achieving score
A	1
B	1
C	18
D	13
E	2
F	0

Of the on-site audited councils, 94% had a basic level of competence in terms of asset knowledge and data, with 57% having core, advanced or at or near best practice levels. As this information is used to inform council asset management systems and since 57% are at the core level or better, it would appear that the information in the asset management systems is fairly reliable.

6.4.3 Asset Knowledge Processes

Asset Accounting / Valuation

There should be clear valuation and depreciation guidelines and accounting processes against various hierarchy levels. They should also be categorised in accordance with accounting requirements, developed and used. The responsibilities for system and data management should be clearly defined. Data validation and audit processes should also be developed and used.

> Bega Valley Shire Council has achieved an advanced level of competency in this area as it has well defined asset accounting. The financial general ledger entities (Chart of Accounts) are aligned with assets. The valuation process incorporates asset valuations directly into the financial records at an individual asset level for the main asset groups. A dedicated financial team resource is allocated to manage assets. related financial information and transactions.

Conclusion

Table 17 - Asset Knowledge Processes Summary

Score	Number of Councils achieving score
A	1
B	5
C	17
D	10
E	1
F	1

Of the on-site audited councils, 94% had a basic level or greater of competence in terms of asset knowledge processes. According to these results 66% of audited councils have a core, advanced or at or near best practice level of competency. This again indicates that overall, councils' information is fairly reliable.

AUDIT 2013

6.4.4 Strategic Asset Planning Processes

Strategic Long Term Planning

To meet the strategic long term planning component councils should have Strategic Asset Management Plan (SAMP) documents that are fully aligned with councils' other strategic documents. The documents should include or define the plan review process, long term expenditure forecasts with operations and maintenance, renewals and new/upgrade forecasts separately identified and councils' strategy for the management of their assets. Evidence that the strategy is being complied with is another aspect of the strategic long term asset planning.

For the councils that were the subject of an on-site audit, only 54% were at a core level or above. For the councils that implemented IP&R first, there are still four councils that are not at a 'core level'.

Asset Management Policy and Strategy

Councils are required to have an asset management policy and strategy under the IP& R framework. This component of the audit examined if the policy and strategy had been adopted by council and whether it defines the vision and service delivery objectives of the council. These documents should also reinforce the need to use a lifecycle cost approach. The policy should be reviewed annually. Again the audit looked for evidence that the policy is being complied with.

> Kempsey Shire Council has an adopted Asset Management Policy that includes lifecycle costing. The Policy sets the direction for asset management and is especially focused on financial sustainability.

The majority of councils have met this component with 89% meeting the basic level or better. Twenty seven of the audited councils are actually at the advanced or near best practice level for this component.

Levels of Service

To meet this aspect, levels of service need to be clearly defined in each asset management plan and aligned to the council's strategic objectives. The community needs to be included in defining the service levels. Community and technical levels of service should be separated with the latter being linked to operations and maintenance and renewals processes. Performance against level of service targets should be monitored in accordance with documented procedures.

This area of asset management is one that councils appear to be struggling with. There were only 22 (63%) councils that were at a basic level or better and only 6 that were at advanced or better representing 17%.

Risk Management

Councils should demonstrate that it is implementing emergency risk management through IP&R. It should have a corporate risk management policy and strategy framework that includes an Asset and Infrastructure Vulnerability Plan for each asset class in accordance with the principles of PPRR (prevention, preparation, response, recovery). The assessment should identify critical assets and any strategic planning risk mitigation strategies or measures. In preparing their asset and infrastructure vulnerability plans, councils should have taken into account data from a suite of documents including business continuity plans, asset related public liability risk assessments, the corporate risk register, emergency management plans, natural disaster plans (such as bushfire plans, floodplain risk management plans, coastal hazard studies and landslide assessments), as well as climate change impact assessments and the like.

The on-site audit did not find any councils that were considered to be at either an advanced or near best practice level for this component. 80% were at a core or basic level of competency. Most councils have ad hoc risk management policies and procedures with a focus on organisational and public liability risk, however very few could show asset based vulnerability plans, including natural disaster risk and exposure analyses that are linked to the IP&R framework.

Financial Planning and Capital Investment

Councils are required to have a LTFP under the IP&R framework and it is to be integrated with the Community Strategic Plan, Workforce Plan and Asset Management Plan. The LTFP should incorporate lifecycle planning, forward capital works planning, risk and sensitivity analyses and project prioritisation processes.

The results from the audited councils showed that 74% were at a basic level or better. Only 29% were considered to be at an advanced or near best practice level.

> Lake Macquarie City Council has incorporated greater transparency into their budget process and it is driven by network needs based on lifecycle costs. There is sound priority ranking for renewals and new works in place for all asset groups. Level of service cost options have been analysed as part of Council's special variation of rates application.

Asset Management Plans

In accordance with the IP&R framework councils should have asset management plan/s for their assets. The IP&R manual states that the asset management plan/s must identify asset service standards and contain long term projections of asset maintenance, rehabilitation and replacement costs. Effective asset management plans would also contain performance

targets and actions and costs established to achieve them together with the following:

- Demand forecasts
- Lifecycle cost plans
- Forecast costs separately identified for operations, maintenance, renewals new/upgrades and depreciation
- Asset disposals
- An asset management improvement plan.

Of the audited councils 74% were considered to be at a basic level or better for this component. Group 3 councils were only required to implement asset management plans in July 2012 however, the audit has shown that there are councils in Group 2 and 3 that were still only at an awareness level. Capacity building, together with an examination of the number of adequately skilled staff, would appear to be urgently required for these councils.

Conclusion

Table 17 – Strategic Asset Planning Processes Summary

Score	Number of Councils achieving score
A	1
B	0
C	10
D	19
E	4
F	1

Of the on-site audit councils 86% had a basic level or greater of competence in terms of strategic asset planning processes. According to these results 31% of audited councils have a core, advanced or at or near best practice level of competency. Given that many councils would be undertaking these strategic asset planning processes for the first time and that the audit took in all levels of competencies, 86% at basic or

better level would be a great improvement on what has occurred in the past.

6.4.5 Operations and Maintenance Work Practices

Operations/Maintenance Management

Operation and maintenance plans taking levels of service and performance targets into account for each asset class would be expected to meet this component. Processes for collecting, validating and auditing operations and maintenance data should support these plans. Written processes for planning maintenance, works order and costing management that are used together with written maintenance specifications and where appropriate, performance based contracts or service level agreements are also required.

Councils at the basic or better level equate to 86% with 34% being at a core level or better.

Critical Assets

Critical council assets generally include water supply systems, major transport routes and bridges, emergency services infrastructure and important buildings used for emergency evacuation. Critical assets might also include other locally important infrastructure that is vital to public safety and the continuity of operations.

Councils are expected to have identified all critical assets in their infrastructure and asset vulnerability plans, taking into account risk and emergency management principles and to have established written strategies for their specific management, including schedules for regular written reports on their condition and performance.

The on-site audit assessed half of the councils visited to be at only a basic level of competence for this component and the other half to have mere awareness

of the issue. In fact, only one council was found to be at core level of competence for the component.

Many councils rely on the local knowledge of key long-term employees in the identification of critical assets, however such knowledge is rarely documented and is generally lost when the employee leaves the organisation. In many cases the awareness of asset criticality is then triggered by an event or a sudden need to manage assets in a reactive rather than proactive manner.

Conclusion

Table 18 – Operations and Maintenance Work Practices Summary

Score	Number of Councils Achieving Score
A	0
B	0
C	9
D	18
E	7
F	1

The operations and maintenance work practices appear to be an area that requires more work by councils. This is especially so for identifying critical assets with only 51% of councils meeting the basic or better level of competency.

6.4.6 Information Systems

Asset Register

In terms of information systems councils should have a single asset register that captures, manages and reports on asset data as required by asset management. It should be possible to sort data by different hierarchy levels and to customise reports if required. The register should integrate with other asset management systems.

As would be expected a large portion of councils (83%) have a basic or better level of compliance with this area. Over 50% of the councils audited were at the core level or better. This gives a reasonable level of assurance that the data prepared by councils is fairly reliable.

Systems Integration

Asset management systems should integrate or interface with corporate systems, including the customer request, document management, accounting and HR systems. There should be a spatial system (Geographic Information System - GIS) implemented and used jointly with written processes.

More than three quarters of councils in the on-site audit are at the basic level of competency or better.

Conclusion

Table 19 – Information Systems Summary

Score	Number of Councils Achieving Score
A	1
B	1
C	14
D	13
E	3
F	3

Accurate information and integration of systems greatly increase the confidence and therefore the reliability of the asset management information.

> Bathurst Regional Council utilises its asset management system as the single asset register for the organisation. The system is fully integrated with the Geographic Information System. While there is no integration with the corporate finance system, Council has strong processes in place to manage the interaction. The link to the Geographic Information System is dynamic and provides useful usage data for many users.

Accurate information and integration of systems greatly increase the confidence and therefore the reliability of the asset management information

6.4.7 Organisational Context

Organisational Strategy

Asset management should drive a council in respect of the use and management of its assets that are aligned with councils' overall policies and strategies. The organisational structure of councils and position descriptions should clearly identify asset management roles and responsibilities across all asset classes. There should be written processes for capital investment, based on the strategic plans, lifecycle costs and risk assessments of the councils.

Councils appear to be doing well in this area with 94% of councils at basic level and 54% at core level or better.

Asset Management Review / Improvement

A prioritised asset management improvement plan, with responsibilities and timeframes in place that is monitored and reported on would be required to satisfy the core/advanced/at or near best practice level of this aspect of the on-site audit. Benchmarking processes and regular asset management reviews also need to be included.

Within the Organisation Context category this is the weaker of the three sub categories but there are still 63% of the councils at the basic level or better.

Asset Management Roles and Responsibility

Asset management roles and responsibilities should be clearly identified with clear training programs in place for all levels in the organisation. The workforce plan should include identified needs with respect to asset management roles and responsibilities. The audited councils are doing well in respect of this component with 63% being at the core level or better.

Conclusion

Table 20 – Operation Context Summary

Score	Number of Councils achieving score
A	0
B	3
C	13
D	16
E	1
F	2

Overall councils appear to be well placed in this component of asset management with 91% at a basic or better level. Almost 50% of are at the core or better level.

6.4.8 Infrastructure Backlog Assessment

The on-site audit also considered the amount of each council's infrastructure backlog as set out in Special Schedule 7. For comparative purposes, the 2010/11 year was used as not all councils had completed their financial reports for 2011/12, when the audit commenced.

The on-site audit examined whether:

a. the size of the backlog should be of concern to council (Asset Rating)

b. there is confidence in the number declared by council as its infrastructure backlog (confidence in data).

Table 21 - Asset Rating

Rating	Number of councils in each rating
In control	23
Monitor	3
Action required	8
Unknown	1

The results of the on-site audit show that the size of the backlog for most councils 'is in control' considering the size of the councils' asset bases. There were eight councils that should be taking further action to address the backlog. One council was not able to provide sufficient information for the Consultants to be able to make an assessment.

Confidence in data

The assessment has been made in part on the robustness of the methodology that councils used to calculate the infrastructure backlog and in comparison with the standard methodology used to calculate the cost to bring the assets up to condition rating 3 taking into account the relative size of the asset base. Condition 3 was deemed to be 'satisfactory' for this purpose.

Table 22 – Confidence in Data

Confidence Level	Number of councils in each level
High	19
Medium	6
Low	10

Of the 35 councils subject to an on-site audit there were 19 councils that the Consultants had a high level of confidence in the reported infrastructure backlog data. A further six had a medium level of confidence assigned to them with 10 councils having a low level.

Given that the Consultants found the councils used several different methods of calculating the infrastructure backlog it is pleasing to see that the confidence levels are high.

Future Infrastructure Requirements

7. Future Infrastructure Requirements

Key Findings

- It is more likely that some councils will continue to have some level of backlog

- Based on historical performance it is clear that some councils will continue to underfund maintenance projections

- There are a number of funding strategies that may help councils to reduce their backlog and/or to prevent the backlog increasing such as:

  - Borrowings (especially for councils with low or no debt)

  - Local Infrastructure Renewal Scheme

  - Special Rate Variation

  - Grants from other levels of Government

- Councils may need to use a combination of these strategies together with a review of the services provided by councils and the level of those services

- How councils manage the assets that are considered to be in a poor or unserviceable condition is important to the community

7.1 Renewal and Maintenance

As part of the Infrastructure Audit Survey councils were asked to provide information from their Delivery Programs and Capital Works Program in relation to the amount they intend to spend on their assets in the way of maintenance, renewal and the creation of new assets. Table 23 shows the amounts for roads, bridges & footpaths, water supply, sewer network, buildings and stormwater drainage.

As previously noted, most councils have not been providing sufficient funds to maintain their assets to a satisfactory standard and, based on the forecast data provided by councils (see Table 23), this trend is likely to continue.

A future scenarios analysis of currently reported backlog figures for different asset categories in comparison to proposed renewals and maintenance budgets for the next four years shows the following (assuming that the annual backlog is only growing by the required maintenance that was not actually done each year, and not taking into account inevitable asset failures during the period):

- If 100% of the reported proposed renewal budget was to be spent on the reduction of backlog, plus if all councils' maintenance budgets were to be 100% of the required maintenance budget, the total backlog figure for roads, water supply,

sewer networks, stormwater drainage and buildings could be brought to zero within four years. This scenario is highly unlikely.

- Based on an assumption that 65% of the reported proposed renewal budget is spent on the reduction of backlog and councils spend around 50% on actual maintenance as compared to the required maintenance budget, it would take approximately 80 years to reduce the total backlog figure for roads, water supply, sewer network, stormwater drainage and buildings back to zero.

- In the likely event that councils only spend around 25% of the reported proposed renewal budget on the reduction of backlog and councils' ratio of actual maintenance to required maintenance is around 70%, the backlog will increase rather than decrease over time.

- Given this information councils are likely to have some level of backlog. The critical point here is how they manage those assets in the poor or unserviceable conditions. The council decision makers need good reliable information and good community consultative mechanisms to ensure that robust decisions are made.

	($'000)	2012/13	2013/14	2014/15	2015/16
Roads	Maintenance	584,610	585,301	598,040	612,751
	Renewal	1,329,450	1,275,087	1,292,779	1,292,323
	New	752,184	733,454	703,751	760,290
Water Supply	Maintenance	127,881	129,667	131,568	133,556
	Renewal	125,589	106,820	123,047	99,313
	New	169,756	130,601	94,771	102,241
Sewer Network	Maintenance	128,074	130,138	133,408	137,011
	Renewal	128,074	130,138	133,408	137,011
	New	140,497	150,152	111,946	97,769
Buildings	Maintenance	183,164	187,415	201,676	197,496
	Renewal	174,774	131,067	123,339	117,210
	New	1,176,881	213,464	159,589	144,867
Stormwater Drainage	Maintenance	51,094	52,727	54,629	56,458
	Renewal	48,313	57,990	60,600	58,072
	New	84,994	68,314	64,600	66,486

Table 23 - Proposed Spending on Maintenance, Renewal and New Assets

7.2 Funding & Financing Strategies

7.2.1 Borrowings

One of the ways in which councils are able to finance their infrastructure requirements is through long term loans. This is especially so for the asset renewals and the acquisition of new assets as borrowing spreads the cost of infrastructure over both current and future generations of ratepayers.

The Act and the Local Government (General) Regulation, 2005 (the Regulation) together with the Ministerial Borrowing Order provide the legislative requirements for councils in undertaking loans.

The results of TCorps Financial Sustainability of New South Wales Local Government Sector 2013 Report, raised the issue that there are councils in NSW that have no debt, in fact some of the councils have gone as far as to have a 'no debt' policy. These councils may have the capacity to repay loans but they still have an infrastructure backlog. TCorp encourages councils in this position to use their financial capacity to borrow to address the infrastructure backlog.

Currently councils seek loans on an individual basis at the best interest rates that they can obtain. There does not appear to be consistent interest rates offered to councils within NSW. A centralised borrowing mechanism may be of benefit to NSW councils offering the most competitive interest rates to all councils.

7.2.2 Local Infrastructure Renewal Scheme (LIRS)

The Government is currently providing a total of $100 million over six years with the aim to unlock up to $1 billion in infrastructure investment. The allocation will allow for the implementation of the overall local infrastructure backlog policy, of which the LIRS is one component.

LIRS was first introduced in 2011/12. Round one of the scheme provided a 4% interest subsidy to assist those councils with legitimate infrastructure backlogs to help meet the cost of borrowing. The second round will provide a 3% interest subsidy for backlog as well as housing enabling infrastructure projects. These subsidies seek to provide an incentive to councils to make greater use of debt funding to address those backlogs and are intended to augment other funding options available to councils.

While it must be noted that the program is still at an early stage, key outcomes to date are:

- A total NSW Government investment of $63 million over ten years for LIRS round one projects is expected to support council investment in local infrastructure to the value of $394 million

- Overall, the scheme recommended 81 projects put forward by 64 Councils to go ahead in round one. Without the LIRS funding these projects may have otherwise remained unfunded for many years to come

- A broad range of projects were approved for support under round one of the scheme, from buildings and road renewals, over bridge replacements and swimming pool rejuvenation to major airport reconstruction works

- Sixty two projects with a total project value of $352 million are currently being assessed for potential funding in round two

Eighty councils have yet to apply for LIRS funding. It is likely that a number of these have delayed applying for LIRS pending a decision on special rates variation applications and/or decisions of newly elected councils on infrastructure priorities. It is therefore believed there is a level of unmet demand for LIRS funding.

Examples of typical projects funded by LIRS in round one for councils with varying financial situations were:

Table 24 – Projects Funded by LIRS – Round One

Council	Project Name	Project Description	Total project cost	Proposed Borrowing	Total LIRS subsidy over term of loan
Brewarrina Shire Council	Emergency upgrade of essential community infrastructure	The Brewarrina Community Centre requires urgent works that include the replacement and repair roof, gutter and drainage; refurbishment of toilets; upgrade of the kitchen to meet food handling regulations and painting of the interior of the building. In addition the Brewarrina sand filter is at risk of failing and is in need of immediate replacement to meet health and water quality standards.	$550,000	$500,000	$115,993
Eurobodalla Shire Council	Timber Bridge Replacement Program	The Timber Bridge Replacement Program was implemented by Council in 2005/2006 and was aimed at reducing the backlog of condition 4 elements on Council's bridge network through a loan funding replacement program. The Local Infrastructure Renewal Program will allow the replacement of a timber bridge at Wamban Bridge with a concrete bridge as well as the refurbishment of Candalagan Bridge.	$1,400,000	$1,400,000	$508,964
Gosford City Council	Roads Renewal Program	The project involves the renewal of existing road pavement assets through rehabilitation, reconstruction or asphalt resurfacing.	$6,850,000	$6,850,000	$1,610,642
Mid Western Regional Council	Regional Swimming Pools Refurbishment	The project aims for asset renewal works on three regional swimming pool facilities - Mudgee, Gulgong and Kandos. It includes replacing the plant rooms, refurbishing damaged pool environment (e.g. concreting and tiles), rebuilding the amenities and front entrance at all pools and installing a disabled access ramp at the Gulgong facility.	$4,500,000	$4,500,000	$1,032,841
Riverina Water County	Wagga Wagga Water Treatment Plant Replacement	Construction of replacement water treatment plant at Wagga Wagga together with ancillary works. This treatment plant is proposed to have a capacity of 44 Mega litres per day, upgradeable to 55 Mega litres per day.	$42,520,000	$15,000,000	$3,371,676

7.2.3 Special Rate Variations

A key option for councils to help address their infrastructure backlog is through a special rate variation. Special rate variations allow councils to increase rates above the annual rate peg limit, if approved by Independent Pricing and Regulatory Tribunal (IPART).

In the five years from 2008/09 to 2012/13, there have been 79 successful special rate variation applications from councils to provide additional funding for infrastructure maintenance and to help address infrastructure backlogs. It is noteworthy, however, that an analysis of the reported backlogs for those councils that received special variations in 2008/09 and 2009/10 showed in most instances no discernible reduction in their backlog since that time.

In isolation, it is unrealistic to believe that many councils will ever be able to address their backlog problem solely through additional rate increases.

Councils would have needed to increase rates by around 110% above the rate peg in that year simply to fund that backlog.

To put this in perspective, in 2011/12 total rating income for all NSW councils was $6.784 billion, while the reported backlog was $7.359 billion. Councils would have needed to increase rates by around 110% above the rate peg in that year simply to fund that backlog. If councils sought to fund the current backlog over a ten year period, it would require an average increase of approximately 2% each year in addition to the annual rate peg.

On a regional basis, the rate rises required in many areas of the State would need to be considerably greater.

The table below shows that the Far West region, for example, would require an annual special rate variation of around 6%, while the annual increase for the Mid North Coast, the Northern Rivers and Orana regions would require an annual increase of around 5.1%, 4.7% and 4.9% respectively each year.

Region	2011-2012 TOTAL BTS (excluding other assets) $	2011/12 Total rate income $	BTS as % of rate income	Additional rate increase* above rate peg required each year over 10 years to address current backlog
Eastern Sydney	540,737,759	1,126,395,192	48%	0.90%
Northern Beaches	130,281,000	279,191,000	47%	0.90%
Northern Sydney	346,285,000	464,535,000	75%	0.30%
Western Sydney	459,014,000	940,743,000	49%	0.90%
South West Sydney	522,490,000	639,035,000	82%	1.50%
Southern Sydney	129,059,000	373,657,000	35%	0.60%
Central Coast	297,115,000	245,595,000	121%	2.10%
Illawarra	321,312,000	454,837,000	71%	1.30%
Northern Rivers	811,574,420	269,528,883	301%	4.70%
Mid North Coast	738,245,000	226,457,000	326%	5.10%
Hunter	560,528,000	643,214,000	87%	1.50%
South East NSW	461,504,250	230,389,386	200%	3.50%
New England	418,786,000	212,627,000	197%	3.30%
Central West	476,391,408	219,858,000	217%	3.50%
Riverina	168,547,000	121,557,600	139%	2.30%
Orana	365,211,000	116,648,000	313%	4.90%
Murray	461,653,000	194,147,000	238%	3.90%
Far West	99,875,000	25,648,000	389%	6.00%
County Councils	50,877,000	N/A	N/A	N/A
STATE - BTS	7,359,485,837	6,784,063,060	108%	2.00%

Table 25 - Estimated Increase in Rate Income to Address the Infrastructure Backlog
* Indicates indicative amount only

The application process for special rate variations does require a considerable amount of work by councils in terms of planning and community consultation. While it is recognised that these processes are an important aspect of IP&R it is often the councils that have the greatest need that have the least capacity.

In the Future Directions for NSW Local Government Twenty Essential Steps paper produced, the Independent Review Panel has outlined some proposals to streamline rate pegging for councils.

One of the proposals put forward is to allow councils to increase rates by 3% for the next four years above the rate peg amount each year, provided the council has the appropriate framework in pace to ensure fiscal responsibility.

A program such as this would provide greater budget certainty for councils and as a result would help councils to plan to address the backlog.

7.2.4 Section 94 Contributions

Development contributions help councils provide new and growing communities across NSW with appropriate infrastructure, public amenities and services. Section 94 of the Environmental Planning and Assessment Act 1979 is the legislation which enable these contributions to be levied.

In April 2013, the NSW Government released a White Paper and draft legislation to provide further details of a new way of planning for NSW, focused on sustainable growth.

It is proposed that local and regional infrastructure contributions will be simplified and made more consistent.

An extensive program of engagement and consultation activities on the White Paper is being undertaken.

7.2.5 Financial Assistance Grants

Financial Assistance Grants are provided by the Federal Government to local government. They are paid through the states and territories and are made up of a general purpose grant and local roads grant.

A review into the Financial Assistance Grants program has been announced by the Federal Government to identify tangible measures for improving the impact of the Local Government (Financial Assistance) Grants (FAGs) on the effectiveness of local governments and their ability to provide services to their residents within the current funding envelope[17].

One of the terms of reference of the Inquiry is to indentify the impact of the Minimum Grant principle on the intra-state distribution of FAGs assessing the relative need of local governments in each state and territory with a particular focus on those that service regional and remote communities.

This review may provide councils that are less able to address their infrastructure backlog and asset management with greater opportunities in securing a larger proportion of FAGs.

7.2.6 Grants from Other Levels of Government

There are a number of specific grant programs from other levels of government that are available and that can assist councils in addressing their infrastructure maintenance and renewal requirements.

The Federal Government's Black Spot program, for example, provides financial assistance to road authorities to improve the physical condition or management of sites noted for a high incidence of crashes involving death and injury. Approximately 50% of Black Spot funds are reserved for projects in non-metropolitan areas.

There are also a number of State Government programs such as the Bridges for the Bush program. This $145M program will see the replacement or upgrading of bridges over the next five years at 17 key locations in regional NSW.

More generally, the Local Government Reform Fund, which was a one off Federal Government program specifically targeted at improving local governments' infrastructure management practices, was very successful and the Federal Government should be encouraged to establish similar programs in the future.

7.2.7 Fees and charges

Many services that councils provide are on a 'user pays' basis. Councils need to ensure that the services provided are appropriate for their communities and that opportunities to use fees and charges to reduce the reliance on other forms of income are considered.

In setting fees and charges councils should reflect the full cost of providing the service. Alternatively, the fees and charges can be set in accordance with the council's policy (community service obligations). In doing this the council should disclose the cost of providing the service together with any subsidy provided by the council.

Managing Risk

8. Managing Risk

Key Findings

- Asset management is about managing strategic and operational risks

- Asset management is vital for sustainability

- Councils' risk management policies and procedures focus on organisational and public liability risk

- All classes of assets show limited numbers of assets that are no longer fit for purpose

- Some councils have undertaken natural disaster risk management studies

- Identification of critical assets is not well documented.

Questions are often asked about why are we doing asset management and why is it so important? Is it to satisfy some legislative requirement or is it more than that?

Asset management is all about managing risk and therefore it is not just a compliance exercise. The risks to be managed can either be strategic or operational in nature. The greatest strategic risk is whether a council is sustainable.

TCorp in the Financial Sustainability of New South Wales Local Government Report has defined sustainability as:

"A local government will be financially sustainable over the long term when it is able to generate sufficient funds to provide the levels of service and infrastructure agreed with its community".

As stated earlier in this report councils in NSW have approximately $81 billion worth of infrastructure to manage. Given the value of council infrastructure it is critical that they are managed well to improve council sustainability.

Other strategic risks concern the types of assets that councils have and whether they are able to provide the services that the community desires and what the cost is of providing the assets and services.

Efficient asset management contributes to minimising risks by providing reliable and relevant information to the decision makers, such as:

- identifying the level of resources invested in infrastructure

- fully recognising the resources required to maintain all infrastructure within local government areas

- providing more comprehensive and consistent information concerning the condition of assets to assist in replacement, renewal and maintenance decisions

It is important also that this information is recorded and reported on appropriately. The community and decision makers need to know what assets councils are managing, the services that they provide, the life cycle costs, the condition of the assets and what plans are in place for those assets that are considered to be in a poor or unsatisfactory condition.

8.1 Operational Risk Management

In terms of operational type risks, this audit has highlighted some of the financial risks associated with infrastructure assets such as future funding gaps for infrastructure renewal and maintenance. Other operational infrastructure risks exposure can include:

- risk of infrastructure failure due to structural damage

- public liability risk to people using the infrastructure

- exposure to natural disasters, such as a building being in a flood-prone area and

- in extreme cases, man-made disaster risk exposure, such as a bridge being a potential target for a terrorism attack.

Whilst the audit unveiled vast amounts of data to enable analysis of the financial risk in relation to infrastructure management, it became apparent, that councils generally perform poorly in relation to assessing other risk exposure of their infrastructure. The common risk management identified during the Audit and areas for further improvement are set out in Table 26.

Table 26 – Risk Exposure

Existing practice:	Areas for future improvement:
Most councils have risk management policies and procedures with a focus on organisational and public liability risk	Existing policies are ad hoc and do not include asset based vulnerability plans including natural disaster risk and exposure analyses that are linked to the IP&R framework
All classes of assets showed limited numbers of assets no longer fit for purpose	The asset classes of buildings, bridges and stormwater drainage had the highest number of assets no longer fit for purpose thus leaving councils exposed to risk of failure and public liability claims. These should be managed within councils general infrastructure programs
Some councils have undertaken natural disaster risk management studies	Most councils have not integrated the results from those studies into asset vulnerability plans in order to identify infrastructure at risk and how to manage it
Councils have existing long-term staff who know, when asked, what the critical assets are for their council area	Most councils do not have formal critical asset documentation. Councils should identify and document critical assets and ensure these are planned for and well managed

8.2 Strategic Risk Management

The Audit has reported on the level of the infrastructure backlog within NSW councils but this one figure at a point in time that has resulted from actions in the past, does not tell the whole picture.

All councils, irrespective of size or location, need to ensure that the sustainable management of assets is a 'whole of council' responsibility, and recognised as such at all levels within council.

Asset management involves the integration of many of the functions of councils. It is concerned with the management of infrastructure assets from a financial, risk management and social aspect. As a result of this, asset management needs to have a strategic approach and requires the involvement of all levels of council, including the civic leadership of the councillors and the community.

To achieve good asset management that supports council sustainability, there are a number of strategic questions that each council should look at. They are:

- What condition are the assets of council in?

- What condition do the assets need to be in?

- How much is it going to cost to maintain and renew the assets?

- What are the future needs of the community and how can these be managed?

The strategic focus should be on optimising assets, the performance of those assets to deliver the services for the community and achieving sustainability.

It is recommended that the Division and key stakeholders play a role in framing policy direction to further build councils' capacity in strategic infrastructure management, as well as introducing additional reporting mechanisms to enable future data collation and monitoring in this area.

Asset management involves the integration of many of the functions of councils

Appendices

Appendix 1: Glossary

Term	Definition
accountability	The responsibility to provide information to enable users to make informed judgements about the performance, financial position, financing and investing, and compliance of the reporting entity.
activity	An activity is the work undertaken on an asset or group of assets to achieve a desired service outcome. The activity is the level at which services are identified in a program, sub-program or activity based budgeting system.
actual maintenance	Actual expenditure on maintenance of as`set to maintain in as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, which should ensure the asset reaches its expected useful life; eg road patching, but excluding rehabilitation or renewal.
amortisation (depreciation*)	The systematic allocation of the depreciable amount of an intangible asset over its useful life. * In the case of an intangible asset or goodwill, the term 'amortisation' is generally used instead of 'depreciation'. The two terms have the same meaning.
annual charge	An amount that may (or in the case of domestic waste management services), must be levied for services provided or proposed to be provided by the council. These include water supply services, sewerage services, domestic waste management services, waste management services (other than domestic waste management services), drainage services.
annual financial statements	A complete set of financial statements comprises: • a statement of financial position as at the end of the period, • a statement of comprehensive income for the period • a statement of changes in equity for the period • a statement of cash flows for the period • notes, comprising a summary of significant accounting policies and other explanatory information and • a statement of financial position as at the beginning of the earliest comparative period when an entity applies an accounting policy retrospectively or makes a retrospective restatement of items in its financial statements, or when it reclassifies items in its financial statements.

Term	Definition
annual plan	A document produced annually by an organisation to inform stakeholders of its objectives, intended activities, performance, income, and expenditure required for a period of one financial year. It may also indicate anticipated future short-term income and expenditure (see also Delivery Program and Operational Plan).
annual reporting period	The financial year or similar period to which annual financial statements relate.
asset	A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.
asset – property plant & equipment	A tangible item that is: • held for use in the production or supply of goods or services, for rental to others, or for administration purposes and • expected to be used during more than one period.
asset and infrastructure vulnerability plan	Risk management plan in accordance with the principles of PPRR (prevention, preparation, response, recovery).
asset category	Sub-group of assets within a class hierarchy for financial reporting and management purposes.
asset class	A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.
asset condition assessment	The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.
asset consumption ratio	The average proportion of 'as new condition' left in assets. The ratio shows the depreciated replacement cost of an entity's depreciable assets less their residual value relative to their depreciable amount.

Term	Definition
asset hierarchy	A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.
asset management (AM)	The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.
asset management information system	An asset management system is a combination of processes, data and software applied to provide the essential outputs for effective asset management such as reduced risk and optimum infrastructure investment
asset management plan (AMP)	A plan developed for the management of one or more infrastructure assets that combines multidisciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide specified levels of service. A significant component of the plan is a long-term cashflow projection for the activities.
asset management strategy	A strategy for asset management covering the development and implementation of plans and programmes for asset creation, operation, maintenance, rehabilitation/replacement, disposal and performance monitoring to ensure that the desired levels of service and other operations objectives are achieved at optimum cost.
asset register	A record of asset information considered worthy of separate identification including inventory, historical, condition, construction, technical and financial information about each.
asset renewal funding ratio (ARFR)	The ratio of the net present value of asset renewal and replacement funding accommodated over a 10 year period in a long term financial plan, relative to the net present value of projected asset capital renewal and replacement expenditure identified in an asset management plan for the same period.
asset sustainability ratio (ASR)	The ratio of asset replacement expenditure relative to depreciation for a period. It measures whether assets are being replaced at the rate they are wearing out.
backlog	The value of asset renewals projected to occur prior to the reporting date. The value of unfunded renewals is reflected in current levels of service.

Term	Definition
borrowings	A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time, or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.
bring to satisfactory standard (BTS)	Colloquial term that relates to unfunded renewals. The value of asset renewals projected to occur prior to the reporting date. The value of unfunded renewals is reflected in the current levels of service.
capital	Under a financial concept of capital, such as invested money or invested purchasing power, the net assets or equity of the entity. The financial concept of capital is adopted by most entities. Under a physical concept of capital, such as operating capability, the productive capacity of the entity based on, for example, units of output per day.
capital works programmes	Relatively large expenditure which has benefits expected to last for more than 12 months.
compliance	Adherence to those statutory requirements, regulations, rules, ordinances, directives or other externally-imposed requirements in respect of which non-compliance may have, or may have had, a financial effect on the reporting entity.
community strategic plan (CSP)	A plan that identifies the community's main priorities and aspirations and the strategies to achieve them.
control	The capacity of an entity to dominate decision-making, directly or indirectly, in relation to the financial and operating policies of another entity so as to enable that other entity to operate with it in achieving the objectives of the controlling entity.

Term	Definition
core level asset management	Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long term cash flow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision-making).
cost	The amount of cash or cash equivalents paid or the fair value of the other consideration given to acquire an asset at the time of its acquisition or construction.
county council	A county council is a specialist body created under sections 383-400 of the Local Government Act 1993, whose functions are limited to those established in a Proclamation by the Governor. County councils operate in a similar way to general purpose councils.
critical assets	Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.
delivery program (DP)	Is a statement of commitment to the community from each newly elected council. A plan covering the term of office of councillors (4 years) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.
depreciation expense (amortisation)	The systematic allocation of the depreciable amount of an asset over its useful life. In the case of an intangible asset, the term 'amortisation' is generally used instead of 'depreciation'. The two terms have the same meaning.
depreciation rates	The method used to allocate the depreciable amount of an asset over its useful life. This includes, for example the straight-line, diminishing balance or units of production methods.

Term	Definition
disposal	Activities necessary to dispose of decommissioned assets.
Division of Local Government (Division)	Is a division of the NSW Department of Premier and Cabinet and is responsible for local government across NSW.
expenses	Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrence of liabilities that result in decreases in equity, other than those relating to distributions to equity participants.
fair value	The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arms length transaction.
financial position	The relationship of the assets, liabilities and equity of an entity, as reported in the balance sheet. The economic condition of a reporting entity, having regard to its control over resources, financial structure, capacity for adaptation and solvency. The economic condition of a reporting entity, having regard to its control over resources, financial structure, capacity for adaptation and solvency.
financial sustainability ratio (FSR)	A ratio developed by TCorp for the purpose of rating each individual Council.
gap analysis	A method of assessing the gap between a business's current asset management practices and the future desirable asset management practices. Also called needs analysis.
general purpose councils	Councils who have rights and responsibilities conferred by the Local Government Act (1993).
geographic information system (GIS)	Is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data.

Term	Definition
infrastructure assets	Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths bridges, water supply and sewer. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.
Independent Pricing and Regulatory Tribunal (IPART)	Independent regulator that determines the maximum prices that can be charged for local government rates in NSW.
Institute of Public Works Engineering Australia (IPWEA)	Is a professional organisation providing member services and advocacy for those involved in and delivering public works and engineering services to the community.
integrated planning and reporting (IP&R)	The legislative framework that encourages councils to draw their various plans, eg land use and infrastructure, together to ensure they interact to get the maximum leverage from their efforts by planning holistically for the future.
level of service	The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.
life cycle cost (LCC)	1. Total LCC - The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, renewal and disposal costs. 2. Average LCC - The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The life cycle cost does not indicate the funds required to provide the service in a particular year.
local government reform fund (LGRF)	A fund which gives a unique opportunity for the three spheres of government to implement significant reforms that strengthen the capacity and sustainability of Australia's local governments.

Term	Definition
local infrastructure renewal scheme (LIRS)	Allocation of loan interest subsidies to council that will allow for the implementation of the overall local infrastructure backlog.
long term financial plan (LTFP)	A long-term financial plan is a plan for generating, spending and saving future income and raising and repaying borrowings as appropriate. It will cover a period of 10 years but preferably longer and will highlight the financial implications of an entity's proposed activities and anticipated events. The plan should report the long term community aspirations and goals that are tested against financial realities.
NAMS.PLUS	Is an initiative of the Institute of Public Works Engineering Australia (IPWEA) to assist Councils and other organisations who provide services from infrastructure to develop a 'core' asset management plan and implement sustainable asset management practices.
net value of infrastructure	See written down value (WDV).
operating deficit	An operating deficit occurs when the value of operating income less operating expenses is negative and operating income is therefore not sufficient to cover all operating expenses.
operational plan	This plan outlines the individual actions that will be undertaken by council in a financial year to achieve the strategies outlined in the community strategic plan and delivery program.
per capita	The amount of expenditure required per person.
PPRR (prevention, preparation, response, recovery	Emergency risk management principles.
promoting better practice review (PBP)	A program that aims to assist in strengthening the local government sector by assessing performance and promoting continuous improvement.
property, plant and equipment	Tangible items that: • are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes and • are expected to be used during more than one period.
rate pegging	The percentage specified by which councils' general income for a specified year may be varied. (Local Government Act 1993, s. 506).

Term	Definition
remaining useful life	The time remaining until an asset ceases to provide the required service level or economic usefulness.
renewal	Restores, rehabilitates, replaces existing asset to its original capacity.
required maintenance	Budget necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching, but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.
risk management	The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.
special rate	A rate which may be made to fully or partially meet the cost of providing specific works, services, facilities or activities provided or undertaken (or proposed to be provided or undertaken) by the Council. (Local Government Act 1993 s. 495).
special rate variation (SRV)	An increase in general income above the rate peg, under the provisions of the Local Government Act 1993.
special schedule 7	A component of councils financial statements which reports the condition of councils infrastructure assets.
strategic asset management plan (SAMP)	See asset management plan.
TCorp (TCorp)	NSW Treasury Corporation.
strategic long term planning	See Community Strategic Plan (CSP).
unfunded renewals	The value of asset renewals projected to occur prior to the reporting date. The value of unfunded renewals is reflected in current levels of service.

Term	Definition
unplanned maintenance	Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.
upgrade	Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operating and maintenance expenditure in the future because of the increase in the organisation's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.
useful life	The estimated remaining period, from the commencement of the lease term, without limitation by the lease term, over which the economic benefits embodied in the asset are expected to be consumed by the entity. Either: • the period over which an asset is expected to be available for use by an entity. or • the number of production or similar units expected to be obtained from the asset by the entity.
valuation	The process of determining the worth of an asset or liability. Different valuation methods may be appropriate in different circumstances (see also Fair Value).
weed authority (county council)	See county council.
workforce plan	A plan that will ensure councils have the relevant number and skilled staff to ensure that the community strategic goals will be met.
written down value (WDV)	The net value of an asset, i.e. its fair value minus depreciation and amortization.

Appendix 2: Infrastructure Studies

The Australian Centre for Excellence for Local Government (ACELG) published a working paper (Working paper no. 4) in September 2011 titled "Unfinished Business? A Decade of Inquiries into Australian Local Government". The working paper canvasses the findings of nine major inquiries into the current status and future prospects of local government[18]. This working paper has been a primary source for the commentary in this section of the report.

The ACELG working paper identified a number of common issues raised and patterns in recommendations that resulted from the inquiries it examined. It also describes what it refers to as "recurring unresolved matters", alluding to the Unfinished Business in the title of the working paper.

Given the ready availability of the ACELG working paper, it is not our intention here to replicate that work. However, we considered that it would be informative to draw upon what it and what some of the inquiries it reports have to say about infrastructure provision and maintenance.

Accurately determining the extent of the infrastructure backlog and the implementation of strategies to prevent it increasing, and ultimately to reduce, is one element of the unfinished business identified in the working paper.

The traditional core role of local government as a provider of infrastructure has received universal attention in the inquiries. Most of the reports postulate on the existence of an infrastructure backlog, the reasons why such a backlog has developed and

proposed remedial actions, including the need for strengthening asset management capacity.

What is immediately apparent from the review of previous work on the status of the sector in Australia and in NSW in particular is that the findings pertaining to infrastructure have pointed to the need for better empirical data on the infrastructure.

It is also in the nature of any such inquiries that at best, findings can only represent a snapshot of the sector at a particular point in time.

The earliest inquiry discussed in the ACELG working paper was held in 2001. The sector has not been static in responding to the multitude of recommendations arising from the various reviews and as such, current circumstances may be different to those which were found to exist previously.

This Audit has sought to address these issues by gathering and analysing contemporary empirical data about the state of local government infrastructure in NSW and the asset management practices and systems now being used by our local councils.

As discussed later in this report, the Audit's findings are informative as to the extent that the recommendations of previous reviews have been taken up in NSW, the extent that they are having an impact and the further work that needs to be done.

This Audit and other research available to the Division indicates that better data is being gathered and being used by NSW councils to manage their assets.

---

[18] Australian Centre for Excellence for Local Government (September 2011) Unfinished Business? A Decade if Inquiries into Australian Local Government, Working Paper no. 4, University of Technology Sydney.

What have the previous inquiries had to say about the state of local government infrastructure?

The ACELG working paper, reported on the key policy issues that were indentified by the previous inquiries[19]. Those that have particular relevance to infrastructure have been reproduced hereunder:

- Local government's role and functions have expanded considerably over recent decades and there is now a mismatch between expenditure demands and current levels of revenue

- This mismatch manifests itself particularly in inadequate infrastructure maintenance and renewal

- More could be done by councils to improve asset management

- Local government's performance in long term asset planning needs to improve considerably.

There were also policy issues identified pertaining to financial management and revenue raising capacity, which clearly have implications for the provision of infrastructure.

The working paper reports on what is now well recognised by any observer and participant in the sector – local government's role and function has expanded and this in turn has given rise to a mismatch between the revenue available for infrastructure maintenance and renewal and the expenditure that is required to prevent an ever increasing infrastructure backlog.

The ACELG working paper also reports on the various policy responses to the inquiries[20]. Perhaps the most significant of these for NSW was the introduction of the IP&R Framework, Federal funding for community

infrastructure provided as part of the stimulus response to the Global financial crisis of 2008 and Federal funding of programs to improve asset and financial management and the collection of consistent national data, through the Local Government Reform Fund that was launched in 2009.

The ACELG working paper, in addressing its focus on Unfinished Business suggests that there remains work to be done on a number of different reform initiatives including "full implementation of recent moves towards improved long term strategic, asset, financial and workfolk planning, including increased efforts to improve the quality and reliability of data, and enhanced programs to improve the understanding and skills of both managers and elected members."

Changes in expenditure on infrastructure

According to the ACELG working paper, the Commonwealth Grants Commission's (CSG) Review of the Operation of Local Government (Financial Assistance) Act 1995 found that in terms of expenditure patterns, there had been:

- a decline in the relative importance of road expenditure (although it remained the largest function, its level of importance had declined from about half of total expenditure in the 1960s to a little more than a quarter in the 1990s)

- an increase in the relative importance of recreation and culture, and housing and community amenities (each approaching 20% of total by the 1990s) and

- an expansion of education, health, welfare and public safety services (from 4% of total expenditure in 1961–62 to about 12% in 1997–98).

[19] Ibid, p. 4
[20] Ibid, p. 5

The CSG report is described in the working paper as "a landmark in the analysis of the financial sustainability of Australian local government. It identified shifts in the pattern of revenue and expenditure that implied increasing fiscal problems."

The CSG report was followed by a report of the "Hawker" Committee in 2003; this was a report from the House of Representatives Standing Committee on Economics, Finance and Public Administration (SCEFPA), chaired by David Hawker MP, to inquire into local government's financial capacity and 'cost-shifting' to local government by the states. According to Sansom (cited in the ACELG working paper) one of the key findings of the Committee was that most councils are underfunding infrastructure maintenance and renewal. He also found that the Committee reiterated the earlier findings of the CSG on shifts in expenditure patterns.

According to Sansom (cited in the ACELG working paper) one of the recommendations made by the Committee was "All councils to audit their infrastructure, with data to be used as an input to calculation of future Financial Assistance Grants."

Independent Inquiry into NSW Local Government 2006

The ACELG working paper also discusses the findings of Independent Inquiry into NSW Local Government 2006 and in particular observed that:

"In line with the earlier Commonwealth Grants Commission and 'Hawker' reports, the Inquiry established that significant changes had occurred in the composition of NSW local government expenditure"[21].

"use of asset management plans and risk management plans was inadequate"[22].

It noted a number of recommendations that are particularly pertinent for the issues canvassed in this report[23]:

"Recommendation 5 proposed that councils restrain other activities until assets are restored to a satisfactory condition (an 'optimalist' role)

Recommendation 6 argued that all councils should implement Total Asset Management

Recommendation 7 suggested an additional $900m per annum be allocated to asset maintenance and renewal through a combination of increased federal and state grants ($200m), council expenditure savings ($200m), and higher rates, fees and charges ($500m)

Recommendation 8 proposed progressive introduction of annual cash funding of depreciation

Recommendation 9 called for the state government to fund regional roads in small (in population terms) rural shires

Recommendation 34 dealt with long-term planning and proposed that all councils develop and adopt a long-term strategic and financial plan in close consultation with their communities that would be subject to annual external compliance audits".

[21] Ibid, p. 15
[22] Ibid, p.17
[23] Ibid, p. 15, 16, 17

Findings about the status of infrastructure in other states

The ACELG working paper discusses the findings of the South Australian Review Board (2005), the Western Australia Systemic Sustainability Study (2006), the study commissioned by the Local Government Association of Tasmania (2007), the Queensland Local Government Reform Commission report of July 2007 and reports produced by the Municipal Association of Victoria on trends in local government finances. All of these dealt with issues of financial sustainability of local councils and how these issues are manifested in the provision and condition of infrastructure (and the emergence of infrastructure backlogs)

The Local Roads Funding Gap, Study of Local Roads Funding in Australia 1999–2000 to 2019–2020

The Australian Local Government Association (ALGA) reported on the status of local government road assets in October 2010. The focus of the study was an assessment of the level of expenditure on local roads relative to expenditure required to sustain networks at current levels of service. It reported a number of findings including (but not limited to:

Expenditure on local roads was less than the life cycle cost

An increase in expenditure was needed to avoid further and possible acceleration of service level deterioration.

There was a need for better data and Asset Management Policies, Plans and Strategies in accordance with the National Asset Management Frameworks.

Road Asset Benchmarking Project 2010, Road Management Report.

The Institute of Public Works Engineering Australia, NSW Division, Roads and Transport Directorate commissioned the Road Asset Benchmarking Project 2010. The purpose was to provide updated information on "the condition on NSW roads and bridges at 30 June 2010, update the shortfall in funding required to bring them to a satisfactory condition, provide specific recommendations about rectification of the problems identified and whether councils have made any improvement in management of their road and bridge assets since the 2008 Road Asset Benchmarking Project survey".

The report concluded that councils may:

- Have a greater exposure of risk due to a decline in the condition of roads and bridges infrastructure
- Have a potential increase in personal injury claims
- Need to pass on road lifecycle costs to road users thereby increasing transportation operating costs
- Not have funding available to renew ageing road and bridge assets
- Not be able to provide services needed by communities in medium-long term.

The report highlighted that it is critically important that councils identify their infrastructure assets and their current condition, implement life cycle asset management plans and provide adequate funding to maintain and renew their community's greatest assets. This is of particular importance to the Infrastructure Audit and these findings support the findings of this Audit.

National State of Assets Report (2012)

The ALGA has subsequently commissioned a further study on the state of local infrastructure. A report on an initial pilot study was published in November 2012[24]. The pilot study was undertaken to determine whether councils have the necessary data and information to meaningfully contribute to the development of a national report on the state of local infrastructure assets. The authors of the pilot study suggest that state of the asset reporting is achievable. However in doing so, the report observed that:

> *"Councils with asset management plans (AMP) will be able to contribute to the broader data collection process without a significant resource burden. Councils that have not yet developed asset management plans will also be able to contribute to the process, with a lower degree of confidence in the data provided".[25]*

The Division agrees with this observation based on the findings in the audit and in particular, with regards to the infrastructure backlog figures. More information on this can be found in the infrastructure backlog section.

Review of the prioritisation and funding of local infrastructure

The Commonwealth Department of Regional Australia, Local Government, Arts and Sport engaged Ernst and Young to review the prioritisation and funding of local infrastructure. While their report[26] dated June 2012, focuses on the funding and financing of local infrastructure (as would be expected), they observe that recent initiatives such as the Local Government Reform Fund have "succeeded in creating momentum for improvement and a good return on the investment in capability building. However, current capacity varies widely and there is a clear need to sustain support."[27]

They also make a specific recommendation on the value of periodic independent reviews of councils' asset and financial management practices, suggesting such reviews have a role in facilitating and reinforcing cultural and procedural changes in the asset management practices of councils.[28]

Of particular relevance to onsite auditing, they state that:

- Observing process is critical because prioritisation should be methodical, rigorous and embedded throughout an organisation. Without rigour and coordination of process, there is a high risk of a sub-optimal allocation of resources.

- Observing delivery outcomes is critical because it is a tangible sign of the actual capability of an organisation in all aspects of managing infrastructure. While process provides an essential foundation, it is the quality of execution of process which drives outcomes[29].

The findings of the Ernst and Young review drew upon evidence gathered from consultations with councils.

[24] Jeff Roorda and Associates, National State of the Assets Pilot 2012, November 2012.
[25] Ibid, p. 5
[26] Ernst and Young Strong foundations for sustainable local infrastructure, June 2012.
[27] Ibid, p. 6
[28] Ibid, p. 51
[29] Ibid. p. 45

Their findings on the current prioritisation processes include:

- Many councils reported significant recent change to their prioritisation processes, and most suggested their practices had improved as a result of change

- In general, there is clearly strong momentum within local government to participate in initiatives which aim to improve internal corporate capability

- Many councils acknowledged that financial and technical aspects of investment appraisal processes are not properly integrated

- Many councils reported weaknesses in their engagement with the community in regard to the role of local government and issues which impact on determining priorities

- Some councils pointed to cultural changes within their organisations, which they consider essential to change mindsets and support new processes[30]

Their findings on the current local government infrastructure project outcomes include:

- Nearly all councils identified projects they consider priorities which they could not deliver

- For some new-build projects, poor outcomes were evident, such as delays to commissioning and costs substantially higher than budgeted

- In many cases, outcomes for asset maintenance and renewal are poor

- Technical condition of assets is poor in some areas.[31]

[30] Ibid. p. 45
[31] Ibid, pp 46 - 47

Appendix 3: Local Government Assest Management in Other Jurisdictions

The following information is from a report produced by Jeff Roorda and Associates (JRA) for the Division of Local Government entitled 'Briefing Note, JRA January 2013'.

All the quotations in the section have been taken from this report.

Victoria

Currently, in Victoria, asset management plans are not a legislative requirement. It has been reported that there is a significant lack of progress being made by Victorian councils, with some exceptions, (JRA, 2013). As a result, consideration is being given to amending the legislation.

JRA reported that the infrastructure funding gap in Victoria includes both renewal and new infrastructure assets. This is different to that of NSW where councils are advised that bring to satisfactory amounts relate to existing assets only.

> *"Asset Management Plans in Victoria are considered to be of 'first generation' quality" and appear not to be aligned with Long Term Financial Plans, (Pg 3).*

South Australia

In South Australia in 2005 legislation was introduced requiring each council to develop and adopt an infrastructure and asset management plan covering a period of at least ten years. In addition, each council is required to adopt a long-term financial plan also covering a period of at least ten years.

> *The catalyst for change was "A Wealth of Opportunities - A Report on the Potential from Infrastructure Asset Management in South Australian Local Government"[32] report released in April 2000.*

JRA have commented that the areas of annual financial performance (operating result) and asset renewal expenditure have improved considerably.

In 2000/01 16 South Australian councils were reporting operating surpluses and in 2010/11 31 councils reported operating surpluses. In aggregate terms the operating surplus of $2 million recorded in 2010/11 compares with an operating deficit of $75 million in 2000/01.

In terms of asset renewal expenditure the report suggested that within ten years, South Australian (SA) councils would need to spend 3 times as much on asset renewal. In fact ten years on they were spending 3½ times as much on asset renewal.

In their report, JRA stated that the promotion of the Wealth of Opportunities report, promotion of the findings of the SA Financial Sustainability Inquiry findings, legislation change and support programs from the SA Local Government Association have contributed to these changes.

Queensland

Queensland local government has taken a new approach to the infrastructure backlog situation. Since the introduction of mandatory asset management planning and financial planning in 2009 and extensive amalgamations in 2008 the focus has shifted to the future and there has been no attempt to value the backlog.

---

[32] P Burns, J Roorda, D Hope, A Wealth of Opportunities A Report on the Potential from Infrastructure Asset Management in South Australian Local Government, April 2001.

The approach has been to promote responsible long term planning and financial sustainability. In 2012, 60 of the 73 councils have made substantial progress or completed core asset management plans. Almost half of these councils have used in-house resources and national templates.

Western Australia

Western Australian legislation does not mandate asset management planning nor long term financial planning at the current time. JRA (2012) reports that the Department of Local Government has used funds from the Local Government Reform Fund to accelerate integrated strategic planning, financial management and asset management in local government.

It has been decided to mandate measures of financial sustainability in WA local governments.

Tasmania

Within Tasmania asset management improvement practices and capacity building in councils have been promoted by the Local Government Association of Tasmania. As with Western Australia the Local Government Reform Fund has contributed to the acceleration of progress within Tasmania.

"Tasmania has recently indicated its intention to amend current legislation and include mandatory requirements for asset management planning" (JRA, 2012).

New Zealand

In New Zealand integrated strategic plans and asset management plans are mandatory and subject to an annual audit.

"There is a primary focus on:

- how assets deliver service and the effect of asset decisions on service levels and
- the cost of operating existing assets and the funding required for extra capacity". (JRA, 2012).

This focus is similar to the future focus of Queensland local governments being about strategic planning to build financially sustainable councils.

Appendix 4: NSW 2021 Regions
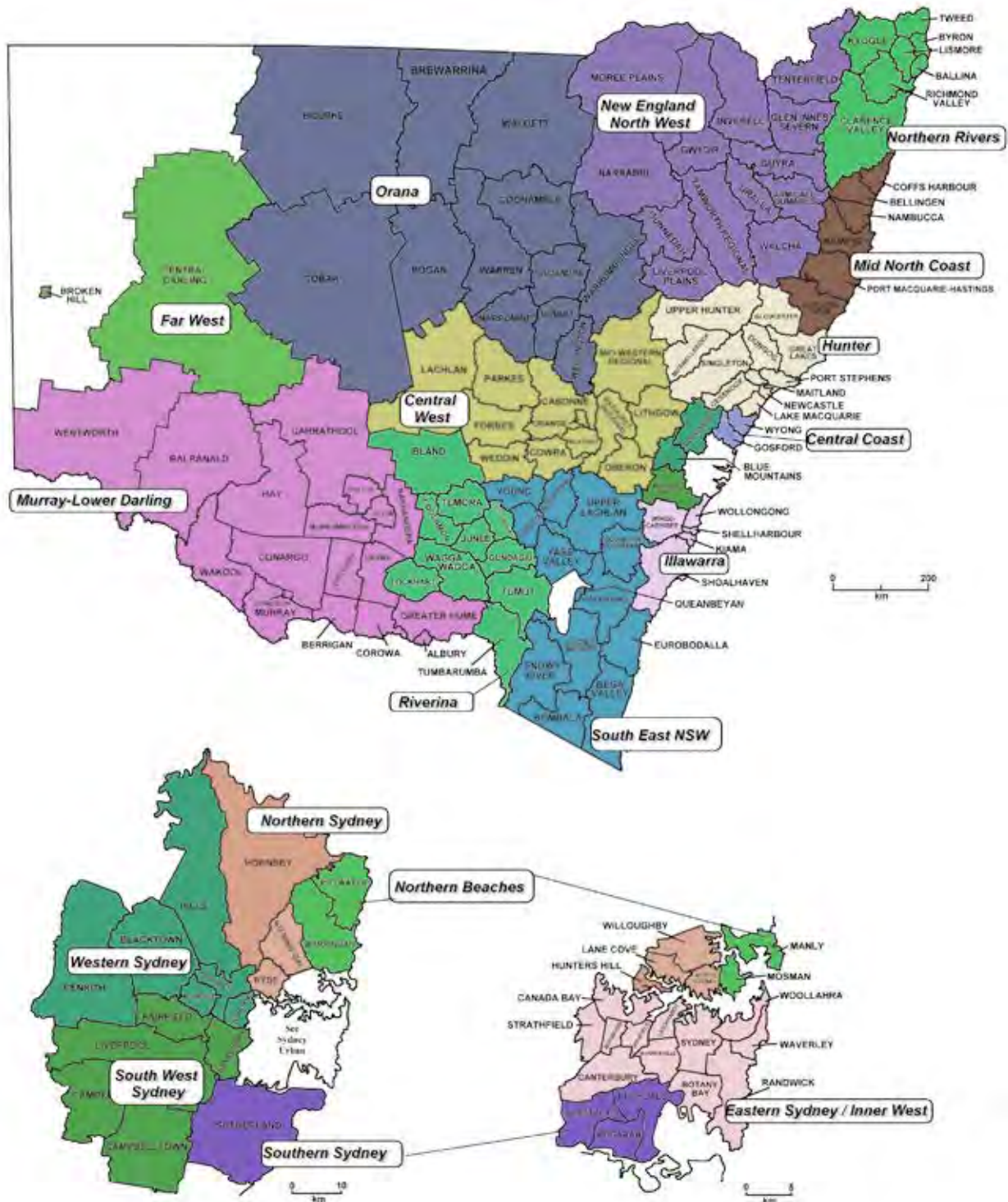
Appendix 5: Division of Local Government

DLG GROUPS

1
2
3
4
5
6
7
8
9
10
11
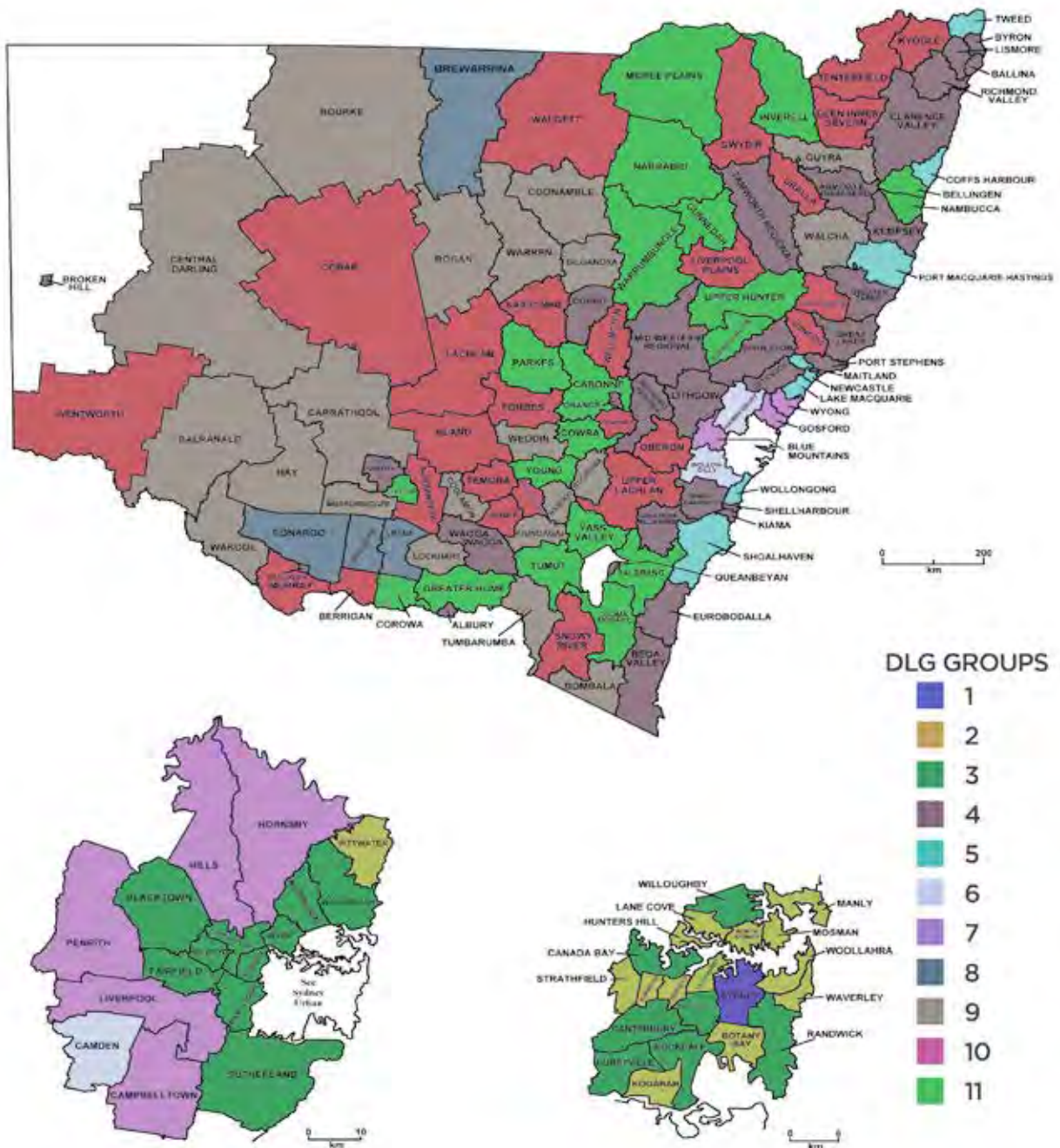
Appendix 6: List of Regions, DLG Groups & Councils

Council Region	DLG Group #	Council	Council Region	DLG Group #	Council
Central Coast (C)	7	Gosford	New England (NE)	10	Gwydir
	7	Wyong		11	Inverell
Central West (CW)	4	Bathurst		10	Liverpool Plains
	10	Blayney		11	Moree Plains
	11	Cabonne		11	Narrabri
	11	Cowra		4	Tamworth Regional
	10	Forbes		10	Tenterfield
	10	Lachlan		10	Uralla
	4	Lithgow		9	Walcha
	4	Mid-Western Regional	Northern Rivers (NR)	4	Ballina
	10	Oberon		4	Byron
	4	Orange		4	Clarence Valley
	11	Parkes		10	Kyogle
	9	Weddin		4	Lismore
Eastern Sydney (ES)	2	Ashfield		4	Richmond Valley
	2	Botany Bay		5	Tweed
	2	Burwood	Northern Sydney (NS)	7	Hornsby
	3	Canada Bay		2	Hunters Hill
	3	Canterbury		3	Ku-ring-gai
	2	Leichhardt		2	Lane Cove
	3	Marrickville		2	North Sydney
	3	Randwick		3	Ryde
	2	Strathfield		3	Willoughby
	1	Sydney	Orana (O)	9	Bogan
	2	Waverley		9	Bourke
	2	Woollahra		8	Brewarrina
Far West (FW)	4	Broken Hill		10	Cobar
	9	Central Darling		9	Coonamble
Hunter (H)	4	Cessnock		4	Dubbo
	10	Dungog		9	Gilgandra
	10	Gloucester		10	Narromine
	4	Great Lakes		10	Walgett
	5	Lake Macquarie		9	Warren
	5	Maitland		11	Warrumbungle
	11	Muswellbrook		10	Wellington
	5	Newcastle	Riverina (R)	10	Bland
	4	Port Stephens		9	Coolamon
	4	Singleton		10	Cootamundra
	11	Upper Hunter		9	Gundagai

Council Reiogn	DLG Group #	Council	Council Region	DLG Group #	Council
Illawarra (I)	4	Kiama		10	Junee
	4	Shellharbour		9	Lockhart
	5	Shoalhaven		10	Temora
	4	Wingecarribee		9	Tumbarumba
	5	Wollongong		11	Tumut
Murray-Lower Darling (M)	4	Albury		4	Wagga Wagga
	9	Balranald	South East NSW (SE)	4	Bega Valley
	10	Berrigan		9	Bombala
	9	Carrathool		9	Boorowa
	8	Conargo		11	Cooma-Monaro
	11	Corowa		4	Eurobodalla
	4	Deniliquin		4	Goulburn Mulwaree
	11	Greater Hume		9	Harden
	4	Griffith		11	Palerang
	9	Hay		4	Queanbeyan
	8	Jerilderie		10	Snowy River
	11	Leeton		10	Upper Lachlan
	10	Murray		11	Yass Valley
	9	Murrumbidgee		11	Young
	10	Narrandera	Southern Sydney (SS)	3	Hurstville
	8	Urana		2	Kogarah
	9	Wakool		3	Rockdale
	10	Wentworth		3	Sutherland
Mid North Coast (MNC)	11	Bellingen	South West Sydney (SWS)	3	Bankstown
	5	Coffs Harbour		6	Camden
	4	Greater Taree		7	Campbelltown
	4	Kempsey		3	Fairfield
	11	Nambucca		7	Liverpool
	5	Port Macquarie-Hastings		6	Wollondilly
Northern Beaches (NB)	2	Manly	Western Sydney (WS)	3	Auburn
	2	Mosman		3	Blacktown
	2	Pittwater		7	Blue Mountains
	3	Warringah		6	Hawkesbury
New England (NE)	4	Armidale Dumaresq		7	Hills
	10	Glen Innes Severn		3	Holroyd
	11	Gunnedah		3	Parramatta
	9	Guyra		7	Penrith

Appendix 7: Infrastructure Backlog

Appendix 7A: BTS; Actual Maintenance; Estimated Required Maintenance

Summary by Region	* no BTS data in FDR (Mid Coast County)						
Assessment Areas:	Region	Buildings	Roads, footpaths, bridges etc	Water Supply	Sewer Network	Storm -water Drainage	Total Infrastructure Assets
2012 BTS to 2012 WDV	ES	12.36%	5.69%			21.61%	9.40%
4 yr Actual Maintenance to 2012 WDV	ES	2.21%	1.51%			0.99%	1.62%
4 yr Required Maintenance to 2012 WDV	ES	2.28%	1.83%			1.47%	1.89%
2012 BTS to 2012 WDV	NB	10.20%	5.53%			11.12%	7.98%
4 yr Actual Maintenance to 2012 WDV	NB	1.95%	0.92%			0.47%	1.07%
4 yr Required Maintenance to 2012 WDV	NB	2.19%	1.33%			0.92%	1.44%
2012 BTS to 2012 WDV	NS	13.42%	11.09%			6.82%	10.39%
4 yr Actual Maintenance to 2012 WDV	NS	2.08%	1.99%			0.67%	1.63%
4 yr Required Maintenance to 2012 WDV	NS	2.46%	1.94%			1.15%	1.83%
2012 BTS to 2012 WDV	WS	9.00%	8.46%		9.37%	3.95%	7.51%
4 yr Actual Maintenance to 2012 WDV	WS	2.55%	1.77%		2.07%	0.57%	1.63%
4 yr Required Maintenance to 2012 WDV	WS	2.72%	2.29%		2.04%	0.92%	2.04%
2012 BTS to 2012 WDV	SWS	20.08%	13.05%			1.48%	11.12%
4 yr Actual Maintenance to 2012 WDV	SWS	3.36%	2.21%			0.41%	1.97%
4 yr Required Maintenance to 2012 WDV	SWS	4.36%	2.57%			0.64%	2.38%
2012 BTS to 2012 WDV	SS	3.91%	9.55%			6.42%	7.68%
4 yr Actual Maintenance to 2012 WDV	SS	2.38%	1.56%			1.09%	1.70%
4 yr Required Maintenance to 2012 WDV	SS	2.92%	2.09%			1.51%	2.22%
2012 BTS to 2012 WDV	C	9.22%	14.62%	1.26%	3.50%	5.34%	5.88%
4 yr Actual Maintenance to 2012 WDV	C	1.39%	1.88%	1.25%	0.73%	0.74%	1.11%
4 yr Required Maintenance to 2012 WDV	C	1.88%	2.85%	1.49%	1.16%	1.65%	1.68%
2012 BTS to 2012 WDV	I	10.99%	9.95%	1.02%	0.20%	6.00%	7.03%
4 yr Actual Maintenance to 2012 WDV	I	1.43%	1.14%	1.45%	1.05%	0.25%	1.04%
4 yr Required Maintenance to 2012 WDV	I	2.38%	1.67%	1.35%	1.06%	0.91%	1.51%
2012 BTS to 2012 WDV	NR	4.21%	27.50%	1.76%	7.25%	5.30%	14.25%
4 yr Actual Maintenance to 2012 WDV	NR	1.23%	1.73%	0.94%	1.54%	0.38%	1.39%
4 yr Required Maintenance to 2012 WDV	NR	1.77%	2.79%	1.09%	1.64%	0.70%	1.96%
2012 BTS to 2012 WDV	MNC	12.91%	25.08%	4.07%	4.23%	12.44%	15.28%
4 yr Actual Maintenance to 2012 WDV	MNC	1.69%	1.52%	0.97%	1.41%	0.49%	1.32%
4 yr Required Maintenance to 2012 WDV	MNC	2.24%	2.38%	1.63%	1.60%	1.13%	1.98%

	Region	Buildings	Roads, footpaths, bridges etc	Water Supply	Sewer Netwrok	Storm -water Drainage	Total Infrastructure Assets
2012 BTS to 2012 WDV	H	16.54%	9.79%	4.19%	12.24%	3.92%	9.97%
4 yr Actual Maintenance to 2012 WDV	H	2.91%	1.49%	2.79%	2.43%	1.40%	1.74%
4 yr Required Maintenance to 2012 WDV	H	4.59%	2.01%	2.42%	2.40%	2.21%	2.44%
2012 BTS to 2012 WDV	SE	12.70%	9.03%	6.99%	18.56%	9.21%	10.53%
4 yr Actual Maintenance to 2012 WDV	SE	1.69%	1.79%	0.91%	1.77%	0.56%	1.53%
4 yr Required Maintenance to 2012 WDV	SE	2.53%	2.48%	1.04%	2.14%	29.46%	3.56%
2012 BTS to 2012 WDV	NE	3.31%	9.85%	12.77%	7.36%	5.89%	9.13%
4 yr Actual Maintenance to 2012 WDV	NE	2.22%	1.80%	1.67%	1.26%	0.84%	1.73%
4 yr Required Maintenance to 2012 WDV	NE	1.88%	2.28%	1.78%	1.85%	0.82%	2.07%
2012 BTS to 2012 WDV	CW	5.26%	11.02%	14.27%	19.93%	2.97%	11.39%
4 yr Actual Maintenance to 2012 WDV	CW	1.09%	1.26%	1.30%	2.36%	0.53%	1.33%
4 yr Required Maintenance to 2012 WDV	CW	1.60%	1.85%	1.16%	2.63%	0.55%	1.73%
2012 BTS to 2012 WDV	R	2.98%	8.52%	4.58%	5.32%	11.43%	7.55%
4 yr Actual Maintenance to 2012 WDV	R	1.54%	2.29%	1.74%	1.04%	0.49%	1.75%
4 yr Required Maintenance to 2012 WDV	R	1.62%	2.76%	2.05%	1.35%	0.69%	2.11%
2012 BTS to 2012 WDV	O	7.82%	11.22%	18.82%	14.93%	24.48%	12.48%
4 yr Actual Maintenance to 2012 WDV	O	2.05%	2.06%	1.93%	1.18%	0.46%	1.89%
4 yr Required Maintenance to 2012 WDV	O	2.06%	2.33%	2.04%	1.29%	0.65%	2.09%
2012 BTS to 2012 WDV	M	4.47%	15.63%	8.79%	16.09%	4.99%	12.60%
4 yr Actual Maintenance to 2012 WDV	M	1.31%	2.04%	1.26%	1.53%	0.54%	1.66%
4 yr Required Maintenance to 2012 WDV	M	1.40%	2.28%	1.24%	1.49%	0.57%	1.79%
2012 BTS to 2012 WDV	FW	16.03%	37.97%	24.54%	14.25%	19.68%	29.42%
4 yr Actual Maintenance to 2012 WDV	FW	0.96%	3.83%	0.64%	5.01%	3.51%	2.68%
4 yr Required Maintenance to 2012 WDV	FW	1.31%	12.70%	1.19%	5.24%	7.58%	8.05%
2012 BTS to 2012 WDV	CC	0.87%		4.06%	*	2.62%	2.91%
4 yr Actual Maintenance to 2012 WDV	CC	1.01%		1.36%	0.94%	0.23%	1.18%
4 yr Required Maintenance to 2012 WDV	CC	0.82%		0.97%	0.68%	0.76%	0.88%
2012 BTS to 2012 WDV	STATE	10.44%	12.17%	5.91%	7.62%	7.05%	10.08%
4 yr Actual Maintenance to 2012 WDV	STATE	2.08%	1.72%	1.27%	1.30%	0.64%	1.53%
4 yr Required Maintenance to 2012 WDV	STATE	2.55%	2.27%	1.34%	1.53%	1.79%	2.06%

Appendix 7B: Per Capita Costs (based on BTS 2012)

Per capita costs (BTS 2012)	Region	Buildings $ per capita	Roads $ per capita	Water Supply $ per capita	Sewer Network $ per capita	Stormwater drainage $ per capita	Total Infrastructure (excl "other assets") $ per capita
Required Maintenance	ES	39.93	72.82	0.00	0.00	11.39	124.14
Actual Maintenance	ES	43.13	58.44	0.00	0.00	8.93	110.50
BTS	ES	184.04	210.94	0.00	0.00	165.53	560.50
Required Maintenance	NB	34.66	40.37	0.00	0.00	12.62	87.66
Actual Maintenance	NB	34.79	27.81	0.00	0.00	6.46	69.06
BTS	NB	145.70	168.04	0.00	0.00	151.75	465.49
Required Maintenance	NS	36.34	53.68	0.00	0.00	21.41	111.42
Actual Maintenance	NS	27.43	48.34	0.00	0.00	7.88	83.65
BTS	NS	179.04	311.30	0.00	0.00	114.32	604.67
Required Maintenance	WS	23.46	64.87	0.00	1.62	9.08	99.04
Actual Maintenance	WS	20.13	58.86	0.00	1.62	6.68	87.28
BTS	WS	78.76	257.84	0.00	6.26	48.29	391.16
Required Maintenance	SWS	44.64	96.52	0.00	0.00	11.48	152.63
Actual Maintenance	SWS	35.01	81.94	0.00	0.00	7.71	124.65
BTS	SWS	166.90	441.67	0.00	0.00	21.44	630.01
Required Maintenance	SS	35.18	51.95	0.00	0.00	12.65	99.79
Actual Maintenance	SS	27.73	42.19	0.00	0.00	8.21	78.13
BTS	SS	35.63	209.28	0.00	0.00	33.18	278.08
Required Maintenance	C	20.92	70.03	33.37	37.79	35.91	198.02
Actual Maintenance	C	14.33	46.57	32.37	37.88	19.81	150.96
BTS	C	94.51	462.18	40.81	219.54	106.57	923.62
Required Maintenance	H	63.79	123.83	4.71	3.91	21.19	217.43
Actual Maintenance	H	37.25	85.95	4.29	3.11	11.35	141.95
BTS	H	218.94	581.68	8.27	18.73	43.98	871.59
Required Maintenance	I	36.02	78.80	15.03	17.60	19.44	166.89
Actual Maintenance	I	24.63	60.33	16.63	18.32	5.60	125.51
BTS	I	164.53	452.12	11.30	3.09	115.87	746.91

Per capita costs (BTS 2012)	Region	Buildings	Roads	Water Supply	Sewer Network	Stormwater drainage	Total Infrastructure (excl "other assets")
Required Maintenance	NR	27.54	239.23	44.01	71.64	9.39	391.82
Actual Maintenance	NR	21.79	154.14	36.49	69.11	9.04	290.58
BTS	NR	68.67	2275.29	68.12	333.65	74.10	2819.84
Actual Maintenance	MNC	22.09	145.27	37.12	58.79	8.86	272.13
Required Maintenance	MNC	32.51	267.17	67.93	67.78	21.55	456.93
BTS	MNC	181.52	2222.51	147.88	146.56	194.37	2892.84
Required Maintenance	SE	50.38	254.47	43.07	69.99	80.54	498.46
Actual Maintenance	SE	33.12	202.43	40.01	46.41	5.24	327.22
BTS	SE	217.39	899.19	296.11	636.45	99.47	2148.62
Required Maintenance	NE	65.24	416.32	60.90	50.44	9.79	602.69
Actual Maintenance	NE	97.44	304.75	54.58	34.67	9.91	501.35
BTS	NE	85.26	1531.45	414.77	192.97	61.85	2286.31
Required Maintenance	CW	54.28	220.03	51.99	48.67	6.71	381.68
Actual Maintenance	CW	36.83	151.08	53.74	39.02	7.52	288.18
BTS	CW	133.89	1304.72	437.48	511.55	38.47	2426.11
Required Maintenance	R	51.52	333.96	9.00	54.88	18.57	467.93
Actual Maintenance	R	55.18	268.85	7.50	38.41	14.73	384.67
BTS	R	71.08	941.22	23.25	183.70	274.87	1494.12
Required Maintenance	O	82.79	441.94	62.76	37.09	11.22	635.80
Actual Maintenance	O	81.32	327.42	57.10	30.93	6.84	503.62
BTS	O	304.09	2129.01	547.02	412.88	342.80	3735.79
Required Maintenance	M	41.25	250.94	55.74	43.91	12.07	403.92
Actual Maintenance	M	39.41	267.92	52.33	42.04	11.76	413.46
BTS	M	112.26	1852.40	326.50	480.61	77.65	2849.41
Required Maintenance	FW	86.33	3439.13	35.18	4.95	102.39	3667.97
Actual Maintenance	FW	60.99	303.77	9.33	3.53	10.27	387.89
BTS	FW	785.57	3479.72	324.40	11.02	103.05	4703.76
Required Maintenance	State	39.56	129.58	13.56	15.66	16.96	215.33
Actual Maintenance	State	32.97	92.54	11.73	13.46	8.71	159.41
BTS	State	143.89	631.35	58.53	88.27	91.58	1013.63

DLG Group	Region	Council	Strategic Plan	Annual Budget	Annual Report	Asset Management Policy	Asset Management Strategy	Asset Management Plans	Governance	Levels of Service	Data & Systems	Skills & Processes	Evaluation
9	M	Balranald	Y	Y	Y	Y	Y	Y	P	P	P	P	P
10	M	Berrigan	Y	Y	Y	Y	Y	Y	Y	P	Y	Y	Y
10	R	Bland	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	P
10	CW	Blayney	Y	Y	Y	Y	Y	Y	Y	P	Y	P	P
9	O	Bogan	Y	Y	Y	Y	Y	Y	P	Y	Y	Y	Y
9	SE	Bombala	Y	Y	Y	Y	Y	Y	Y	P	P	P	P
9	SE	Boorowa	Y	Y	Y	Y	Y	Y	Y	N	N	P	N
9	O	Bourke	Y	Y	Y	Y	Y	Y	P	P	P	P	P
8	O	Brewarrina	Y	Y	Y	Y	N	Y	N	P	P	P	P
9	M	Carrathool	Y	Y	Y	Y	P	P	P	P	P	P	P
9	FW	Central Darling	P	Y	Y	Y	N	Y	P	Y	P	P	P
10	O	Cobar	Y	Y	Y	Y	Y	Y	Y	Y	P	P	P
8	M	Conargo	Y	Y	Y	Y	Y	Y	Y	Y	P	Y	Y
9	O	Coonamble	Y	Y	Y	P	P	N	N	P	P	N	N
10	M	Deniliquin	Y	Y	Y	Y	N	P	P	P	Y	Y	P
10	H	Dungog	Y	Y	Y	Y	Y	Y	Y	P	N	N	N
10	CW	Forbes	Y	Y	Y	Y	Y	Y	P	Y	Y	P	Y
9	O	Gilgandra	Y	Y	Y	Y	Y	N	P	P	P	P	P
10	H	Gloucester	Y	Y	Y	Y	Y	Y	P	P	P	P	P
9	R	Gundagai	Y	Y	Y	Y	P	P	Y	P	P	Y	P
10	NE	Gwydir	Y	Y	Y	P	P	P	P	P	P	P	P
9	SE	Harden	Y	Y	Y	Y	Y	Y	Y	P	P	Y	P
9	M	Hay	Y	Y	Y	Y	P	Y	Y	P	P	Y	P
8	M	Jerilderie	Y	Y	Y	Y	Y	Y	Y	P	P	P	P
10	R	Junee	Y	Y	Y	Y	Y	Y	Y	Y	P	P	P
10	NR	Kyogle	Y	Y	Y	Y	Y	Y	N	P	P	P	P
10	CW	Lachlan	Y	Y	Y	Y	Y	Y	P	Y	P	P	P
10	NE	Liverpool Plains	Y	Y	Y	Y	Y	Y	P	P	Y	Y	Y
9	R	Lockhart	Y	Y	Y	Y	P	P	P	P	P	P	P
10	M	Murray	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9	M	Murrumbidgee	P	P	P	Y	P	P	P	P	P	P	P
10	M	Narrandera	Y	P	Y	Y	Y	Y	P	P	P	P	P
10	CW	Oberon	P	P	Y	Y	N	P	P	P	Y	Y	P
10	SE	Snowy River	P	P	Y	Y	Y	Y	Y	P	P	P	P
9	R	Tumbarumba	Y	Y	Y	Y	Y	Y	Y	P	Y	P	P
8	M	Urana	Y	Y	Y	Y	Y	P	P	P	P	P	P
9	M	Wakool	Y	Y	Y	Y	Y	Y	Y	P	P	P	P
10	O	Walgett	Y	Y	Y	Y	Y	P	P	P	P	P	P
9	O	Warren	P	Y	Y	Y	P	N	N	N	P	P	N
9	CW	Weddin	Y	Y	Y	Y	Y	Y	Y	Y	P	P	P
10	O	Wellington	Y	Y	Y	Y	Y	Y	P	P	Y	P	P
10	M	Wentworth	Y	Y	Y	Y	Y	Y	Y	P	P	Y	P

Key:

Y	Core Level achieved	P	Partial - in progress	N	No Substantial progress

Appendix 9: Results of Data Reliability Testing

Appendix 9A: Results of Desktop Reviews

	Council	TCorp Current Rating	TCorp Assessment Outlook	Infrastructure Management Assessment	Total Reported BTS infrastructure assets	BTS/Capita
M	Albury	Moderate	Neutral	Moderate	35,915,000	726.04
NE	Armidale Dumaresq	Moderate	Neutral	Moderate	15,627,000	618.40
ES	Ashfield	Sound	Neutral	Strong	250,000	5.72
WS	Auburn	Sound	Negative	Weak	50,097,000	639.92
NR	Ballina	Moderate	Neutral	Weak	12,065,000	296.05
M	Balranald	Weak	Negative	Weak	Not reported	0.00
SWS	Bankstown	Moderate	Negative	Moderate	149,750,000	785.52
CW	Bathurst Regional	Moderate	Negative	Moderate	69,327,580	1735.97
SE	Bega Valley	Sound	Neutral	Strong	66,773,000	2023.49
MNC	Bellingen	Moderate	Negative	Weak	22,408,000	1738.94
M	Berrigan	Moderate	Neutral	Strong	8,070,000	974.40
WS	Blacktown	Moderate	Neutral	Moderate	52,625,000	168.41
R	Bland	Weak	Neutral	Strong	15,254,000	2534.73
CW	Blayney	Moderate	Negative	Weak	3,947,000	549.26
WS	Blue Mountains	Weak	Neutral	Moderate	34,480,000	439.85
O	Bogan	Moderate	Neutral	Moderate	6,004,000	1988.08
SE	Bombala	Moderate	Neutral	Moderate	18,400,000	7485.76
SE	Boorowa	Moderate	Negative	Strong	4,135,000	1674.77
ES	Botany Bay	Weak	Neutral	Moderate	36,905,000	885.56
O	Bourke	Weak	Negative	Weak	50,300,000	16304.70
O	Brewarrina	Weak	Negative	Weak	18,236,000	9623.22
FW	Broken Hill	Very Weak	Neutral	Weak	85,040,000	4446.54
ES	Burwood	Weak	Positive	Moderate	167,238,000	4875.03
NR	Byron	Weak	Negative	Weak	207,429,000	6729.25
CW	Cabonne	Sound	Negative	Moderate	42,037,000	3187.52
SWS	Camden	Moderate	Neutral	Strong	15,341,000	262.80
SWS	Campbelltown	Moderate	Negative	Strong	24,538,000	162.27
ES	Canada Bay	Moderate	Neutral	Weak	35,339,000	442.26
ES	Canterbury	Moderate	Negative	Moderate	81,029,000	559.78
M	Carrathool	Weak	Neutral	Weak	9,231,000	3459.90
FW	Central Darling	Very Weak	Negative	Weak	14,835,000	7037.48
H	Cessnock	Moderate	Negative	Moderate	114,719,000	2185.42
NR	Clarence Valley	Weak	Negative	Weak	224,053,000	4371.60
O	Cobar	Weak	Negative	Very Weak	74,580,000	15124.72
MNC	Coffs Harbour	Weak	Negative	Weak	77,073,000	1086.56
M	Conargo	Sound	Neutral	Strong	391,000	246.69

	Council	TCorp Current Rating	TCorp Assessment Outlook	Infrastructure Management Assessment	Total Reported BTS infrastructure assets	BTS/Capita
R	Coolamon	Sound	Negative	Very Weak	2,193,000	520.53
SE	Cooma-Monaro	Weak	Neutral	Weak	33,998,000	3370.81
O	Coonamble	Sound	Negative	Moderate	4,124,000	964.90
R	Cootamundra	Moderate	Neutral	Moderate	5,850,000	779.90
M	Corowa	Moderate	Negative	Strong	44,621,000	3948.06
CW	Cowra	Sound	Negative	Very Weak	10,229,000	816.62
M	Deniliquin	Moderate	Negative	Weak	41,200,000	5630.72
O	Dubbo	Moderate	Neutral	Moderate	53,256,000	1315.26
H	Dungog	Weak	Negative	Distressed	51,873,000	6069.15
SE	Eurobodalla	Moderate	Neutral	Weak	28,025,000	757.58
SWS	Fairfield	Sound	Neutral	Strong	33,993,000	172.89
CW	Forbes	Moderate	Neutral	Moderate	11,946,000	1261.32
O	Gilgandra	Weak	Neutral	Weak	9,750,000	2150.42
NE	Glen Innes Severn	Moderate	Neutral	Weak	29,396,000	3278.97
H	Gloucester	Very Weak	Neutral	Moderate	32,586,000	6551.27
C	Gosford	Moderate	Neutral	Moderate	139,030,000	829.07
SE	Goulburn Mulwaree	Moderate	Negative	Very Weak	116,040,000	4102.53
H	Great Lakes	Moderate	Neutral	Moderate	28,568,000	802.45
M	Greater Hume	Moderate	Negative	Weak	102,591,000	10219.24
MNC	Greater Taree	Very Weak	Negative	Very Weak	266,779,000	5563.11
M	Griffith	Sound	Negative	Moderate	11,450,000	452.71
R	Gundagai	Moderate	Negative	Distressed	4,238,000	1129.23
NE	Gunnedah	Sound	Negative	Very Strong	343,000	27.41
NE	Guyra	Moderate	Negative	Very Weak	18,222,000	4011.01
NE	Gwydir	Very Weak	Neutral	Distressed	53,626,000	10568.78
SE	Harden	Moderate	Negative	Strong	4,017,000	1091.58
WS	Hawkesbury	Moderate	Negative	Moderate	75,394,000	1173.74
M	Hay	Moderate	Negative	Moderate	12,845,000	4147.56
WS	Hills	Sound	Positive	Strong	60,683,000	342.87
WS	Holroyd	Weak	Neutral	Strong	49,445,000	476.03
NS	Hornsby	Moderate	Neutral	Moderate	8,500,000	51.87
NS	Hunters Hill	Moderate	Neutral	Weak	3,695,000	266.21
SS	Hurstville	Moderate	Neutral	Strong	7,841,000	94.96
NE	Inverell	Moderate	Neutral	Moderate	80,709,000	4857.89
M	Jerilderie	Moderate	Negative	Weak	2,100,000	1368.97
R	Junee	Moderate	Neutral	Weak	7,795,000	1279.76
MNC	Kempsey	Weak	Negative	Weak	113,823,000	3899.65
I	Kiama	Moderate	Neutral	Weak	9,118,000	437.69
SS	Kogarah	Moderate	Neutral	Strong	1,160,000	19.68

	Council	TCorp Current Rating	TCorp Assessment Outlook	Infrastructure Management Assessment	Total Reported BTS infrastructure assets	BTS/Capita
NS	Ku-ring-gai	Sound	Neutral	Strong	172,174,000	1501.03
NR	Kyogle	Weak	Negative	Moderate	42,875,000	4495.65
CW	Lachlan	Moderate	Negative	Weak	85,022,000	12580.94
H	Lake Macquarie	Moderate	Neutral	Strong	93,648,000	478.02
NS	Lane Cove	Sound	Negative	Moderate	21,273,000	640.81
M	Leeton	Moderate	Negative	Moderate	19,900,000	1744.70
ES	Leichhardt	Sound	Neutral	Very Strong	7,890,000	141.78
NR	Lismore	Moderate	Negative	Weak	189,945,420	4289.45
CW	Lithgow	Sound	Negative	Moderate	63,844,000	3070.90
SWS	Liverpool	Sound	Negative	Strong	254,424,000	1352.72
NE	Liverpool Plains	Weak	Negative	Moderate	7,672,000	987.51
R	Lockhart	Sound	Neutral	Moderate	1,766,000	573.00
H	Maitland	Moderate	Neutral	Moderate	52,337,000	751.47
NB	Manly	Sound	Neutral	Strong	3,810,000	89.58
ES	Marrickville	Moderate	Neutral	Moderate	23,090,000	283.35
CW	Mid-Western Regional	Sound	Negative	Weak	96,888,828	4212.56
NE	Moree Plains	Moderate	Neutral	Moderate	33,550,000	2364.51
NB	Mosman	Weak	Positive	Moderate	25,630,000	869.55
M	Murray	Moderate	Neutral	Moderate	16,485,000	2302.70
M	Murrumbidgee	Moderate	Negative	N/A	10,954,000	4685.20
H	Muswellbrook	Moderate	Neutral	Moderate	23,880,000	1463.06
MNC	Nambucca	Weak	Negative	Moderate	70,308,000	3645.55
NE	Narrabri	Moderate	Negative	Very Weak	31,837,000	2362.67
M	Narrandera	Sound	Negative	Strong	2,947,000	481.30
O	Narromine	Moderate	Neutral	Moderate	6,605,000	953.24
H	Newcastle	Moderate	Negative	Moderate	117,332,000	757.49
NS	North Sydney	Moderate	Neutral	Moderate	19,133,000	285.43
CW	Oberon	Sound	Negative	Moderate	16,141,000	3099.87
CW	Orange	Sound	Negative	Moderate	3,863,000	97.85
SE	Palerang	Moderate	Negative	Distressed	30,375,000	2047.52
CW	Parkes	Moderate	Negative	Weak	63,501,000	4209.82
WS	Parramatta	Moderate	Neutral	Moderate	77,210,000	442.33
WS	Penrith	Weak	Neutral	Strong	59,080,000	319.90
NB	Pittwater	Sound	Neutral	Strong	82,715,000	1372.64
MNC	Port Macquarie-Hastings	Weak	Negative	Moderate	187,854,000	2506.42
H	Port Stephens	Moderate	Neutral	Moderate	26,350,000	392.94
SE	Queanbeyan	Weak	Neutral	Weak	76,718,250	1926.34
ES	Randwick	Sound	Neutral	Very Strong	51,643,000	374.88
NR	Richmond Valley	Weak	Negative	Very Weak	80,038,000	3526.37

	Council	TCorp Current Rating	TCorp Assessment Outlook	Infrastructure Management Assessment	Total Reported BTS infrastructure assets	BTS/Capita
SS	Rockdale	Moderate	Neutral	Weak	35,065,000	340.96
NS	Ryde	Sound	Negative	Moderate	78,887,000	727.93
I	Shellharbour	Moderate	Negative	Weak	45,136,000	683.32
I	Shoalhaven	Sound	Negative	Moderate	37,208,000	387.41
H	Singleton	Moderate	Neutral	Moderate	15,205,000	648.23
SE	Snowy River	Moderate	Negative	Weak	13,215,000	1704.72
ES	Strathfield	Moderate	Negative	Moderate	10,369,000	279.18
SS	Sutherland	Moderate	Neutral	Strong	84,993,000	386.77
ES	Sydney	Strong	Positive	Strong	86,544,759	471.65
NE	Tamworth Regional	Moderate	Neutral	Moderate	106,925,000	1832.45
R	Temora	Sound	Neutral	Strong	4,360,000	735.49
NE	Tenterfield	Weak	Negative	Weak	18,079,000	2573.89
R	Tumbarumba	Strong	Negative	Very Strong	5,398,000	1569.19
R	Tumut	Moderate	Neutral	Weak	12,025,000	1066.80
NR	Tweed	Moderate	Neutral	Strong	55,169,000	623.64
H	Upper Hunter	Sound	Negative	Moderate	4,030,000	283.68
SE	Upper Lachlan	Sound	Neutral	Strong	15,695,000	2127.27
NE	Uralla	Weak	Neutral	Very Weak	6,761,000	1080.03
M	Urana	Weak	Neutral	Weak	10,263,000	8697.46
R	Wagga Wagga	Moderate	Negative	Moderate	109,668,000	1782.96
M	Wakool	Weak	Negative	Moderate	96,831,000	23733.09
NE	Walcha	Weak	Negative	Distressed	16,039,000	5137.41
O	Walgett	Moderate	Negative	Moderate	41,865,000	6102.77
O	Warren	Moderate	Neutral	Distressed	7,465,000	2594.72
NB	Warringah	Sound	Positive	Very Strong	18,126,000	122.80
O	Warrumbungle	Weak	Negative	Moderate	85,523,000	8615.19
ES	Waverley	Moderate	Neutral	Strong	29,030,000	423.38
CW	Weddin	Moderate	Negative	Weak	9,645,000	2583.02
O	Wellington	Weak	Neutral	Weak	7,503,000	839.54
M	Wentworth	Weak	Negative	Weak	35,859,000	5283.48
NS	Willoughby	Moderate	Neutral	Moderate	42,623,000	594.99
I	Wingecarribee	Moderate	Neutral	Moderate	71,840,000	1560.31
SWS	Wollondilly	Weak	Neutral	Weak	44,444,000	1000.92
I	Wollongong	Moderate	Neutral	Moderate	158,010,000	785.28
ES	Woollahra	Moderate	Neutral	Strong	11,410,000	202.58
C	Wyong	Moderate	Neutral	Moderate	158,085,000	1026.58
SE	Yass Valley	Moderate	Negative	Moderate	19,718,000	1270.82
SE	Young	Sound	Negative	Weak	34,395,000	2748.52

Appendix 9B: Percentage of Councils in each Region with Asset Management Plans

Region	Roads	Bridges	Foot paths	Water Supply	Sewer Network	Storm water	Buildings	Other Structure	Parks	Recreation Assets	Fore shore	Natural Assets	Air ports
Eastern Sydney	100%	89%	100%	N/A	N/A	100%	100%	63%	92%	91%	100%	86%	N/A
Northern Beaches	100%	50%	75%	N/A	N/A	75%	75%	75%	75%	75%	75%	50%	N/A
Northern Sydney	100%	60%	100%	N/A	N/A	100%	100%	60%	86%	86%	60%	0%	N/A
Western Sydney	100%	100%	100%	N/A	100%	100%	100%	60%	100%	71%	67%	57%	N/A
South West Sydney	100%	100%	100%	N/A	N/A	100%	100%	100%	100%	100%	0%	40%	N/A
Southern Sydney	75%	50%	75%	N/A	N/A	75%	75%	50%	100%	75%	50%	50%	N/A
Central Coast	100%	100%	100%	100%	100%	100%	100%	50%	100%	100%	100%	50%	100%
Illawarra	100%	100%	100%	100%	100%	100%	100%	50%	80%	80%	50%	0%	0%
Northern Rivers	100%	86%	100%	71%	71%	86%	86%	33%	57%	57%	20%	20%	75%
Mid North Coast	83%	67%	67%	83%	83%	67%	50%	50%	33%	50%	33%	17%	0%
Hunter	91%	82%	82%	100%	100%	82%	91%	43%	91%	91%	100%	22%	50%
South East NSW	100%	100%	92%	77%	77%	69%	62%	42%	54%	67%	67%	14%	29%
New England	92%	92%	77%	92%	92%	77%	69%	64%	62%	62%	N/A	25%	50%
Central West	100%	83%	83%	80%	83%	75%	83%	90%	75%	83%	100%	17%	43%
Riverina	100%	90%	90%	75%	80%	70%	80%	50%	63%	67%	N/A	17%	60%
Orana	83%	83%	83%	92%	100%	67%	75%	40%	75%	75%	N/A	40%	67%
Murray	94%	82%	94%	94%	94%	88%	88%	73%	88%	88%	100%	18%	62%
Far West	100%	0%	100%	100%	100%	100%	100%	0%	100%	100%	0%	0%	100%
County Councils	N/A	N/A	N/A	80%	0%	100%	83%	N/A	N/A	N/A	N/A	N/A	N/A
State Avg	95%	85%	89%	86%	87%	83%	83%	58%	76%	77%	63%	29%	50%

Appendix 9C: Percentage of Councils in each Region with all Assets Recorded in Asset Registers

Region	Roads	Bridges	Foot paths	Water Supply	Sewer Network	Storm water	Buildings	Other Structure	Parks	Recreation Assets	Fore shore	Natural Assets	Air ports
Eastern Sydney	100%	89%	100%	N/A	N/A	100%	100%	75%	100%	100%	86%	71%	N/A
Northern Beaches	100%	50%	100%	N/A	N/A	100%	100%	100%	100%	100%	100%	100%	N/A
Northern Sydney	100%	60%	100%	N/A	N/A	100%	100%	67%	71%	71%	80%	80%	N/A
Western Sydney	88%	100%	88%	N/A	100%	88%	75%	60%	75%	71%	0%	71%	N/A
South West Sydney	100%	100%	100%	N/A	N/A	100%	83%	100%	100%	100%	0%	0%	N/A
Southern Sydney	100%	50%	100%	N/A	N/A	100%	100%	75%	100%	75%	50%	50%	N/A
Central Coast	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	50%	100%
Illawarra	100%	100%	100%	100%	100%	100%	100%	50%	80%	80%	75%	75%	100%
Northern Rivers	100%	86%	100%	100%	100%	100%	100%	83%	86%	86%	60%	60%	100%
Mid North Coast	100%	67%	100%	100%	100%	83%	83%	75%	83%	100%	67%	67%	75%
Hunter	91%	82%	91%	100%	100%	82%	100%	57%	91%	100%	100%	100%	75%
South East NSW	100%	100%	92%	100%	100%	100%	92%	75%	77%	92%	67%	43%	86%
New England	100%	92%	85%	100%	92%	92%	92%	91%	92%	69%	N/A	N/A	70%
Central West	100%	83%	92%	100%	100%	100%	100%	90%	100%	100%	50%	50%	86%
Riverina	100%	90%	100%	100%	100%	100%	100%	89%	100%	100%	N/A	N/A	100%
Orana	100%	83%	100%	92%	92%	83%	92%	70%	92%	83%	N/A	83%	75%
Murray	94%	82%	88%	88%	88%	88%	88%	80%	88%	76%	100%	100%	85%
Far West	50%	0%	50%	0%	0%	50%	50%	0%	50%	50%	N/A	N/A	50%
County Councils	N/A	N/A	N/A	100%	100%	100%	100%	N/A	N/A	N/A	N/A	N/A	N/A
State Avg	97%	93%	94%	95%	94%	93%	94%	76%	89%	87%	69%	32%	79%

Appendix 9D: Percentage of Councils with Established Levels of Service

Region	Roads	Bridges	Foot paths	Water Supply	Sewer Network	Storm water	Buildings	Other Structure	Parks	Recreation Assets	Fore shore	Natural Assets	Air ports
Eastern Sydney	83%	75%	83%	N/A	N/A	83%	83%	50%	75%	82%	67%	71%	N/A
Northern Beaches	75%	50%	75%	0%	0%	50%	75%	50%	75%	75%	75%	50%	0%
Northern Sydney	86%	40%	71%	N/A	N/A	71%	71%	50%	57%	57%	40%	17%	N/A
Western Sydney	75%	75%	75%	N/A	100%	63%	63%	50%	75%	43%	33%	67%	N/A
South West Sydney	100%	100%	100%	N/A	N/A	83%	100%	80%	100%	100%	0%	0%	N/A
Southern Sydney	50%	0%	50%	N/A	N/A	50%	50%	25%	67%	25%	25%	25%	N/A
Central Coast	50%	50%	50%	100%	100%	50%	50%	0%	50%	50%	50%	0%	100%
Illawarra	60%	60%	60%	100%	100%	60%	40%	50%	60%	60%	50%	25%	100%
Northern Rivers	86%	86%	100%	100%	100%	71%	71%	33%	86%	71%	25%	33%	100%
Mid North Coast	67%	67%	83%	60%	60%	67%	40%	0%	60%	50%	60%	20%	25%
Hunter	91%	82%	91%	100%	100%	82%	91%	43%	73%	82%	75%	13%	75%
South East NSW	85%	69%	69%	77%	69%	54%	31%	27%	54%	64%	33%	29%	29%
New England	85%	77%	62%	85%	85%	38%	46%	30%	46%	50%	N/A	14%	45%
Central West	92%	75%	75%	60%	75%	42%	42%	50%	42%	50%	50%	20%	43%
Riverina	90%	80%	90%	100%	100%	60%	70%	50%	75%	78%	N/A	0%	80%
Orana	50%	50%	50%	67%	67%	50%	50%	20%	58%	50%	N/A	17%	45%
Murray	65%	53%	53%	69%	75%	47%	53%	50%	53%	47%	100%	11%	46%
Far West	100%	0%	50%	100%	100%	50%	100%	0%	50%	50%	N/A	0%	50%
County Councils	N/A	N/A	N/A	60%	0%	0%	71%	N/A	N/A	N/A	N/A	N/A	N/A
State Avg	78%	67%	72%	75%	78%	59%	60%	39%	63%	61%	51%	25%	50%

Appendix 9E: Percentage of Councils in each Region who have Undertaken Risk Management.

Region	Roads	Bridges	Foot paths	Water Supply	Sewer Network	Storm water	Buildings	Other Structure	Parks	Recreation Assets	Fore shore	Natural Assets	Air ports
Eastern Sydney	100%	100%	100%	N/A	N/A	92%	100%	75%	100%	100%	100%	86%	N/A
Northern Beaches	100%	100%	100%	N/A	N/A	50%	100%	75%	100%	100%	100%	100%	0%
Northern Sydney	100%	100%	100%	N/A	N/A	100%	100%	67%	86%	86%	60%	60%	N/A
Western Sydney	100%	100%	100%	N/A	100%	100%	100%	60%	100%	86%	67%	86%	N/A
South West Sydney	100%	100%	100%	N/A	N/A	83%	83%	60%	100%	100%	0%	0%	N/A
Southern Sydney	75%	75%	75%	N/A	N/A	75%	50%	25%	67%	25%	25%	25%	N/A
Central Coast	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Illawarra	80%	80%	80%	50%	50%	80%	60%	75%	60%	60%	75%	75%	100%
Northern Rivers	86%	86%	86%	100%	100%	57%	57%	33%	57%	57%	50%	50%	75%
Mid North Coast	100%	67%	67%	60%	60%	67%	50%	25%	50%	50%	50%	50%	50%
Hunter	91%	91%	91%	67%	67%	82%	82%	43%	91%	91%	100%	100%	75%
South East NSW	69%	77%	77%	54%	54%	46%	46%	33%	67%	67%	67%	43%	71%
New England	77%	77%	77%	69%	69%	69%	69%	64%	69%	54%	N/A	N/A	73%
Central West	58%	58%	58%	60%	58%	50%	50%	56%	67%	67%	0%	0%	86%
Riverina	90%	90%	90%	80%	90%	70%	70%	67%	63%	78%	N/A	N/A	80%
Orana	67%	64%	64%	58%	58%	42%	42%	20%	67%	58%	N/A	58%	58%
Murray	69%	80%	80%	81%	81%	59%	65%	64%	65%	65%	75%	100%	69%
Far West	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
County Councils	N/A	N/A	N/A	100%	100%	100%	88%	N/A	N/A	N/A	N/A	N/A	N/A
State Avg	82%	77%	81%	69%	70%	68%	70%	52%	74%	71%	67%	44%	68%

Appendix 9F: Percentage of Councils in each Region who have Assets which no longer Provide a Service.

Region	Roads	Bridges	Foot paths	Water Supply	Sewer Network	Storm water	Buildings	Other Structure	Parks	Recreation Assets	Fore shore	Natural Assets	Air ports
Eastern Sydney	33%	33%	33%	N/A	N/A	50%	50%	25%	42%	36%	17%	14%	N/A
Northern Beaches	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%
Northern Sydney	0%	0%	0%	N/A	N/A	29%	0%	17%	0%	0%	0%	0%	N/A
Western Sydney	0%	0%	0%	N/A	0%	12%	37%	20%	29%	29%	0%	14%	0%
South West Sydney	0%	33%	0%	N/A	N/A	17%	17%	20%	17%	0%	100%	40%	N/A
Southern Sydney	0%	50%	0%	N/A	N/A	0%	25%	25%	0%	0%	25%	0%	N/A
Central Coast	0%	0%	0%	50%	0%	0%	50%	0%	0%	0%	0%	0%	0%
Illawarra	20%	20%	0%	0%	0%	20%	10%	0%	0%	0%	0%	0%	0%
Northern Rivers	29%	29%	43%	16%	29%	43%	57%	33%	73%	50%	33%	0%	0%
Mid North Coast	17%	33%	17%	40%	40%	17%	33%	25%	17%	17%	33%	0%	25%
Hunter	36%	27%	36%	0%	0%	55%	45%	29%	45%	55%	25%	29%	0%
South East NSW	0%	8%	8%	0%	0%	8%	15%	0%	0%	8%	0%	0%	0%
New England	0%	15%	0%	0%	0%	8%	8%	9%	0%	0%	N/A	25%	0%
Central West	0%	17%	0%	10%	8%	0%	8%	10%	0%	8%	0%	17%	14%
Riverina	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	N/A	0%	0%
Orana	8%	33%	17%	8%	8%	17%	33%	40%	17%	19%	N/A	20%	27%
Murray	0%	6%	0%	6%	6%	0%	12%	14%	6%	6%	0%	12%	0%
Far West	0%	100%	50%	0%	0%	0%	50%	100%	100%	100%	100%	100%	50%
County Councils	N/A	N/A	N/A	60%	0%	100%	0%	N/A	N/A	N/A	N/A	N/A	N/A
State Avg	9%	19%	11%	11%	7%	18%	23%	18%	14%	16%	16%	13%	9%

Appendix 10: On Site Audit

Appendix 10A: Results of On-site Audit

	Asset Knowledge / Data	Asset Knowledge Processes	Strategic Asset Planning Processes	Operations and Maintenance Work Practices	Information Systems	Organisation Context	Overall
Armidale-Dumaresq	C	C	C	D	C	D	D
Ballina	C	C	D	E	D	C	D
Bathurst	B	C	D	E	B	D	C
Bega Valley	C	B	C	C	C	B	C
Bogan	E	F	E	E	F	E	E
Broken Hill	C	C	D	D	C	D	C
Camden	C	B	D	D	C	D	C
Canada Bay	C	D	C	D	D	C	D
Canterbury	C	D	D	D	C	D	D
Coolamon	E	E	F	F	F	F	F
Cootamundra	C	D	E	E	D	D	D
Cowra	D	C	D	D	D	D	D
Dubbo	C	C	C	C	D	C	C
Great Lakes	D	C	D	D	D	D	D
Griffith	D	C	D	D	C	C	D
Gunnedah	C	C	C	C	C	C	C
Guyra	D	C	D	E	D	D	D
Kempsey	D	C	D	D	D	F	D
Lake Macquarie	A	A	A	C	A	B	B
Leichhardt	C	C	C	D	C	C	C
Lithgow	D	D	D	D	D	D	D
Lockhart	D	C	E	D	C	D	D
Muswellbrook	D	C	D	C	C	D	D
Narromine	D	D	D	E	D	C	D
Newcastle	C	C	C	D	D	C	C
Richmond Valley	C	B	D	D	C	C	C
Rockdale	C	D	C	C	C	C	C
Ryde	C	B	D	C	C	C	C
Shoalhaven	C	C	C	C	C	C	C
Singleton	C	B	C	C	D	B	C
Tenterfield	D	D	E	D	F	D	E
Upper Lachlan	C	D	D	D	E	D	D
Warrumbungle	D	D	D	E	E	D	E
Wollondilly	D	C	D	D	D	C	D
Young	D	D	D	D	E	D	E

Appendix 10B: Questions asked of all Councils During an on-Site Audit

- Are all assets for each asset class recorded in an asset register?
- Are assets recorded in segments or components appropriately?
- Is the asset register updated regularly?
- Does the asset register link to the general ledger?
- Does Council assess the condition of assets each year?
- Is a sample of assets for each asset class assessed?
- Does Council have a condition rating system?
- Are condition assessments taken into account when preparing the operational plan?
- Are useful lives of assets assessed each year?
- Does Council have a confidence grade for asset information?
- What database & computer systems are used to record assets?
- Does Council's GIS system have the capacity to include infrastructure?
- Is the GIS system linked to the asset management database?
- Have any data integrity issues been identified in your review?
- Have risk assessments been undertaken for critical assets?
- Are working groups/committees in place to deal with infrastructure?
- Are Council staff adequately trained in asset management requirements?
- Is Council's backlog realistic and based on good data?
- Has Council appropriate records to support all aspects of asset management?
- How was Special Schedule 7 in the annual report derived?

Appendix 11: Infrastructure Management Assessment

	Current Infrastructure Funding Position			Infrastructure Management	Infrastructure Financial Planning
Very Strong	BTS < annual revenue	Actual maintenance > required maintenance	BTS < 10 years Cumulative Forecast Surpluses (after capital)	Strategies, AMPs, Asset Registers, LOS, yearly asset inspections - all asset classes	Evidence of fully funded asset lifecycle costing - most asset classes; no deficit results before capital
Strong	BTS < 3 years annual revenue	Actual maintenance > 90% of required maintenance	BTS < 10 years Cumulative Forecast Surpluses (after capital)	Strategies, AMPS, Asset Registers, LOS, yearly asset inspections - most asset classes	Evidence of fully funded asset lifecycle costing - most asset classes; no deficit results before capital
Moderate	BTS = 3-5 years of annual revenue	Actual maintenance > 80% of required maintenance	10 years Cumulative Forecast Surpluses (after capital) is < 100% of BTS amount	Strategies, AMPS, Asset Registers, LOS, yearly asset inspections - most asset classes	Evidence of asset lifecycle costing - majority funded - most asset classes; some deficit results before capital
Weak	BTS = 5-10 years of annual revenue	Actual maintenance < 80% of required maintenance	10 years Cumulative Forecast Surpluses (after capital) is < 75% of BTS amount	Strategies, AMPS, Asset Registers, LOS, yearly asset inspections - some asset classes	Some evidence of asset lifecycle costing with funding gaps for most asset classes; some deficit results before capital
Very Weak	BTS = more than ten years of annual revenue	Actual maintenance < 60% of required maintenance	10 years Cumulative Forecast Surpluses (after capital) is < 50% of BTS amount	Some Strategies, AMPS, Asset Registers. No LOS or Yearly asset inspections.Some assets not fit for service.	No evidence of asset lifecycle costing; some deficit results before capital
Distressed	BTS = more than ten years of revenue	Actual maintenance < 50% of required maintenance	10 years Cumulative Forecast Surpluses (after capital) is < 50% of BTS amount	No (or very few) Strategies, AMPS, Asset Registers, LOS, Yearly asset inspections.	No evidence of asset lifecycle costing; deficit results before capital in all years

References

Australian Bureau of Statistics - 3218.0 Regional Population Growth, Australia, Table 1 Estimated Resident Population, Local Government Areas, New South Wales - 31 July 2012

Banos, A., A Report on Engineering Skills Shortages and the Infrastructure Backlog in NSW Local Government, Nov 2012

Burns, P., Roorda, J., Hope D., *A Wealth of Opportunities A Report on the Potential from Infrastructure Asset Management in South Australian Local Government, April 2001*

Commonwealth Grants Commission (CGC) (2001). *Review of the Operation of the Local Government (Financial Assistance) Act 1995,* Commonwealth Grants Commission, Canberra

Environmental Planning and Assessment Act, 1979, s94

Ernst and Young, *Strong foundations for sustainable local infrastructure,* June 2012

Howard, J., IPWEA NSW Division Roads & Transport Directorate, *Road Management Report, Road Asset Benchmarking Project, May 2011*, http://higherlogicdownload.s3.amazonaws.com/IPWEA/c7e19de0-08d5-47b7-ac3f-c198b11cd969/UploadedImages/Asset%20Benchmarking%20Project/Road%20Benchmarking%20Report%202010.pdf, viewed March 2013

Independent Local Government Review Panel, *Better, Stronger Local Government, The Case for Sustainable Change,* November 2012

Institute of Public Works Engineering Australia,(IPWEA), *Australian Infrastructure Financial Management Guidelines,* 2012

Jeff Roorda and Associates, *National Asset Management Framework Project Report by JRA*, 2012

Jeff Roorda and Associates, *National State of the Assets Pilot 2012,* November 2012

Local Government Act, 1993 (NSW)

Local Government (General) Regulation, 2005 (NSW)

Local Government and Planning Ministers' Council, *Local Government Financial Sustainability Nationally Consistent Frameworks, Framework 2,* Asset Planning and Management, May 2009

Local Government and Shires Association, *Are Councils Sustainable?, Independent Inquiry into the Financial Sustainability of NSW Local Government,* May 2006

National Asset Management Steering (NAMS) Group, *International Infrastructure Management Manual (IIMM),* 2011

NSW Department of Premier and Cabinet, Division of Local Government, *Planning and Reporting Guidelines for Local Government in NSW*, 2010

NSW Department of Premier and Cabinet, Division of Local Government, *Comparative Information on NSW Local Government Councils 2010/11*, 2012

NSW Department of Premier and Cabinet, Division of Local Government, *Local Government Code of Accounting Practice and Financial Reporting*, 2012

NSW Department of Premier and Cabinet, *Division of Local Government Briefing Note 2013*, Jeff Roorda and Associates

NSW Roads and Maritime Services, Timber Bridges, Dec 2012, http://www.rta.nsw.gov.au/roadprojects/projects/maintenance/timber_bridges.html, viewed 4 April 2013

NSW Treasury Corporation, *Financial Sustainability of the New South Wales Local Government Sector*, 2013

Saporta, M., An infrastructure puzzle — Atlanta leaders keep working on solutions, SaportaReport, 17 December 2012, http://saportareport.com/blog/2012/12/an-infrastructure-puzzle-atlanta-leaders-keep-working-on-possible-solutions/ viewed March 2013

The Australian Centre for Excellence for Local Government (ACELG), *Unfinished Business? A Decade of Inquiries into Australian Local Government,* (Working paper no. 4), September 2011, University of Technology Sydney