



In reply please quote our reference: ECM 681693 RM

28 June 2019

Dr Matthew Butlin
Presiding Commissioner
South Australian Productivity Commission
GPO Box 2343
ADELAIDE SA 5001
Emailed: sapc@sa.gov.au

Dear Dr Butlin

Inquiry into Local Government Costs and Efficiency – Methodology Paper

The Local Government Association of South Australia (LGA) appreciates the opportunity to provide a response to the Productivity Commission's Inquiry into local government costs and efficiency (the Inquiry).

The LGA intends to prepare two submissions in response to the Commission's methodology paper; the first submission (attached) is comprised of initial comments regarding the themes outlined in the methodology paper.

A second submission will be prepared following full consultation with member councils on the methodology paper. This will be submitted by the Commission's second deadline (12 July 2019).

A number of our member councils have indicated an intention to also provide submissions to the Inquiry.

The LGA acknowledges the Commission's earlier deadline for comments regarding cost and efficiency measurements, however considering the relatively short time frames for the Inquiry and the need for the LGA to consult further with member councils, the second submission may also include further detail on the feedback we have provided on the technical aspects of the methodology paper.

The LGA looks forward to continuing the close level of consultation and engagement with the Commission as the Inquiry progresses.

Yours sincerely

Mayor Sam Telfer

President

Telephone: (08) 8224 2039

Email: lgapresident@lga.sa.gov.au

Attach: LGA Submission to Methodology Paper (technical aspects) – ECM 682133
Appendix A – UTS, Explanation of Data Envelopment Analysis - ECM 682135
Appendix B – Where have councils been spending - ECM 682136

SA Productivity Commission – Inquiry into Local Government

**LGA Submission to
Methodology Paper
(Part 1 - Technical Aspects)**

Contents

1. About the LGA.....	2
2. Local government reform	2
3. Technical aspects of cost and efficiency measurement	2
Approach to comparative analysis.....	3
Groupings of councils.....	3
Data period	3
Service groupings for DEA	4
4. Analysing council costs	5
Definition of 'efficiency'	5
Clarification needed to Methodology Paper - Figure 1 General rates per rateable property	5
Local Government Price Index	5
Cost shifting	6
Cost drivers.....	7
Where have councils been spending?	10
5. Estimating local government efficiency.....	11
Local Government National Reports.....	12
Continuous Improvement Network	12
6. Understanding factors that influence efficiency of councils.....	13
Asset management and depreciation	13
7. Options for improved council performance	14
Appendix A -University Technology Sydney, Explanation of Data Envelopment Analysis (Drew) ..	14
Appendix B - Where have councils been spending?	14

1. About the LGA

The Local Government Association of South Australia (LGA) welcomes the South Australian Productivity Commission's (SAPC) inquiry into local government and appreciates the opportunity to provide this submission as a response to the technical aspects of the SAPC Methodology Paper.

The LGA is the voice of local government in South Australia, representing all 68 individual councils across the state and the Anangu Pitjantjatjara Yankunytjatjara.

The mission of the LGA is to provide leadership to councils for the benefit of the South Australian community. We achieve this by providing representation, quality service and leadership relevant to the needs of member councils.

The LGA is a strong advocate for policies that achieve better outcomes for councils and the communities they represent. Councils are a partner in government and part of the solution. Working together we can make our State an even better place to work, live and visit.

2. Local government reform

The local government sector is ready for change and is preparing to build on our history of driving our own reform agenda.

South Australian councils collectively manage a budget of \$2 billion and public assets worth more than \$23 billion¹. Only with a strong and healthy local government sector will South Australia have a strong economy and financially sustainable councils that are able to provide the high quality services expected by communities and future generations.

For a long time our sector has been raising concerns about the cost pressures placed on councils by the State Government and decisions of the State Parliament, and this inquiry provides an opportunity for these issues to be thoroughly examined.

It is encouraging to see the State Government taking an evidence-based approach to local government reform through this inquiry process.

The LGA and our member councils look forward to working with all members of state parliament to deliver sensible local government reforms that will benefit South Australian communities and drive downward pressure on council rates.

3. Technical aspects of cost and efficiency measurement

To assist this submission and our consultation with South Australian councils, the LGA commissioned independent expert advice from Associate Professor Joseph Drew (Drew), University Technology Sydney, regarding the technical terms in the paper.

Drew's explanation of Data Envelopment Analysis (DEA) will assist the SAPC to understand the methodology as it can be applied in the local government context. Drew also outlines extensions to the basic DEA model, limitations of the proposed methodology and how these can be mitigated.

This advice is attached in full at Appendix A.

¹ [Financial Indicators Report 2018](#)

Approach to comparative analysis

Essentially, the advice from Drew suggests that the limitations to the proposed methodology (using the DEA) will occur due to the relatively small number of councils and the differences between them.

Drew also highlights that the Commission's proposed work only replicates part of previous research that is already available². For additional value to be gained, additional analyses must be conducted.

The outcomes of this previous research found there was evidence to suggest that wide-spread amalgamations may result in *reductions* in efficiency levels, that shared services provision is not always associated with higher levels of efficiency and that the introduction of rate-capping may result in further constraints on local government efficiency.

Groupings of councils

Drew advises that the groups proposed by the Commission are too many, as the DEA model works best when there is more organisations in each group and that two categories of councils for input to the DEA is the maximum that should be used if robust results are desired through the DEA model. Based on this assumption, the most likely grouping would be metro and regional.

Generally the sector has used the remuneration tribunal groups which allows for like-for-like comparisons, however the LGA acknowledge the comments from UTS that this would further compromise the DEA modelling.

This view does not mean that the proposal of four categories is not too narrow when the trend of a broader range of indicators (customer satisfaction/financial) is added to any future benchmarking tool. It could be that consideration is given to a more precise group of councils, such as the remuneration tribunal's groupings.

Data period

The Commission's Methodology Paper proposes a ten-year timeframe to analyse costs and efficiency, as the period of reliable data that is available from the Local Government Grants Commission (LGGC).

However, it is the LGA's initial view that this period is too long to measure the current efficiency of South Australian councils given updates to the LGGC methodology and the significant turnaround that has occurred in the financial sustainability of councils as a result of the Local Government Financial Sustainability Program³, 2006 to 2017.

The most critical measure of local government financial performance is the annual operating result which measures the difference between day-to-day income and expenses for a financial year. The aggregate level of local government's annual operating deficit reduced steadily from 2001 (when expenses exceeded income by \$75 million) until 2007 (when the operating deficit was eliminated).

Subsequently, an approximate 'break-even' operating result was recorded for five years up until 2012-13. Since then, there has been a significant improvement in the financial performance of councils, culminating in an operating surplus of \$85 million in 2016-17. A total of 44 councils recorded an operating surplus in 2016-17 compared with only 16 councils in 2000-01.

In this context, using the last 5-6 years' worth of data may give a more realistic picture of councils' current efficiency.

² Drew, J 2018. Measuring Relative Technical Efficiency of South Australian Local Governments.

³ <https://www.lga.sa.gov.au/page.aspx?u=6582>

Service groupings for DEA

Estimating service-specific efficiency for categories of spending may provide insights that would add value to council decision making processes, however this will be largely dependent on the quality and consistency of the data available.

Considering the cost in producing service-specific efficiency estimates and weighing that against the potential value that these insights may add to council decision making processes, only major functional areas would warrant the investment of time and resources.

As outlined in the paper, in 2016-17 the four largest expense categories for South Australian Councils were transport, recreation, waste management and other environment (accounting for over 60 per cent of council expenditure) and therefore, these four service areas could be considered to be an appropriate indicator of council 'technical' efficiency.

'Technical' efficiency is an important element in defining efficiency but this should also be underpinned by the principles of meeting community needs or desires, achieving increased/enhanced community/social outcomes, sound asset management practices and long term financial sustainability.

4. Analysing council costs

Definition of 'efficiency'

Efficiency is a good guide to financial stewardship; however '*seek to ensure that council resources are used fairly, effectively and efficiently*' is just one of the 12 principles to be observed by a council prescribed in Section 8 of the *Local Government Act 1999*. A sole focus on lowering councils' costs may lead to poor outcomes for communities and erode other important principles such as equity, responsiveness, transparency and accountability. There is no suggestion within the Act that the principles to be observed are weighted differently in terms of importance, therefore it is necessary to take a holistic approach and consider improving community outcomes as equally important to greater technical efficiency.

One of the few empirical studies⁴ on the subject failed to find any significant support for the notion that greater technical efficiency has a material effect on financial sustainability.

The review noted that past performance, legacy debt and assets, shifts in demographics and cost-shifting by higher tiers of government were all likely to have a much larger effect on financial sustainability than would technical efficiency.

Clarification needed to Methodology Paper - Figure 1 General rates per rateable property

The graph included under section 2.1 of the Methodology Paper is based on General Rates per property. The General Rates component should be comprised of General Rates minus Mandatory Rebates. Councils are legislatively required to provide rebates of rates of between 75 and 100 per cent to a range of organisations including hospitals, schools, churches and community housing providers.

Local Government Price Index

Council rate increases have historically been compared to Consumer Price Index (CPI), however CPI measures changes in the price of a 'basket' of goods and services which account for a high proportion of expenditure in metropolitan households and may therefore not accurately reflect price movements faced by local government in South Australia.

To address this and try to provide an indicator which more accurately reflects price movements faced by local councils, the LGA engages the University of Adelaide's South Australian Centre for Economic Studies to develop the Local Government Price Index (LGPI).⁵

The LGPI has some limitations in that it is based heavily on capital city indexes and is not disaggregated on an urban/rural basis. The LGPI does not reflect other cost drivers to local government (outlined further below) such as cost shifting, fluctuations in the level of Commonwealth grants and funded programs, and one off unforeseen events.

Councils often refer to both CPI and LGPI when forecasting their long term financial plans however for the reasons outlined above, rates do not always increase in line with CPI or LGPI.

⁴ Drew, J., Kortt, M. and Dollery, B. (2015). Peas in a Pod: Are Efficient Municipalities Also Financially Sustainable?

⁵ <https://www.adelaide.edu.au/saces/economy/lgpi/>

Cost shifting

Cost shifting happens when councils have to fund an activity previously funded by state or federal governments, or are required to take responsibility for new functions or policies that should be funded by another sphere of government.

Local government is required under the *Local Government Act 1999* to use its resources fairly, effectively and efficiently and to ensure that its long term financial performance is sustainable. Cost shifting works against these requirements and is inconsistent with open, responsive and accountable government.

The growing burden of state government costs shifted to local government continues to put upward pressure on council rates. Cost shifting creates uncertainty for local government and makes planning and budgeting for delivery of facilities and services more difficult.

The following are examples of cost shifting that are impacting on local government in South Australia.

Solid Waste Levy

The Solid Waste Levy is a tax paid to the State Government by councils, industry and households on the waste that goes to landfill. The State Government's 40% increase on the Solid Waste Levy will cost South Australian councils and ratepayers an extra \$8.5 million in 2019/20⁶, bringing the total contribution by local government to approximately \$42.5 million next year. For metropolitan councils, the levy increase equates to a 0.5-1% increase in rates and many councils have no choice but to pass the cost of this State Government tax on to their ratepayers

The Levy was introduced in 2003/04 at \$5 per tonne. The latest increase to \$140 per tonne in the metro area equates to a 2700% increase in the levy since its introduction. This continues to be a significant cost impost to councils and their ratepayers.

Community Housing mandatory rebates

The previous State Government commenced the transfer of management of SA Housing Trust (SAHT) properties to Community Housing Providers (CHPs) to facilitate their upgrade and renewal. This transfer makes properties eligible for a mandatory 75% rebate on council rates, whereas the State Government previously paid full rates on these properties.

The State Government transferred 4,000 public housing properties to CHPs in September 2017. This followed the transfer of 1,100 properties in 2015.

The revenue loss across the 17 councils impacted is approximately \$4.4 million for every 5,000 properties that are transferred through a long-term lease to CHPs.

The transfer of an expected 12,000 properties would increase the rating burden on impacted local communities by approximately \$10.7m per annum.

If all Housing SA properties were to be transferred to the community housing sector, the impact on local government would be \$30.6m per annum.

In 2014-15, a project was undertaken to examine the depth of the financial imposition of the transfer by the State Government of public housing stock⁷.

⁶ <https://www.lga.sa.gov.au/BinTax>

⁷ [Social Investment - Local Government Led Community Housing](#)

Local government in South Australia supports the provision of affordable and sustainable public housing. However, the LGA continues to oppose costs for community housing being shifted to councils and their ratepayers through State Government policy decisions.

Public housing is a State Government responsibility. Applying the mandatory rebate to the transferred properties leads to an inequitable burden on other ratepayers in affected councils, often in lower socio economic communities that can least afford the additional impost.

NRM levy

Councils are currently required under State legislation to collect the NRM Levy on behalf of the State Government. The levy appears as a separate line on council rates notice and some ratepayers mistake this for council revenue.

In 2016/17, the State Government collected more than \$44 million for NRM Levy through council rates. This was a 25 per cent increase on the previous year.

There are hidden administrative costs to councils in collecting the Levy on behalf of the State Government, particularly in relation to non-payment and rebates. A survey of councils in 2015/16 indicated there was more than \$690,000 in unpaid NRM levies across the local government sector in South Australia. That's state tax that is owed to councils – and ratepayers bear the impact of this missing revenue.

Councils believe that the full costs of collecting the Levy are not recovered through the payments received from the State Government to provide this service. This cost shifting has been imposed since 2004 and it has now become untenable for councils to continue to act as the NRM Levy collection agent.

Cost drivers

The following are examples of cost drivers for local government in South Australia.

China Sword (impact of Australia's ongoing waste and recycling crisis)

An LGA-commissioned market analysis report⁸ has identified that the impact of China's National Sword policy on SA's recycling sector could be as high as \$8.8 million per year, with the likelihood that most of these increased costs will be passed on to SA councils and their ratepayers.

This figure is based on a \$63 per tonne increase in the cost of processing recycled materials, with South Australian councils collecting 140,000 tonnes of kerbside comingled recyclables each year.

Wages Growth

The McArthur National Remuneration Survey collates reported data from over 200 Councils across Australia on four broad levels of remuneration packages (Level 1 – CEOs and General Managers, Level 2 – Directors and Group Managers, Level 3 – Managers and Level 4 – Team Leaders/Supervisors).

The 2017-18 data showed that SA ranks as one of the lowest with regard to average remuneration:

- SA had the lowest average remuneration level for CEOs and General Managers of any mainland State;
- SA had the lowest average remuneration level for Directors/Group Managers of any mainland State or Territory;

⁸ <https://www.lga.sa.gov.au/page.aspx?u=6737&c=80243>

- SA had the lowest average remuneration level for Managers of any mainland State; and
- SA had the lowest total average remuneration across all four levels of any mainland State.

Cost recovery – fees and charges

The LGA and the South Australian Financial Management Group (FMG) has raised concerns for some years regarding fees and charges that are fixed by State Government Statute. Many of these fees and charges have not been reviewed for many years and there has been concern that the lack of review is leaving councils with a burden of legislated work without being able to charge adequate fees and charges to cover costs.

South Australian councils receive the lowest total revenue per capita of all mainland states (refer *Figure 1* on Page 12), and this is in part attributed to the significant gap between the fees and charges that can be raised by interstate councils for undertaking regulatory functions such as planning and building assessments and food safety inspections.

During 2013-14, a project was undertaken to explore issues relating to cost recovery and to determine an agreed set of principles and methodology for determining appropriate fees that would allow for cost recovery of statutory duties undertaken by councils⁹.

The LGA continues to advocate, as part of our Local Government Reform agenda, for a comprehensive review of local government fees and charges regulated by the State Government to establish modern price setting principles which promote efficiency, flexibility and fairness in service delivery.

Development Bonds - Damage to Council Infrastructure

Section 245A of the Local Government Act 1999 (the Act) enables a Council to require a developer to enter into an agreement to cover the cost of potential damage to Council infrastructure. This agreement may take the form of a bond or an indemnity (which would be called upon only if damage occurred during development works).

There have been numerous approaches made to the State Government over time requesting that Regulations are made to give effect to section 245A.

In 2011 the LGA Secretariat surveyed Councils to get an understanding of the cost to Councils for repairing damaged infrastructure. Eleven metropolitan Councils responded to the survey and in 2009/2010 the repair costs varied from \$3,683 to \$594,612 and in 2010/2011 repair costs varied from \$1,457 to \$776,777. These costs only reflect the infrastructure repairs and do not include other costs such as staff administration or recoveries.

Financial Assistance Grants (FAGs) indexation freeze

Commonwealth 'Financial Assistance Grants' (FAGs) for South Australian councils are estimated at \$165.4 million in 2019-20. The underlying allocation of \$165.4 million compares with an underlying allocation of \$160.2 million in 2018-19. The increase would have been marginally higher but for an ongoing reduction in South Australia's population share relative to other jurisdictions.

The Federal Government's decision to freeze indexation on FAGs in its 2014/15 budget had a significant impact on South Australian councils, with regional communities – where the grants make up a higher proportion of councils' total revenue – the hardest hit.

The indexation freeze cost SA councils \$36 million over the three years it was in place, and wiped 13% off the total value of the fund¹⁰.

⁹ [Methodologies of Cost Recovery for Local Government](#)

Supplementary Road Funding Program

FAGs comprises of two components: general purpose assistance grants and local roads grants. Both components are untied and can be spent according to each council's own priorities. The general purpose assistance component (\$122.2 million for South Australia in 2019-20) is distributed to states in the first instance on a per capita basis. The local roads grants component (\$43.0 million for South Australia in 2019-20) is distributed to states on a historical basis whereby South Australia receives only 5.5 per cent of the national pool of funds (a basis which successive Commonwealth Governments have acknowledged is unfair for South Australian councils).

Supplementary Road Funding was originally introduced in 2004-05 to rectify South Australia's unfair share of the local roads component (South Australia has 11% of Australia's local roads, and 7% of its population, but only receives 5.5% of the Identified Local Roads component of FAGs).

Since 2003, successive Federal Governments have allocated supplementary road funding to South Australia as a temporary fix to the unfair funding formula. This supplementary funding was cut in the 2014–15 Federal Budget and was reinstated two years later in the 2017-18 Federal Budget at \$20 million per annum for two financial years (i.e. 2017-18 and 2018-19). The 2019-20 Budget papers include an extension of this Program, at \$20 million per annum, for a further two years (with the \$40 million of funding expected to be paid to councils in June 2019).

The financial impact of the loss of supplementary road funding was felt sharply by many councils, particularly regional councils with a large local road network to maintain but a very small rate base.

Public health and medical provision

Councils are the primary public health authorities in their communities, and under the *South Australian Public Health Act 2011*, are responsible for developing and implementing Regional Public Health Plans.

The State Government has previously partnered with the local government sector on public health to deliver the OPAL (Obesity Prevention and Active Lifestyle) Program, however State Government support for the program was withdrawn in June 2017. The Federal Government previously withdrew a \$7.2m contribution to the program in 2014.

Many regional councils are also increasingly concerned about the availability of adequate primary health and wellbeing services within their communities. Some councils in rural areas are taking on responsibilities in this area as a 'provider of last resort', which in turn increases cost pressures on ratepayers where local government is forced to address market failure and take on non-traditional service delivery roles. The consequence of council not stepping in as a provider of these services is that the community misses out, or people leave the town or region leading to the significant economic impacts of regional population decline.

¹⁰ <http://www.lga.sa.gov.au/page.aspx?c=75855>

Planning and Development

Councils are covering a large portion the cost of implementing the new e-planning system under the Planning, Development and Infrastructure Act 2016. The fees applicable to councils to support the cost of maintaining the SA Planning Portal are a significant impost for many councils. There are also costs and fees incurred by both professional staff and/or councils under the new accredited professional schemes.

Further, there is a significant shortfall in the development and compliance income councils receive from undertaking these functions. Our member councils tell us that their total income is only 29 percent of total costs and that development assessment income only covers 31 percent of their assessment costs.

Once off events

Each South Australian council and the community they serve is unique, as are the one-off events they experience, such as bush fires, storms, floods and drought. Our member councils may be able to provide specific data relating to the costs they incur from these events.

Increased compliance costs

The LGA is currently consulting with our member councils to gather data relating to the costs of complying with legislation and regulation on particular issues to councils and further detail will be included in the LGA's second submission.

Where have councils been spending?

Analysis of Local Government Grants Commission (LGGC) expenditure figures for the 10 years to 2015/16 (refer to **Appendix B** attached), shows that councils have increased their spending on the things which make local communities safe, comfortable and functional such as drinking fountains, street furniture, bike racks and bus shelters, on emergency service and fire prevention programs, on Elderly Citizens Facilities, the Home Assistance Scheme, Services for the Aged & Disabled and on providing parks and gardens.

Councils are required to consult the community on their annual business plans and budgets each year, and councils respond to the reasonable facilities and services requested by their ratepayers.

5. Estimating local government efficiency

Drew suggests that the most robust and useful comparison that can ever be made is between a council and itself over time. This would enable the DEA to be used as an indicator as to a council's efficiency, with trends measured over at least two years. It would also allow for other indicators to be used, such as customer satisfaction surveys and financial indicators (for example the LGA's financial indicators report to each LGA Annual General Meeting¹¹).

Customer satisfaction surveys are essential when considering efficiency. It is not efficient to provide a service that is the cheapest if community expectations are not met.

The current methodology places some emphasis on assessing efficiency via the lens of 'value for money' however there are some services/infrastructure that councils provide which it may be hard to justify are 'value for money', council's provide them essentially as a community service (ie. local government does it because the federal or state government has ceased funding a service, there is a high degree of risk of a market failure, there are thin markets discouraging private sector involvement, or because it meets a community need/desire).

Technical efficiency is an important element in defining efficiency but this should also be underpinned by the principles of meeting community needs or desires (which may include a request for increased service levels), achievement against strategic management plans, achieving increased/enhanced community/social outcomes and sound asset management practices (where higher quality costs may be deemed to be relatively less technically efficient but are optimising asset lifecycle costs or performance).

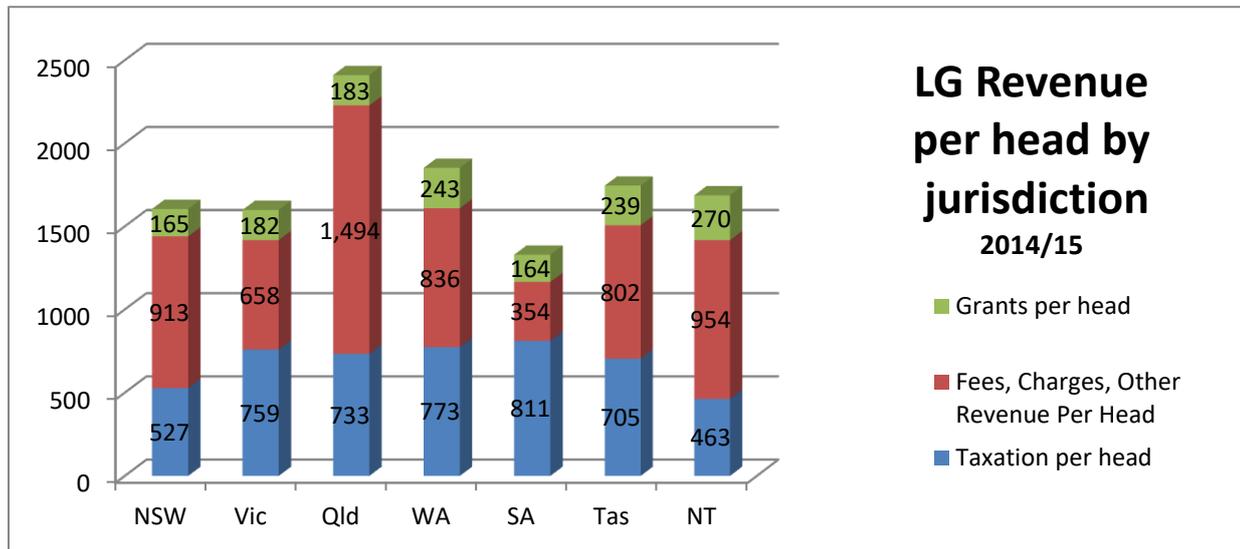
A true estimation of local government efficiency should consider additional indicators at an individual council level (alongside a DEA), such as the existing Financial Indicators, community satisfaction survey results and an assessment of achievements against Annual Business Plans.

¹¹ [Financial Indicators Report 2018](#)

Local Government National Reports

Analysis of the 2014-15 Local Government National report¹² (latest available), showed that South Australia continued to have by far the lowest per capital grant revenue and the lowest per capita revenue from sources other than 'taxation' (i.e. rates).

Figure 1: Local Government Revenue per head by jurisdiction



Continuous Improvement Network

In terms of the experiences of councils in measuring and monitoring efficiency, the Commission's attention is drawn to the LG Professionals, SA Continuous Improvement Network (CI Network) which aims to provide focus and a forum for discussion, debate, information sharing and collaborative activities for SA Local Government professional practitioners, in order to progress the role and influence of local government in achieving a culture of change, innovation and implementation of process and operational improvements.

Additional information about the CI Network, including resources and case studies, are available here: <https://www.lgprofessionalssa.org.au/Continuous-Improvement-Network>

¹² <https://www.regional.gov.au/local/publications/reports/index.aspx>

6. Understanding factors that influence efficiency of councils

There are a number of factors that can influence the efficiency of councils including fluctuations in the price of goods and services (which may differ between urban, rural and remote areas), cost shifting, regulatory intervention, shifts in demographics and citizen demand.

Asset management and depreciation

South Australian councils collectively manage public assets worth more than \$23 billion¹³.

While the state and federal governments also invest in public infrastructure, the ongoing management of infrastructure remains a significant challenge for local government. Relative to annual income, SA's local government sector is significantly more asset intensive (ie value of assets/income) than the state government and federal governments. This makes asset management a critical responsibility for councils and one which requires fair and equitable access to funding.

Australia is moving into a major asset renewal phase over the next 20 years and community expectations of quality services and upgrades continue to grow. This is putting the level of investment required to renew and replace today's infrastructure beyond the capacity of councils and their rate payers.

Shifts in demographics can result in community demands for better and additional local government facilities and services continue to grow. Councils must ensure that assets are built, maintained, renewed and replaced in a manner that meets the service needs of their communities.

In 2017-18 the reported depreciation¹⁴ of assets equated to over \$500m, this amounts to over 22% of total operating expenses¹⁵. This serves to demonstrate the critical contribution that effective management of council assets makes to financial sustainability and efficiency.

Councils have worked hard over recent years to improve both their asset management practices and data collection/consistency. An information paper on depreciation¹⁶ has been developed through the LGA Financial Sustainability Program and this paper could be further developed to assist in dealing with depreciation in a more consistent manner across the sector.

¹³ South Australian Local Government Grants Commission 2017-18 – Report 5 – Total Assets

¹⁴ South Australian Local Government Grants Commission 2017-18 – Report 4 – Depreciation/Amortisation/Impairment of Assets

¹⁵ South Australian Local Government Grants Commission 2017-18 – Report 3

¹⁶ LGA Financial Sustainability Program – www.lga.sa.gov.au/FSP - Information Paper 17 - Depreciation and Related Issues

7. Options for improved council performance

The local government sector is working consistently to achieve greater efficiency, transparency and accountability.

The LGA has previously outlined a plan for sensible change¹⁷ which includes:

- sector wide benchmarking program
- strengthening the Council Members Code of Conduct
- best practice audit committees
- standardising external audits
- introduce a revenue policy
- diversifying local government revenue
- best practice service reviews
- supporting new boundary reform processes
- industry-wide industrial relations framework
- review representation reviews
- local government elections reform.

Appendix A - University Technology Sydney, Explanation of Data Envelopment Analysis (Drew)

Appendix B - Where have councils been spending?

¹⁷ <https://www.lga.sa.gov.au/localgovernmentreform>

Response to Productivity Commission South Australia Proposed Methodology for Measuring the Efficiency of Local Governments Using Data Envelopment Analysis

Data envelopment analysis is a sophisticated and robust tool for measuring relative technical efficiency. It has a strong scholarly pedigree and has been used many times for decision-making in Australian local government. However, the work proposed by the South Australian Productivity Commission, as detailed in their report, has some important limitations that should be addressed. Not least, among the limitations, is that the proposed work really only replicates part of the work already done in the South Australian context by Drew (2018) under a grant from the Local Government Research and Development Fund. To get any new value from the proposed exercise, changes will need to be made to the current plan.

An Explanation of Data Envelopment Analysis

Data Envelopment Analysis (DEA) is a mathematical way of estimating relative technical efficiency. In economics, it is important to be very precise with one's language because particular terms have very specific meanings. Relative technical efficiency is a measure of the relative success of a decision-making unit (DMU – in our case the local governments in South Australia) in producing a given set of outputs for the least amount of inputs. It is relative because comparisons can only be made between councils which have been analysed in a particular DEA (that is, if one ran say two DEAs, with either different councils or different years of data, then it would not be correct to make comparisons between the efficiency scores generated by each DEA). Inputs are the things that go into the production process (staff and money (operational expenditure to be precise)), and outputs are what is produced (roads, parks, development applications etc.).

DEA is a very common technique in the scholarly literature (see the reference list at the end of this report) and it has also been applied previously in relation to local government in the context of Victoria (ESC 2017), NSW (various studies by Drew (2014-16) for groups of councils during the amalgamation program), and South Australia¹. It is by no means a new technique – it was developed in 1978 by Rhodes and is based on the work of Farrell (1957). There is little doubt that DEA is the best empirical technique for estimating relative technical efficiency.

DEA is essentially an extension of simple output-input ratios (for example, one output divided by one input) that many jurisdictions already use (such as operational expenditure per household (Victoria), or operational expenditure per person (NSW)). These simple ratios (or partial efficiency measures) are easy for people to understand (hence their popularity), but they do have a number of inherent problems. For instance, operational expenditure per household implausibly assumes the following:

- That all types of households (urban and rural) receive the same services
- That councils do not provide services to business (or that the number of businesses are related to the number of households)
- That the length of roads (the single largest expenditure for local government) is closely linked to the number of assessments (the opposite is actually true).

DEA extends these partial measures by allowing for multiple inputs and outputs. This allows us to better approximate the actual production process for local government. For instance, the one input of operational expenditure can be expanded to include both staff and operational expenditure (which is important because different mixes of staff and money are likely to have a big effect on technical efficiency – for example, when services such as waste are outsourced). The capacity to deal with multiple outputs is even more important – instead of just

¹ Drew, 2018.

having households, in DEA we can expand the number of outputs to include the different types of rateable properties, which attract different services (households, farms, and businesses). Moreover, with an expanded capacity we can also include big expenditure items, such as roads (which as we will see later should be disaggregated into sealed and unsealed roads).

Unfortunately though, whilst DEA is able to accommodate considerably more inputs and outputs (than ratio analysis) there is a limit to how many can be included (referred to as Nunamaker’s rule – see Glossary). Because we cannot include every single thing that councils produce (we probably couldn’t measure everything anyhow), we use proxies. Proxies are data that represent one or more other ‘real’ pieces of data. For instance, we have so far discussed using the number of households as a proxy for services provided to residents, and would use length of council roads² to proxy actual maintenance on council roads. Proxies clearly aren’t perfect, but are nevertheless invariably used in economics for pragmatic reasons.

The inputs and outputs that we ultimately use in a DEA are referred to as the model specification. One way of deciding on a suitable model specification is to look at precedent from the literature (this is what the Productivity Commission largely does). However, this can be problematic when different jurisdictions are referred to (as they might have different production functions or different data availability). Another, and better way, is to consider actual practice: To think about the main inputs and outputs actually used. The best specification for South Australia is³:

Inputs = Staff Expenditure + Other Expenditure

Outputs = No. Businesses + No. Households + No. Farms + Length of sealed roads (km) + Length of unsealed roads (km)

Note: Because different road surfaces are associated with different costs and types of councils, disaggregation is very important.

DEA uses a mathematical technique called linear programming (see Glossary) to find the best solution for the various output-input combinations, from a large number of feasible solutions. It doesn’t simply add all of the inputs together and all of the outputs together, but rather applies variable weights to each.

The best way to understand DEA is through use of a graph⁴.

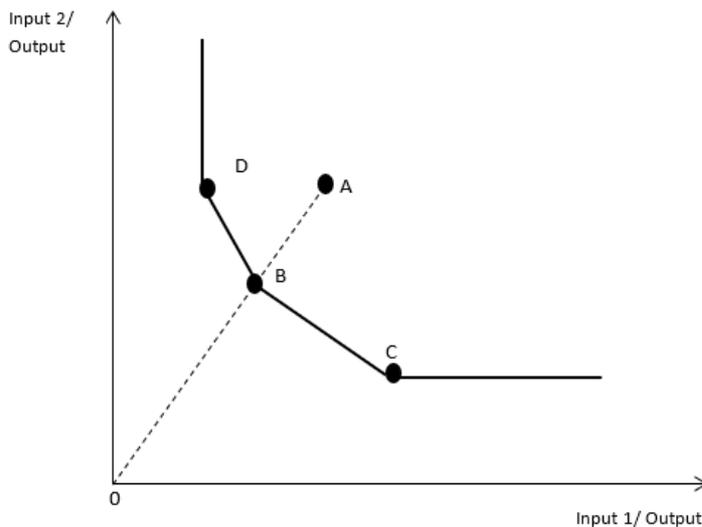
In Figure 1 we see a two-input, one-output graph of a DEA (simplified for understanding) in which there are just four councils (A-D). The two ratios for each of the councils would have been calculated by a computer and then plotted on the graph. Councils D, B and C have the best ratio of inputs to outputs and can be enveloped by the dark line. All of these councils are deemed to be perfectly technically efficient and are assigned a score of 1. These three councils are often referred to as the ‘efficient peers’ and the curve called the efficient frontier. Council A lies in the interior of the curve, because it is relatively inefficient. By measuring the distance from OA and comparing to the closest relevant peer (B, given by the line OB) we can work out precisely the relative technical efficiency of council A. This will be a number between 0 (perfectly inefficient) and 1 (perfectly efficient). All of this is automatically worked out by the computer (one linear program must be calculated for each DMU so the whole process takes some time and results in hundreds of thousands of calculations). All the end-user needs to know is the technical efficiency score – which lies between 0 and 1. Often these scores are multiplied by 100 so that they can be thought of in terms of percentage efficiency (for example, 0.87 is 87% efficient relative to the peer council, which in an input orientation means they should be able to produce the same level of outputs with roughly 13% less inputs (staff or capital).

² One of the great benefits of DEA is that (unlike other techniques) financial (\$) and non-financial (for example, kilometres of roads) data can both be used in the calculations.

³ Drew, 2018.

⁴ For mathematical formula and derivations see Cooper et al., 2007.

Figure 1. Input-Orientated DEA



Extensions of the basic model

- What has been described so far is the basic model (to be precise a constant returns to scale (CRS); means we don't do anything to control for council size) input-orientated (means we are trying to work out how much inputs could be reduced by) cross-section (means just one year) DEA. To this basic model can be added a large number of bells and whistles. The most important ones are:
- Variable Returns to Scale (VRS). An additional equation is inserted into the linear program to ensure that councils are only benchmarked against councils of a similar size. This is often a critical thing to do when comparing councils.
- Super-Efficiency. An additional constraint is introduced to prevent councils on the efficient frontier from being benchmarked to themselves. Allows exceptionally well performing councils to receive a score above 1 and is important, for technical reasons, if a second stage regression is later conducted.
- Second stage regressions (to identify what contributes to efficiency or to adjust efficiency scores for the operating environment). Without doing this the exercise sheds little light on the determinants of efficiency. Because of an implied lower bound (efficiency scores cannot be less than 0), it is often argued that Tobit regression should be used.
- Bootstrapping. This is a probabilistic re-sampling process that is usually done for all the wrong reasons. It is only applicable when one has a mere sample of councils. For a DEA of all SA councils bootstrapping would introduce avoidable bias into the results.
- Log DEA. Is considered to be helpful when there are relatively few councils, or when there are outliers (very unusual data) present.
- Stratification. When there are very different types of councils in evidence then it *may* be useful to stratify (separate into different groups for analysis). However, one needs to be mindful to retain enough councils to yield robust results (too few councils destroys the discriminatory power of DEA). Moreover, if second stage regression is used then stratification largely becomes redundant (a categorical variable can be employed for strata).

- Intertemporal DEA. This allows one to make comparisons over time. The most robust and useful comparison that can ever be made is between a council and itself over time. Therefore, to yield useful information for decision-making purposes, local intertemporal DEA (with a window of two years) is indicated.

Limitations of proposed methodology

Most limitations can be mitigated through careful design. Below is a list of major limitations and a brief account of how to deal with them:

- Differences in quality between local governments. This issue needs to be addressed by either employing data from a state-wide citizen satisfaction survey, or by relying instead on a comparison of councils against themselves over time (local intertemporal DEA).
- Use of proxies. Proxies are far from perfect (but are required for technical reasons), and require the need for second stage regression.
- Sensitivity to outliers. A well-known problem that can be mitigated through techniques such as log DEA.
- Small numbers of councils. When small numbers of DMUs are used, relatively more councils end up on the efficiency frontier and the discriminatory power of DEA is wasted. In addition, unrealistic weights often result. Two categories of councils is the maximum that could be used if robust results are desired.
- The SAPC proposed work only replicates part of what is already available⁵. For additional value to be gained, additional analyses must be conducted. In addition, there is a strong case for local intertemporal DEA to be conducted and reported to councils on an annual basis for use in decision-making.

Glossary

Efficiency: There are three main types of efficiency recognised by economists. Technical, or X-efficiency, refers to the best use of inputs to produce a set of outputs. Technical efficiency is constrained by the operating environment of a council, including its ability to dispose of inputs.

Allocative efficiency relates to the appropriate selection of inputs such that wants can be satisfied. Allocative efficiency is largely dealt with in the political process.

Dynamic efficiency refers to the improvement of technical efficiency over time as a result of technology, training and diffusion of best practice. Currently the SA Productivity Commission only proposes to analyse relative technical efficiency.

Nunamaker's Rule: A well-known constraint on DEA which prescribes that the sum of inputs and outputs can be no greater than a third of the number of councils (if the seven proposed inputs and outputs are used then categories of councils can be no smaller than 21).

Proxies: Used in place of actual data due to problems measuring variables or technical limitations (such as Nunamaker's rule). Nearly all economic empirical work makes use of proxies (as do a lot of theories) because the real world is too complex to measure and model.

Linear programming: A mathematical technique used when there are constraints placed on the value that certain variables may take in a given function (algebraic equation). Essentially, the constraints map an area on a graph that

⁵ Drew, 2018.

contains many feasible solutions. The best solutions (minimum values that satisfy the function) in an open region are usually to be found in the corners of the mapped area (if they exist at all).

Quality: Different councils produce different quality of goods and services. For example, a reinforced concrete road is generally considered superior to an unsealed road. Sometimes quality can be controlled for (for instance by disaggregating roads into sealed and unsealed surfaces like we suggest). Other times this is very difficult, which presents problems because generally higher quality costs more (so in the absence of controls higher quality services may be deemed to be relatively less technically efficient). In states such as Victoria where there is a long dataset of citizen satisfaction data this should be used as a proxy to control for quality in second stage regressions. Where quality controls are not possible, then the most defensible thing is to measure efficiency of a council against itself over time (under the assumption that quality, for a given council, is pretty constant from year to year).

Outliers: These are unusual data points (the technical definition is values greater than the third quartile plus 1.5 times the inter-quartile range). Usually, values like this stand out from the crowd. It is likely that capital city and very remote councils will have outlier data. The typical solution employed by economists is to take the natural log of the data (which reduces the value of all data and hence decreases the relative disparity between data points).

Contact details

Professor Joseph Drew
Institute for Public Policy and Governance
Level 21, 15 Broadway, Ultimo NSW 2007

Tel: (02) 9514 7884
Mobile: 0416 489 475
Email: ippg@uts.edu.au

ippg.uts.edu.au

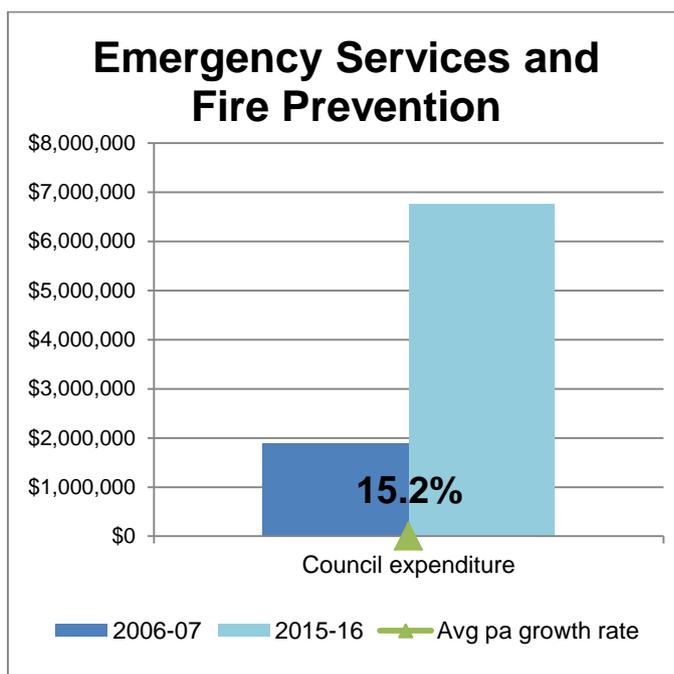
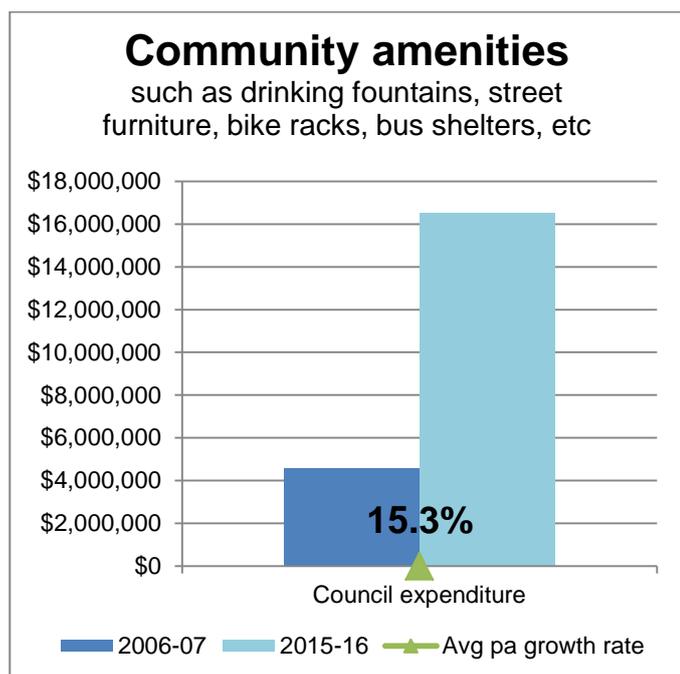
Where have Councils been spending in recent years?

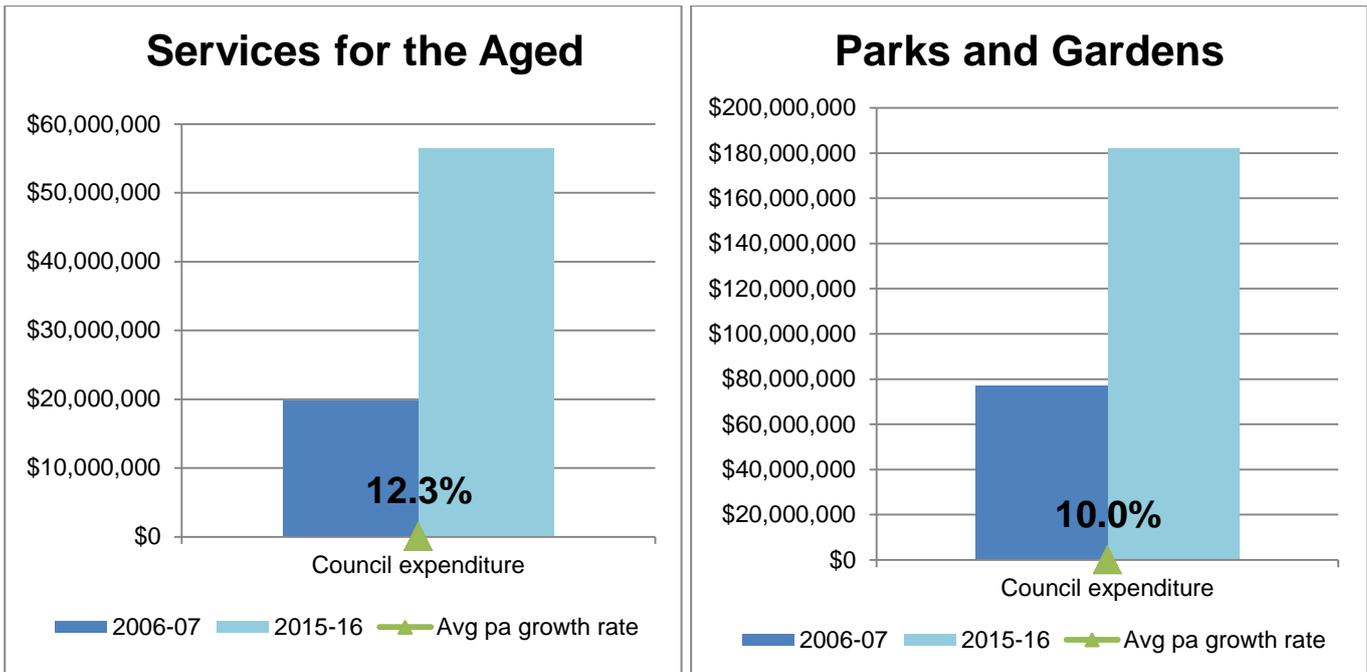
South Australian councils provide services, programs and facilities for the benefit and enjoyment of their communities. The types and level of services provided by each council are set in consultation with the local community each year and subject to ongoing review. All of these services and facilities rely on council rates, which are essential in enabling councils to deliver all of the services and facilities that communities rely upon.

Councils set their rates in response to various factors, not necessarily tied to CPI primarily because the price of goods and services is only one component of Council expenditure. Other factors accounting for council rate increases include:

- communities choosing more and better services;
- properly accounting for and maintaining important infrastructure;
- the impact of government cost shifting;
- limits on other revenue sources including user pays fees; and
- different issues in each council area such as repairing flood damaged roads or responding to other extreme events.

Analysis of Local Government Grants Commission (LGGC) expenditure figures for the 10 years to 2015/16, shows that councils have increased their spending on the things which make local communities safe, comfortable and functional such as drinking fountains, street furniture, bike racks and bus shelters, on emergency service and fire prevention programs, on Elderly Citizens Facilities, the Home Assistance Scheme, Services for the Aged & Disabled and on providing parks and gardens.





How do we know that this is where local communities want their money spent?

According to research undertaken by the Centre for Local Government at the University of Technology Sydney as part of their ‘Why Local Government Matters’ study when asked to think about the local area in which they lived:

- 36% of people surveyed believe the presence of recreational areas in their local area was extremely important, with a further 40% felt it to be very important
- 58% of respondents feel that having a safe environment is extremely important, with a further 34% felt it to be very important
- 27% of respondents feel the availability of good home care or aged care in their local area is extremely important, with a further 30% felt it to be very important
- 29% of people surveyed feel that the availability of appropriate public services in their local area was extremely important, with a further 40% felt it to be very important.

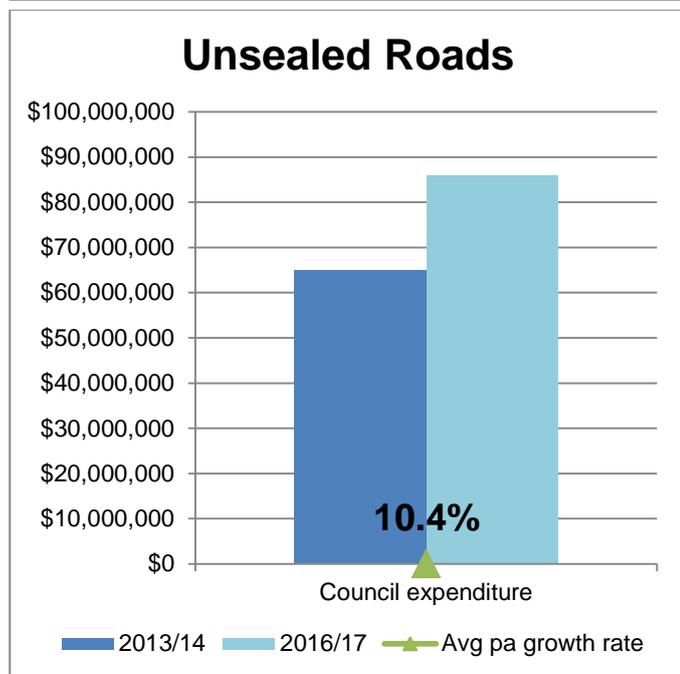
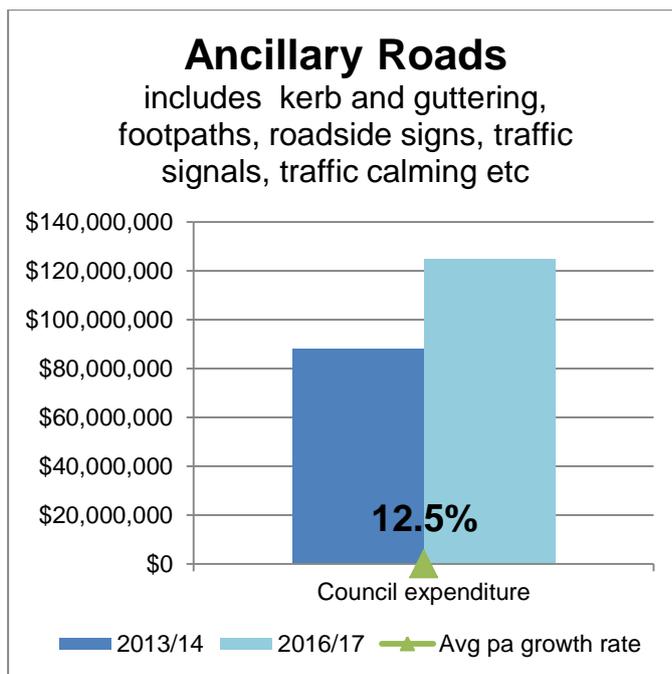
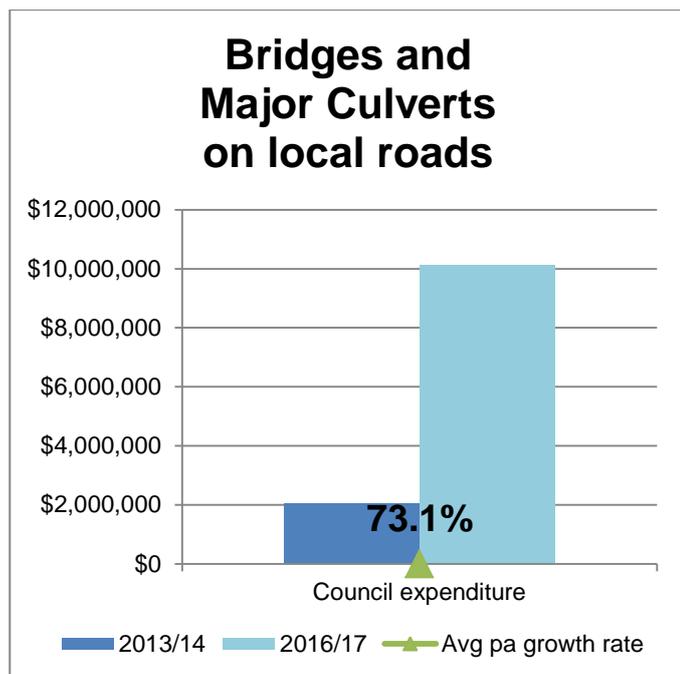
How satisfied are communities with the services they are getting from Local Government?

According to the same study:

- 57% of respondents are very satisfied with the existing recreational areas in their local area, with a further 30% are moderately satisfied
- 50% of respondents are very satisfied with the safety of their local area, with a further 35% are moderately satisfied
- 34% of respondents are very satisfied with the existing level of community support and cohesion in their local area, with a further 42% are moderately satisfied
- 78% of people surveyed either strongly or moderately agreed with the statement ‘The area in which I live has the qualities I value’
- 77% of people surveyed either strongly or moderately agreed with the statement ‘There is something about the landscape around me that makes me feel good’

The majority of respondents (80%) strongly agree that they want governments to deliver services that contribute to a healthier and fairer society and that is exactly where South Australian councils have been focussing their spending over recent years.

Over the four years to 2016/17, Councils have also increased their expenditure on bridges and getting water to flow away from roads, on kerb and guttering, footpaths, traffic signals and calming and on maintaining and renewing unsealed and sealed roads.



How do we know that this is where local communities want their money spent?

According to research undertaken by the Centre for Local Government at the University of Technology Sydney as part of their 'Why Local Government Matters' study when asked to think about the local area in which they lived:

- 33% of respondents feel the availability of good quality roads and bridges in their local area is extremely important, while a further 41% felt it to be very important.

How satisfied are communities with the services they are getting from Local Government?

According to the same study:

- 32% of respondents are very satisfied with the availability of good quality roads and bridges in their local area, and 39% are moderately satisfied.

Who do communities think should be making decisions about their local area?

According to the same study:

- 75% of people surveyed believed that Local Government was the level of government best able to make decisions about their local area.