# STAKEHOLDER SALIENCE AND INFRASTRUCTURE RENEWAL BACKLOG IN LOCAL GOVERNMENT: EVIDENCE FROM AUSTRALIA

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**ABSTRACT:** This study seeks to empirically explore whether there is a relationship between the severity of infrastructure renewal backlog and the salience of stakeholders at either the government level or the public level, according to the perceptions of mayors and chief executive officers of local government authorities. The findings add to stakeholder salience conceptualisation by proving that financial resources act as a critical impact on stakeholder salience and its influence on infrastructure renewal initiatives. Further, findings indicate that the backlog problem cannot be resolved only through a process of stakeholder groups influencing infrastructure decision-making at the local community level. Dependency on the influence of existing public stakeholders is a crucial issue for the infrastructure renewal backlog problem and the burden of the need to renew infrastructure may be transferred to future generations of ratepayers.

**KEY WORDS:** Infrastructure renewal backlog; local government authorities; public stakeholders; government stakeholders; stakeholder salience.

## 1. INTRODUCTION

One distinct and sizable area of public sector service delivery in Australia is the development, maintenance and preservation of infrastructure assets provided by local government authorities (LGAs), which are estimated to be worth more than $306 billion (ABS, 2011 cat no. 5512). Indeed, infrastructure comprises up to 90 per cent of Australian LGAs' total assets (Pilcher and Dean, 2009). In order to develop, maintain, renew and replace infrastructure assets, LGAs need to undertake projects requiring extensive budgets. These budgets are primarily funded, directly or indirectly, by

multiple stakeholders such as different tiers of government, local community ratepayers and infrastructure users. These stakeholder groups have explicit and implicit needs, interests, claims and demands relating to the infrastructure assets of their LGAs. In Australian LGAs, the elected leader, the mayor and the appointed leader, the chief executive officer (CEO), are ultimately accountable to these stakeholders for the plans, decisions and performance related to such projects, including the extent of the backlog of their LGA's infrastructure assets.

However, there is a backlog in relation to infrastructure renewal in the Australian local government context (Dollery *et al*., 2007a; Dollery *et al*., 2007b) due to escalating financial constraints (Dollery and Mounter, 2010; Jones and Walker, 2007). LGAs that experience operating cash flow deficits tend to defer capital works expenditure on renewals or upgrades of existing infrastructure (PWC, 2006; Jones and Walker, 2007), leading to the renewal backlog. Yet the routine maintenance of infrastructure is crucial to the quality of service delivery (Lee and Fisher, 2004). The Independent Inquiry into the Financial Sustainability of New South Wales Local Government (2006, p.13) highlights:

> *"overall under-spending on infrastructure renewal has been of the order of $400–600 million per annum … [it] would cost over $6.3 billion to restore these assets to a satisfactory condition … [and] a further $14.6 billion is needed to replace existing assets over the next 15 years."*

There have been many public inquiries that address the issue of infrastructure renewal backlog (FSRB, 2005; Access Economics, 2006; LGAQ, 2006; PWC, 2006; WALGA, 2006). Prior academic studies on the subject have discussed the causes of such backlog (Dollery and Mounter, 2010) and the relationship between financial distress and the maintenance of infrastructure in the local government context. Some have even suggested remedies for the infrastructure renewal backlog problem (Dollery *et al.*, 2007a; 2007b; Byrnes *et al*., 2008). However, to date, no research to the best of our knowledge has provided empirical evidence on the effects of stakeholder prioritisation on infrastructure backlog decision-making at the local government level in Australia. The focus of this study is to empirically investigate whether the severity of infrastructure renewal backlog is related to stakeholder salience as perceived by mayors and chief executive officers (CEOs) of LGAs. Thus, the research question of the study is: to what extent do the perceptions of Mayors and CEOs about stakeholder salience influence the perceived and actual infrastructure renewal backlog experienced by LGAs? The extent of the backlog is

considered here as a case of organisational performance and is measured both subjectively and objectively.

## 2. BACKGROUND OF THE STUDY

### *Infrastructure Renewal Backlog*

Infrastructure can comprise up to 90 per cent of the Australian LGA's total assets (Pilcher and Dean, 2009). The definition of infrastructure is somewhat ambiguous. For financial reporting purposes, infrastructure assets have been defined as "...all non-current assets comprising the public facilities that provide essential services and enhance the productive capacity of the economy, which include roads, bridges, railroads, water supply and sewerage system power generation and distribution networks" (DITRDLG, 2012, p. 324). Table 1 exhibits the dispersion of infrastructure for local government in different jurisdictions in 2009-10.

**Table 1.** Value of Local Government Land and Fixed Infrastructure by State ($ million).

| | **NSW** | **VIC** | **QLD** | **WA** | **SA** | **TAS** | **NT** | **Total** |
|---|---|---|---|---|---|---|---|---|
| Buildings | 8 788 | 6 506 | 4 787 | 2 677 | 2 023 | 736 | 379 | 25 896 |
| Local Roads and other fixed assets | 68 245 | 27 416 | 65 477 | 11 409 | 9 867 | 4 165 | 726 | 187 305 |
| Land | 42 288 | 25 285 | 11 307 | 2 628 | 5 651 | 828 | 404 | 88 331 |
| Total | 119 261 | 59 207 | 81 571 | 16 714 | 17 541 | 5 729 | 1 509 | 301 532 |

Source: ALGA (2012).

According to Dollery *et al.* (2007a), at least five distinct types of infrastructure expenditure can be identified. First, a new infrastructure asset is to be created to meet the additional service level requirement in an LGA. Second, the existing assets require routine operational maintenance to provide the expected service. Third, where current maintenance has been inadequate or insufficient, 'backlog maintenance' expenditure is required to reverse any unnecessary deterioration that has occurred as a consequence (Dollery *et al.*, 2007a, p. 6). Fourth, renewal or replacement expenditure is incurred to reinstate an asset to its original capacity or replace an asset at the exhaustion of its economic life (Dollery *et al.*, 2007a; DITRDLG, 2012). Finally, asset enhancement or upgrade expenditure

occurs when an existing asset is enhanced to provide services beyond its original intended service capacity. This indicates that the provision of public infrastructure is expensive with the initial cost of capital followed by a series of maintenance costs of the asset (Cannadi and Dollery, 2005). Supporting this clarification, The Institute of Public Works Australia (IPWEA, 2006) states that the total cost that certain assets can incur over their lifetime can be up to five times of the initial capital outlay.

Thus, funding for renewal of ageing infrastructure assets is a major cost pressure, which has led many LGAs to struggle to meet the expectations of their communities. Moreover, due to population shifting some LGAs are left with fewer ratepayers and skilled workers while some LGAs on the coast and the city fringes experience population growth and urgent requirements regarding the upgrade of infrastructure, which is not matched by timely revenue growth. Figure 1 shows that the Commonwealth government collects 81 per cent ($267 billion) of total tax revenue, whilst maintaining 10 per cent ($86 billion) of land and fixed assets. By contrast, local government controls 34 per cent ($306 billion) of land and fixed assets although the tax revenue is limited up to 3.5 per cent ($11.5 billion). The net result of financial distress has typically led to insufficient fun

ding in local infrastructure investment, maintenance and renewal as well as the development of local infrastructure backlogs of varying degrees of severity (Dollery and Mounter, 2010).

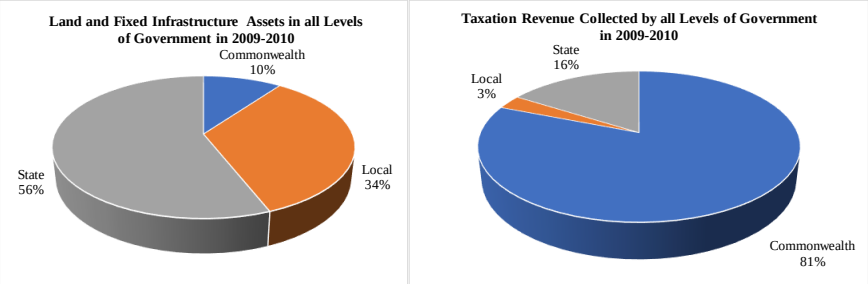


**Figure 1.** Comparison of Proportion of Revenue and Land and Fixed Infrastructure Assets in All Levels of Government in 2009-10. Source: Australian Bureau of Statistics (2012), Government Finance Statistics, cat. No. 5512.0.

Each LGA has a different combination of infrastructure and infrastructure financing pressures and there exists an association between the geographical area of an LGA and infrastructure responsibilities of that LGA (Roorda, 2006). For example, a very large rural LGA with a low

population density may have to maintain a large road network without adequate revenue and technical expertise. However, Dollery *et al.* (2007b) argue that the LGA size and location (urban/ rural) has a relatively minor impact on the infrastructure responsibilities and renewal/ replacement backlog of that LGA. They emphasise three tentative lessons that can be learnt from the current status of infrastructure in Australia. Firstly, despite the fact that infrastructure backlog affects all LGAs, the extent of the impact varies among Australian local government jurisdictions since the needs of the infrastructure and the capacity to meet these needs may differ significantly for each LGA. Second, the reporting and disclosure practices of infrastructure assets and asset management of many LGAs is at a low level with insufficient technical skills resulting in difficulties accurately measuring the infrastructure backlog. Finally, small rural LGAs are viewed as the most significantly affected by infrastructure backlog and require substantial financial and technical assistance to resolve the dilemma. In addition to the above three tentative lessons, Dollery *et al.* (2007b) further emphasise the fact that LGAs in Australian jurisdictions do not apply nationally uniform regulations and guidance, which results in less compatible and ambiguous performance of infrastructure.

The PricewaterhouseCoopers (PWC) report (2006) estimated that the national infrastructure backlog in renewal work is about $14.5 billion, with an annual underspend on asset renewals of $1.1 billion. This is creating a funding gap to clear the backlog and correct the underspend of about $2.16 billion a year. Australians have become used to a high standard of infrastructure and expect the same standards to be continued. The routine maintenance of infrastructure is crucial to the quality of service delivery (Lee and Fisher, 2004). The backlog of local government renewals appears to have developed mostly in areas of community infrastructure, such as community centres, swimming pools, libraries, galleries, museums, sports fields etc. However, the backlog of renewals in local network infrastructure expenditure, such as local roads, sewerage and water services, are not so common since a significant amount of the expenditure is funded either from user charges or grants from higher tiers of government (Dollery and Mounter, 2010).

According to the DLGNSW (2013), the traditional focus on infrastructure assets was the provision of new assets such as roads, water and sewerage networks, airports etc. However, they admit:

> "*……it is becoming more and more apparent, that it is no longer sustainable to focus on meeting infrastructure needs through investment in the creation of new assets alone, without recognising the long-term lifecycle costs associated with the ongoing operation, maintenance and renewal of existing assets. Many councils are struggling to keep up with the renewal of their assets to a level that is satisfactory to their community.*"

Accordingly, the current study considers the infrastructure backlog created due to deferring and underspending on renewal and upgrading of existing infrastructure but not the backlog created due to lack of capital expenditure on new infrastructure.

> "*Renewal of infrastructure means restores, rehabilitates, replaces existing asset to its original capacity. Upgrade of infrastructure means enhancing the existing asset to provide higher levels of service. The new infrastructure means creation of a new asset to meet additional service level requirements*" (Indigo Shire Council 2012, pp. 119-120).

***Stakeholders***

In the case of LGAs, there are multiple stakeholders who can affect or can be affected by various decisions taken by mayors and CEOs. In this study, it is posited that mayors and CEOs will broadly perceive these multiple stakeholders at two levels—those at the level of the local public or community and those at the oversight or regulatory level of government and its agencies (Lapsley, 1992; Taylor and Rosair, 2000; Boyne *et al*., 2002). Local-level 'public stakeholders' will be the actual end-users or service recipients (or their representatives) of local infrastructure assets and the current study addresses four different public stakeholders, namely: ratepayers; users of infrastructure assets; special interest groups; and local media. In contrast, 'government stakeholders' are the State (or Federal) government ministries and agencies that can affect local governments through their policy-making, oversight, monitoring and funding powers. The government stakeholders who are identified by the current study are: the State government department responsible for LGAs; State Auditor General; and Infrastructure Australia, an independent statutory body who assists Australian Governments to modernise the economic infrastructure of the nation while identifying infrastructure backlogs.

## 3. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Mitchell *et al.* (1997) suggest that a normative theory of stakeholder identification is needed which can separate stakeholders from non-stakeholders reliably and logically. To this end, they propose a theory of stakeholder salience that explains to whom managers need to really pay attention or the degree to which managers give priority to a variety of competing stakeholder claims (Agle *et al*., 1999). Mitchell *et al*. (1997, p. 855) do not argue that managers should pay attention to this or that class of stakeholders. Thus, they propose that managers are central to the theory since they are a unique group in an organisation due to their position, which allows them to enter contractual relationships with their organisation's stakeholders. If a manager perceives a stakeholder group to be more salient, that stakeholder group will be given higher priority by the manager when making decisions in an area of activity that is relevant to that group. Due to the central role of managers, the perceptions of the elected manager (the mayor) and the appointed manager (the CEO) are the focus of this paper.

### *Stakeholder Salience*

Stakeholder salience is defined as the degree to which managers give priority to competing stakeholder claims (Mitchell *et al*., 1997). Considering stakeholder salience from an institutional perspective, it can be ascertained that there is an interplay between institutional logics, resources and social actors, resulting in materially different practices and actions (Misangyi *et al*., 2008). Managerial values influence managerial perceptions and managerial values are in turn impacted by beliefs, attitudes and institutional contexts with reference to stakeholders (Agle *et al*., 1999).

Stakeholder salience is based on these attributes: power, legitimacy and urgency (Mitchell *et al.*, 2011). It is positively related to these cumulative stakeholder attributes as perceived by managers (Mitchell *et al*., 1997). This relationship results in the identification of stakeholders as latent, expectant and definitive stakeholders (Mitchell *et al.*, 1997). Stakeholder power exists when one social actor gets another social actor to do something which the second social actor would not have otherwise done (Pfeffer, 1981). Legitimacy is a generalised perception that the actions of an entity are appropriate or desirable within socially constructed norms, values and beliefs (Suchman, 1995). Urgency relates to temporality or time

sensitivity (the degree to which managerial delay in attending to a claim is unacceptable to a stakeholder) and criticality or importance to the stakeholder (Mitchell *et al*., 1997).

Based on prior literature and the conceptualisation of the theory of stakeholder salience (Agle *et al*., 1999; Boesso and Kumar, 2009b; Mishra and Suar, 2010; Myllykangas *et al*.,2010), the current study considers infrastructure backlog as a representation of organisational performance in the local government context. Accordingly, the following hypothesis is developed.

*Hypothesis*: The salience of 'public stakeholders' and 'government stakeholders' as perceived by mayors and CEOs of LGAs is related to the extent of the impact of infrastructure backlog experienced by the stakeholders, relevant to LGAs.

## 4. RESEARCH METHOD

### *Sample and Data*

A mail survey was distributed in 2011 to 420 LGAs across all jurisdictions in Australia. The survey was sent to two targeted respondents associated with the LGAs: the mayor and the CEO. In the current study, out of the total population of 565 LGAs, 145 potential respondents were considered invalid due to the following reasons:

(1) Initially, 66 LGAs in the jurisdictions of Western Australia and Queensland were in the process of amalgamation and boundary restructuring;

(2) Forty-eight LGAs with the Australian Council of Local Government (ACLG) classification of rural-remote extra small, rural remote small and rural remote medium were not included in the data. It was empirically evident that these LGAs suffered from asset management and reporting deficiencies (Dollery *et al*., 2007a). Moreover, they lacked the requisite of qualified staff and technical skills;

(3) Finally, 31 LGAs were removed since there was no proper ACLG classification of these LGAs.

Consequently, 420 LGAs were selected for the study. This is 75 per cent of the total LGAs in Australia (420/565*100). Since two units of analysis, the mayor and CEO are targeted in every selected LGA, the final sample size is 840 (i.e. 420*2). The overall response rate was 26.3 per cent. This response rate is close to that obtained in two other comprehensive mail

surveys of Australian LGAs: the survey conducted by Kloot and Martin (2001), which had a 29.3 per cent response rate; and the survey carried out by Carnegie *et al*. (2011), which had a 28.8 per cent response rate. Out of the total number of responses, 31.7 per cent were completed by mayors and 68.3 per cent were completed by CEOs. The non-response bias is assessed using late responses as a proxy for non-responses (Roberts, 1999). No significant differences were found between the early and late responses, which suggested that there were no significant differences between the respondents and non-respondents.

### *Measures of Variables*

#### *Dependent Variable*

The dependent variable, infrastructure backlog, is assessed according to the perceptions of the mayors and CEOs regarding the financial difficulties faced by their LGA when seeking to upgrade or renew existing infrastructure assets. There are three items on infrastructure backlog in the questionnaire and the respondents were asked to either agree or disagree with each of these statements by circling a response on the six-point Likert scale (1 - strongly disagree, 2 - disagree, 3 - slightly disagree, 4 - slightly agree, 5 - agree, 6 - strongly agree).

In addition to the collection of data from the mail questionnaire, this study collected secondary data to gather information pertaining to infrastructure backlogs experienced by LGAs. One way to determine whether an LGA is affected by an infrastructure backlog is to evaluate the asset renewal/replacement ratio. "The net acquisition of non-financial assets for renewal/replacement purposes is the analytical balance appropriate regarding the annual financial performance of councils on the renewal or replacement of existing assets" (PWC, 2006: 110). This is measured by dividing the renewal and upgrade expenditure on non-financial assets by the relevant depreciation amount (VAG, 2009). A resulting ratio of 1:1 indicates that spending on existing assets is greater than the depreciation expense—that is, no infrastructure backlog is evident for that period.

However, among all the jurisdictions, there is no consistent method to calculate and present the infrastructure renewal/replacement ratio at the local government level. This issue has been addressed by Pilcher (2005), who examined the flawed financial figures on performance in LGAs in the state of New South Wales (NSW). However, Western Australia (WA),

Tasmania (TAS) and the Northern Territory (NT) neither specifically calculate this ratio nor provide data on asset renewals or replacements. With the information provided by these three jurisdictions, only the capital expenditure ratio could be calculated. The capital expenditure ratio compares the rate of spending on infrastructure with its depreciation. Since the current study considers only the renewal/replacement backlog and not the backlog created due to a lack of capital expenditure on new infrastructure assets, those three jurisdictions were removed from the secondary data collection stage.

Relevant data were collected from 2011–12 online annual reports obtained from the websites of the respective LGAs in the jurisdictions of NSW, Victoria (VIC), Queensland (QLD) and South Australia (SA). Using this secondary data, the ratios are calculated only for the LGAs who responded to the survey questionnaire, in these four states, which totals 153. The ratios shown in Table 2 are used to calculate the infrastructure backlog ratio.

**Table 2.** Title and Method of Calculation of Renewal/Replacement Ratio.

| State | Title of the renewal/replacement ratio | Method of calculation |
|---|---|---|
| NSW | Infrastructure Renewal Ratio | Asset renewals/depreciation, amortisation and impairment |
| VIC | Infrastructure Renewal Ratio | Current spending on renewal of assets/depreciation, amortisation and impairment |
| QLD | Asset Sustainability Ratio | Capital expenditure on renewal and replacement of existing assets /depreciation |
| SA | Asset Sustainability Ratio | Capital expenditure on renewal and replacement of existing assets/ depreciation |

Source: the Authors.

*Independent Variables*

Stakeholder salience for the public stakeholder group and the government was operationalised as the extent to which priority is given to competing stakeholder claims and was measured based on the previous

studies (Mitchell *et al*., 1997; Agle *et al*., 1999; Boesso and Kumar, 2009b). The questionnaire contained three items aimed at assessing the salience of stakeholders as perceived by mayors and CEOs. The respondents were asked to select a number from a six-point Likert scale (1 - never, 2 - very little, 3 - somewhat, 4 - quite a bit, 5 - a lot, 6 - always) to rate each item for each of seven stakeholder groups in turn. Since perceptions of stakeholder salience can vary over time and the survey study is cross-sectional, the mayors and CEOs were given a specific time period in which to evaluate the stakeholder attributes and salience (Agle *et al*., 1999). Hence, the following statement was provided in the instructions: "Your response on the scale below should be based on the perceptions you have formed throughout your current tenure." In this regard, mayors and CEOs will likely have different tenure periods since the former are elected while the latter are appointed. Further, in order to avoid potential bias resulting from response artefacts, the content of the questions was designed to vary (Podsakof and Organ 1986). In addition, to avoid over-justification effects the respondents were not informed about the nature of the relationship under investigation (Greenley *et al*., 2004).

*Control Variables*

Two control variables—jurisdiction and socioeconomic classification of the respondents—were included in this study. Jurisdiction (JURIS) is defined in terms of the size of the population and the state government budget. Potentially, this variable can shape the degree of state government monitoring of its LGAs and the level of demand from public stakeholders concerning infrastructure assets. As a control variable, JURIS controls for the effect of state government size on stakeholder salience concerning LGA infrastructure. The socio-economic classification used was developed by the Australian Council of Local Government (ACLG) based on each LGA's population, population density and proportion of the urban population. The LGAs included in the ACLG classification system are those that receive general purpose financial assistance grants as defined under the *LGA (Financial Assistance) Act 1995* (Cwlth). Voluntary regional organisations within LGAs and the Australian Capital Territory are excluded (DITRDLG, 2012). This leaves for sampling those LGAs that are categorised under the ACLG's main seven categories of urban capital city, urban development, urban regional, urban fringe, rural significant growth, rural agricultural and rural remote large.

### *Empirical Model: Effect of Stakeholder Salience on Infrastructure Backlog*

The model was developed to examine the hypothesised relationship between the salience of public and government stakeholders and infrastructure renewal backlog. It is tested separately using the data on infrastructure renewal backlog obtained from both the mail questionnaire and the secondary data. Accordingly, the dependent variables are the extent of infrastructure renewal backlog as perceived by mayors and CEOs and the infrastructure renewal/replacement ratio. The control variables—the jurisdiction of the LGA and its socioeconomic level—have been added to the regression model.

$$IFBLOG1=\beta_0+\beta_1 SALPUB+\beta_2 SALGOVT+\beta_3\ ACLG+\beta_4 JURIS+\varepsilon \quad (1)$$

$$IFBLOG2=\beta_0+\beta_1 SALPUB+\beta_2 SALGOVT+\beta_3\ ACLG+\beta_4\ JURIS+\varepsilon \quad (2)$$

Table 3 presents the definitions and measurements of all variables used in the current study.

**Table 3.** Definitions and Measurement.

| Variable | Definition | Measurements | References |
|---|---|---|---|
| **Dependent Variables** | | | |
| IFBLOG(1)<br>Infra<br>-structure renewal backlog | A tendency by some LGAs to defer or underspend on renewal and upgrading of existing infrastructure assets due to financial deficits experienced by them (PWC, 2006; VAG, 2009).<br>Renewal means restores, rehabilitates and replaces existing asset to its original capacity.<br>Upgrade means enhancing the existing asset to provide higher levels of service.<br>New means creation of a new asset to meet additional service level requirements (DITRDLG, 2010). | Perceptions of mayors and CEOs with regard infrastructure backlog in the LGA experienced due to funding constraints.<br>The construct is developed based on the reference provided and the data is obtained via three measures in the multi-item survey instrument. | Dollery *et al*., (2007a); (2008); Murray and Dollery,(2005; Jones and Walker, (2007); Pilcher, (2005); (2009) |
| IFBLOG(2)<br>Infra<br>-structure renewal backlog | A tendency by some LGAs to defer or underspend on the renewal and upgrading of existing infrastructure assets due to financial deficits experienced by them (PWC, 2006; VAG, 2009). | Ratio of renewal and upgrade expenditure on non-financial assets by relevant depreciation amount during the financial year. | Annual Reports 2011/12 |
| **Independent Variables** | | | |
| SALPUB<br>Public Stakeholder Salience | The degree to which mayors and CEOs give priority to competing public stakeholder (ratepayers, users of infrastructure assets, community special interest group and media) claims (Mitchell *et al*., 1997). | Perceptions of both mayors and CEOs on how public stakeholder needs are prioritised with regard to infrastructure assets decision-making.<br>The construct is the same as SALPUB above. | Mitchell *et al.,* (1997); Agle *et al.*, (1999); Boesso and Kumar, (2009a; b) |
| SALHIGH<br>Higher-tier Government Stakeholder Salience | The degree to which mayors and CEOs give priority to competing higher-tier government stakeholder (state department, auditor-general, Infrastructure e Asset Australia) claims (Mitchell *et al*., 1997). | Perceptions of both mayors and CEOs on how higher-tier government stakeholder needs are prioritised with regard to infrastructure assets decision-making.<br>The construct is the same as SALHIGH above. | Mitchell *et al*., (1997); Agle *et al.*, (1999); Boesso and Kumar, (2009a; b) |

**Table 3 (Continued).** Definitions and Measurement.

| Variable | Definition | Measurements | References |
|---|---|---|---|
| **Control variables** | | | |
| JURIS | Jurisdiction of the LGA of the respondent. | Jurisdiction — Score<br>New South Wales — 1<br>Victoria — 2<br>Queensland — 3<br>South Australia — 4<br>Western Australia — 5<br>Tasmania — 6<br>Northern Territory — 7 | |
| ACLG | Australian Classification of Local Governments | A score is given to an LGA based on the ACLG as follows:<br>Classification — Score<br>Urban Capital City — 1<br>Urban Development — 2<br>Urban Rural — 3<br>Urban Fringe — 4<br>Rural Significant Growth — 5<br>Rural Agricultural — 6<br>Rural Remote Large — 7 | Department of Infrastructure, Transport, Regional Development and Local Government (2010) |

Source: the Authors.

## 5. RESULTS AND DISCUSSION

### *Descriptive Statistics*

Table 4 shows the jurisdiction and relevant ACLG category of the 70 mayor respondents and 151 CEO respondents. The largest cohort of the mayor respondents (26%) is from the jurisdiction of NSW, followed by VIC (21%) and WA (14%).

**Table 4.** Descriptive Statistics for the Respondents' LGAs.

| **Characteristics of the LGA** | **Mayor n=70** | | **CEO n=151** | |
|---|---|---|---|---|
| | **Frequency** | **Percentage** | **Frequency** | **Percentage** |
| **Jurisdiction of the LGA** | | | | |
| NSW | 18 | 25.7 | 54 | 35.8 |
| VIC | 15 | 21.4 | 30 | 19.8 |
| QLD | 6 | 8.6 | 7 | 4.6 |
| SA | 7 | 10 | 16 | 10.6 |
| WA | 10 | 14.3 | 20 | 13.2 |
| TAS | 7 | 10 | 9 | 6 |
| NT | - | - | 1 | .7 |
| Missing | 7 | 10 | 14 | 9.3 |
| Total | 70 | 100 | 151 | 100 |
| **Australian category of local government (ACLG)** | | | | |
| Urban Capital City | 2 | 2.9 | 4 | 2.6 |
| Urban Development | 5 | 7.1 | 24 | 15.9 |
| Urban Regional | 20 | 28.6 | 33 | 21.9 |
| Urban Fringe | 7 | 10 | 18 | 11.9 |
| Rural Significant Growth | - | - | 4 | 2.6 |
| Rural Agricultural | 28 | 40 | 51 | 33.8 |
| Rural Remote Large | 1 | 1.4 | 3 | 2 |
| Missing | 7 | 10 | 14 | 9.3 |
| Total | 70 | 100 | 151 | 100 |

Source: the Authors.

Section two of the survey instrument was developed to capture the perceptions of the mayors and CEOs about the severity of infrastructure

backlog experienced by their LGA. Table 5 provides the descriptions of the infrastructure backlog items.

**Table 5.** Description of Infrastructure Backlog Survey Items Used in Statistical Analyses.

| Code | Description |
|---|---|
| BACKLOG1 | Our council has experienced a serious deficit budget in recent years |
| BACKLOG2 | Our council faces difficulties in meeting the increasing demand for upgraded infrastructure |
| BACKLOG3 | Our council encounters difficulties in renewing existing infrastructure |

Source: the Authors.

Table 6 shows the descriptive statistics for items related to infrastructure backlog, which have successfully gone through the tests of reliability and validity. 'Our council faces difficulties in meeting the increasing demand for new/upgraded infrastructure' (BACKLOG2) was the most prevalent infrastructure backlog statement by both mayors and CEOs, with means of 4.75 and 4.69, respectively, out of a response scale of six. These results are consistent with the findings of a 2006 PWC report, which found that between 10 per cent and 30 per cent of Australian LGAs have financial sustainability problems, causing difficulties in upgrading existing assets and investing in new assets. Similarly, the mayors and CEOs gave the lowest rating for the perception that their LGAs experienced a serious deficit in recent years (BACKLOG1), resulting in a mean of 2.63 and 2.92, respectively. The mean differences between the perceptions of mayors and CEOs are not significant in respect of each item.

**Table 6.** Descriptive Statistics of Infrastructure Backlog.

| Code | Mayor n=70 | | | | | CEO n=151 | | | | | t stat & (sig) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | Min | Max | Mean | SD | N | Min | Max | Mean | SD | |
| BACKLOG1 | 67 | 1.00 | 6.00 | 2.63 | 1.75 | 150 | 1.00 | 6.00 | 2.92 | 1.69 | -1.17(.245) |
| BACKLOG2 | 68 | 1.00 | 6.00 | 4.75 | 1.41 | 150 | 1.00 | 6.00 | 4.69 | 1.27 | .330(.742) |
| BACKLOG3 | 67 | 1.00 | 6.00 | 4.51 | 1.47 | 150 | 1.00 | 6.00 | 4.37 | 1.41 | .786(.517) |

Source: the Authors.

Table 7 provides the descriptions of the stakeholder salience items while Table 8 shows the statistics on the degree of salience as perceived by mayors and CEOs for seven different stakeholders with respect to infrastructure asset decision-making. Regarding the first item that measures salience, both the mayors and CEOs perceived ratepayers as a stakeholder group that receives high priority from the management team of the LGA regarding infrastructure assets (SALIENCE1; Mayor=4.62, CEO=4.62), followed in significance by users of infrastructure assets and community special interest groups. Mayors and CEOs both perceived that local media is given the lowest priority by the management team (Mayor=3.20, CEO=3.34). And both mayors and CEOs perceived that ratepayers take up most of the time and attention of the management team in relation to claims of infrastructure assets (SALIENCE2; Mayor=4.26, CEO=4.13), while the lowest rating in this regard was given to the state auditor-general (Mayor=2.94, CEO= 2.52). For the third item, mayors (mean=4.81) perceived that the satisfaction of ratepayers is treated as highly important by the management team regarding claims of infrastructure assets (SALIENCE3), while CEOs (mean=4.62) perceived both ratepayers and users of infrastructure as highly important. Mayors (mean=3.13) perceived that the satisfaction of the state government department for local government is the least important to the management team, while CEOs gave the lowest rating for the state auditor-general (mean=3.44).

**Table 7.** Descriptions of Stakeholder Salience Survey Items Used in Statistical Analyses.

| Code | Description |
|---|---|
| SALIENCE1 | Each respective stakeholder group receives high priority from our management team regarding claims of infrastructure assets. |
| SALIENCE2 | Each respective stakeholder group takes up the time and attention of our management team regarding claims of infrastructure assets. |
| SALIENCE3 | Each respective stakeholder group has their satisfaction treated as highly important by our management team regarding claims of infrastructure assets. |

Source: the Authors.

**Table 8.** Descriptive Statistics of Perception of Stakeholder Salience.

| Perception | Mayor n =70 | | | | | | | CEO n=151 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Public stakeholders | | | | Government stakeholders | | | Public stakeholders | | | | Government stakeholders | | |
| | Ratepayers | Users of Infrastructure Assets | Community Special Interest Group | Local Media | Gov. Dept. for LGA Local Gov. | Auditor General Office | Infrastructure Australia | Ratepayers | Users of Infrastructure Assets | Community Special Interest Group | Local Media | Dept. for LGA. | Auditor General Office | Infrastructure Australia |
| SALIENCE1 Mean | 4.62 | 4.56 | 4.27 | 3.20 | 4.01 | 3.48 | 3.55 | 4.62 | 4.61 | 4.28 | 3.34 | 4.11 | 3.42 | 3.52 |
| SD | 1.0 | 1.14 | 1.08 | 1.39 | 1.22 | 1.63 | 1.41 | .931 | .981 | 1.07 | 1.25 | 1.30 | 1.75 | 1.57 |
| SALIENCE2 Mean | 4.26 | 4.24 | 4.18 | 3.13 | 3.45 | 2.94 | 3.07 | 4.13 | 4.08 | 3.99 | 3.13 | 3.33 | 2.52 | 2.73 |
| SD | 1.12 | 1.19 | 1.22 | 1.41 | 1.41 | 1.54 | 1.31 | 1.10 | 1.12 | 1.10 | 1.16 | 1.24 | 1.38 | 1.30 |
| SALIENCE3 Mean | 4.81 | 4.73 | 4.37 | 3.41 | 3.13 | 3.77 | 3.76 | 4.62 | 4.62 | 4.38 | 3.45 | 4.18 | 3.44 | 3.58 |
| SD | .927 | 1.00 | 1.04 | 1.43 | 1.33 | 1.65 | 1.46 | 1.00 | .973 | 1.03 | 1.24 | 1.26 | 1.76 | 1.60 |

Source: the Authors

***Regression Results Using Survey Data***

When stakeholders are accorded higher salience concerning their infrastructure claims and demands, it is found that there will be better infrastructure performance as reflected by a lower infrastructure backlog. In this section, infrastructure backlog is measured in two ways. First, its level is rated by mayors and CEOs based on their belief about the degree of difficulty experienced by the LGA with infrastructure backlog (IFBLOG1). This measure is used in the multiple regression analysis and presentation of results. Second, it is measured as an infrastructure renewal/replacement ratio—a figure that is disclosed in the annual reports of many LGAs. This infrastructure backlog ratio has been collected as secondary data (IFBLOG2), as explained in the research method section and is used for supplementary analysis.

Multiple regression analysis is performed to examine the relationship between the perceptions of the mayors and CEOs regarding the salience associated with the infrastructure claims of public stakeholders and government stakeholders, and their rating of the degree of difficulty experienced by LGAs in relation to addressing their infrastructure backlog. The results of the regression analysis are presented in Table 9.

**Table 9.** Determinants of Perceived Infrastructure Backlog of Mayors and CEOs (*n*=221).

| **DV= Infrastructure Backlog IFBLOG1** | **Unstandardised coefficients** | | **Standardised coefficients** | **t** | **Sig.** | **Collinearity statistics** | |
|---|---|---|---|---|---|---|---|
| | **B** | **Std. Error** | **Beta** | | | **Tolerance** | **VIF** |
| (Constant) | 3.923 | .690 | | 5.689 | .000 | | |
| SALPUB | -.008 | .130 | -.005 | -.058 | .954 | .793 | 1.261 |
| SALGOVT | -.057 | .091 | -.049 | -.629 | .530 | .795 | 1.257 |
| ACLG | .158 | .053 | .210 | 2.980 | .003 | .985 | 1.016 |
| JURIS | -.102 | .052 | -.139 | -1.972 | .051 | .980 | 1.020 |

Note: Model Summary: R=.253; $R^2$ =.06; Adj. $R^2$ = .040; F Stat =2.617; Sig. =.026. Source: the Authors.

It is noted that the overall explanatory power of the model is very poor, with a 0.040 adjusted $R^2$. However, the F statistic of the model is significant at $p < .05$. According to the empirical results, neither perceived public stakeholder salience (SALPUB) nor the government salience

(SALGOVT) of mayors and CEOs are found to have any significant influence on their rating of LGAs' difficulty in relation to infrastructure backlog (IFBLOG1).

The only contributing factor identified for the rated infrastructure backlog (IFBLOG1) is the ACLG, which is a control variable. It has a significant impact on infrastructure backlog (IFBLOG1) at a confidence interval of 95 per cent ($t=2.980$, $p<0.05$). This result indicates that when the municipality of the LGA has a lower population size, population density and proportion of the urban population (based on the ACLG classification system), the infrastructure backlog as rated by mayors and CEOs will be higher. However, the influence of stakeholder salience on infrastructure backlog appears to have been confounded by the LGA's classification. For instance, the results reveal that the infrastructure backlog experienced by an LGA classified as urban development (2) is lower than that experienced by a rural agricultural setting (6) LGA. These results support the findings of the PricewaterhouseCoopers Report (2006), which addressed the financial sustainability of LGAs. PWC developed the following three main conclusions based on its research on a sample of 100 LGAs categorised according to the ACLG classification (p. 114):

> *"Most 'large' metropolitan councils are 'generally viable', with some 'stretched' owing to 'service expansion', and 'internal reform' is necessary."*
>
> *"'Urban Fringe' councils have 'mixed' sustainability, 'internal reform' is needed, and 'only some' councils need 'additional' funding."*
>
> *"'Rural Remote' and 'Rural Agricultural' exhibited 'pronounced' sustainability problems, required 'internal reforms', and most should receive 'extra funding' for the 'renewal of existing community infrastructure'."*

However, the empirical findings of our model led to a rejection of the hypothesis, which states that the perceived salience of mayors and CEOs regarding public and government stakeholders is significantly related to the extent of infrastructure backlog experienced by the relevant LGAs. The main barrier to stakeholder salience appears to be the limited availability of financial resources for Councils to undertake infrastructure redevelopment. And this factor seems to be more prevalent with rural councils where enough revenue is not generated to undertake infrastructure renewal. This is impacted by the limited population in rural areas which, as a combined factor, may have a limiting influence on all three factors of

power, legitimacy and urgency of stakeholders and their demands and expectations (Mitchell *et al*., 2011).

*Further Analysis of Infrastructure Backlog Using the Secondary Data*

Descriptive and quartile statistics on infrastructure renewal backlog based on the infrastructure asset renewal/replacement ratio are presented in Table 10.

**Table 10.** Descriptive and Quartile Statistics for Infrastructure Backlog.

| | | |
|---|---|---|
| | Valid | 146 |
| | Missing | 75 |
| Mean | | .8614 |
| Median | | .7250 |
| Range | | 4.63 |
| Percentiles | 25 | .4600 |
| | 50 | .7250 |
| | 75 | .9725 |

Source: the Authors.

As explained above, an infrastructure renewal/replacement ratio that results in 1:1 indicates that spending on existing assets is equal to the depreciation expense. That is, there exists no infrastructure backlog for that period. Accordingly, based on the above statistics, the LGAs can be categorised into the four-infrastructure renewal/ replacement backlog groups shown in Table 11.

**Table 11.** Backlog Groups Based on the Infrastructure Renewal / Replacement Ratio.

| **Quartile statistics** | **Backlog group** | **Comment** |
|---|---|---|
| Below .46 | 4 | The worst affected group from infrastructure renewal backlog |
| Between .47-.725 | 3 | Backlog is experienced at a higher extent |
| Between .726- 1 | 2 | Backlog is experienced at a lower level |
| Greater than 1 | 1 | Currently do not experience an infrastructure renewal backlog |

Source: the Authors.

*Comparison of Infrastructure Backlog Groups Among the ACLG Categories*

Cross-tabulation of the backlog groups and ACLG categories is presented in Table 12. The results are similar to the findings of the model in relation to the ACLG.

**Table 12.** Infrastructure Backlog Groups and Australian Classification of Local Governments (ACLG).

| ACLG | | Backlog group | | | | Total |
|---|---|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | |
| **1. Urban Capital City** | Count | 1 | 1 | 0 | 0 | 2 |
| | % within ACLG | 50.0% | 50.0% | 0.0% | 0.0% | 100% |
| **2. Urban Developed** | Count | 9 | 5 | 7 | 2 | 23 |
| | % within ACLG | 39.1% | 21.7% | 30.4% | 8.7% | 100% |
| **3. Urban Rural** | Count | 9 | 15 | 6 | 14 | 44 |
| | % within ACLG | 20.5% | 34.1% | 13.6% | 31.8% | 100% |
| **4. Urban Fringe** | Count | 2 | 2 | 7 | 6 | 17 |
| | % within ACLG | 11.8% | 11.8% | 41.2% | 35.3% | 100% |
| **5. Rural Significant Growth** | Count | 1 | 0 | 1 | 0 | 2 |
| | % within ACLG | 50.0% | 0.0% | 50.0% | 0.0% | 100% |
| **6. Rural Agricultural** | Count | 12 | 16 | 14 | 15 | 57 |
| | % within ACLG | 21.1% | 28.1% | 24.6% | 26.3% | 100% |
| **7. Rural Remote Large** | Count | 0 | 0 | 0 | 1 | 1 |
| | % within ACLG | 0.0% | 0.0% | 0.0% | 100% | 100% |
| **Total** | Count | 34 | 39 | 35 | 38 | 146 |
| | % within ACLG | 23.3% | 26.7% | 24.0% | 26.0% | 100% |

Source: the Authors.

The results indicate very low levels of or no infrastructure backlog among the urban capital cities. When looking at the urban developed category, nearly 40 per cent of the LGAs fall into the backlog group that does not currently experience any infrastructure renewal/replacement, while another 22 per cent fall into the category of the low-level backlog. This finding with respect to the urban developed category supports the results of the PWC Report (2006), which states that the majority of larger urban developed LGAs are generally financially viable. When an LGA is financially viable it has the capacity to "clear the backlog and lift renewals expenditure to the optimal level" (PWC, 2006, p. 12). However, 30 per cent of the urban developed LGAs experience renewal backlog to a higher extent, falling into group 3.

Turning to the urban-rural category, 34 per cent of the LGAs experienced a low level of backlog, thus falling into group 2, while another 32 per cent fall into the worst affected category. Nearly 75 per cent of the LGAs in the urban fringe category either experience backlog to a higher extent or are worst affected. Indeed, the PWC report (2006) states that urban fringe LGAs have mixed financial sustainability. Yet most of the Australian LGAs are classified as rural agricultural, and the results for this category reveal that 28 per cent of these LGAs experience a low-level backlog, while 26 per cent are in the worst-case scenario. All LGAs that are classified as rural remote large fall into the fourth backlog group, indicating that they are affected worst by infrastructure renewal backlog. Again, these findings with regard to rural agricultural and rural remote large LGAs are consistent with the findings of PWC (2006, p.13), which identified that:

> *"Rural remote and rural agricultural councils generally have more pronounced viability problems. These councils typically have a relatively larger scope for internal reforms, however, they often battle against lack of scale, and extra funding for renewal of existing community infrastructure is required for most."*

Further, Dolley *et al*. (2007a, p.8) assert that:

> *"Small rural LGAs with large spatial jurisdictions suffer the most not only in terms of infrastructure renewal and replacement backlogs but also from asset management and reporting deficiencies."*

The results in Table 12 indicate that, out of the 146 LGAs considered in the analysis, 26 per cent or 38 LGAs are worst affected by infrastructure renewal/replacement backlog, while another 24 per cent (35 LGAs) experience the backlog at a higher level. Thirty-four LGAs (23%) do not currently experience infrastructure backlog and another 39 LGAs (27%) experience backlog only at a lower level. Overall, the results provide evidence that infrastructure renewal/replacement backlog is notably dispersed across all the ACLG categories.

### *Comparison of Infrastructure Backlog Groups within Jurisdictions*

Table 13 presents a cross-tabulation of the four backlog groups and four jurisdictions. The results indicate that NSW has the highest number of LGAs that are affected by infrastructure renewal/replacement backlog. Nearly 41 per cent of NSW LGAs are worst affected while another 19 per

cent experience the backlog to a higher degree. The remaining 40 per cent of LGAs in NSW either did not experience backlog at all in the year under study (2011–12) (13%), or at a lower level (28%). In Victoria, most of the LGAs (36%) fall into the second backlog group, which experiences backlog at a lower level, while another 30 per cent did not experience a backlog in 2011–12. Only 2 per cent are worst affected and the remaining 32 per cent experience infrastructure backlog at a higher level.

**Table 13** Infrastructure Backlog Group and the Jurisdiction of the LGA.

| **Jurisdiction** | | **Backlog Group** | | | | **Total** |
|---|---|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | |
| **NSW** | Count | 9 | 19 | 13 | 28 | 69 |
| | % within Jurisdiction | 13.0% | 27.5% | 18.8% | 40.6% | 100% |
| **VIC** | Count | 13 | 16 | 14 | 1 | 44 |
| | % within Jurisdiction | 29.5% | 36.4% | 31.8% | 2.3% | 100% |
| **QLD** | Count | 6 | 3 | 0 | 1 | 10 |
| | % within Jurisdiction | 60.0% | 30.0% | 0.0% | 10.0% | 100% |
| **SA** | Count | 6 | 1 | 8 | 7 | 22 |
| | % within Jurisdiction | 27.3% | 4.5% | 36.4% | 31.8% | 100% |
| **Total** | Count | 34 | 39 | 35 | 38 | 146 |
| | % within Jurisdiction | 23.3% | 26.7% | 24.0% | 26.0% | 100% |

Source: the Authors.

The results reveal that QLD is the least affected by infrastructure backlog, with 10 per cent of the LGAs affected worst, and no LGAs experiencing backlog at a higher level. Of the remaining 90 per cent of LGAs, 60 per cent did not experience infrastructure backlog. Infrastructure assets controlled by LGAs in QLD were severely damaged due to a major flood event that occurred during the summer months of 2010–11. Due to major funding from both the federal and state governments, most of the flood restoration work was completed during the year 2011–12. This created a low backlog situation among the LGAs in QLD during the year. For instance, the Lord Mayor's report of Brisbane City Council's annual report (2012, p. 21) states that:

> *"Brisbane's resilience in the face of the January 2011 flood saw major rebuilding work on parks, waterways, drainage systems, and sea and river walls completed this year. By June 2012, Council had spent more than $164 million on flood recovery works. For Council—just as for many residents—the financial impact remains significant. Despite major funding from the*

> *Federal and State governments, there will be a considerable shortfall. Council has responded fully to the recommendations from the State Government's Flood Commission of Inquiry. There will be extensive work performed on the city's drainage systems and waterways, and funding for the delivery of backflow prevention valves. The impact of the January 2011 flood was immense and will not be forgotten."*

When we consider SA, it is evident that nearly 32 per cent of the LGAs fall into the worst affected group category, while another 36 per cent experiences a higher level of backlog. Largely, it can be assumed that, according to the study, in 2011-12 NSW had the highest number of LGAs affected by infrastructure renewal/replacement backlog, while the least affected in that year were in QLD. The Chi-Square tests shown in Tables 12 and 13 reveals that jurisdiction (JURIS) makes a significant difference to the amount of backlog of an LGA, but that the ACLG classification does not.

### *Bivariate Correlation Analysis of Infrastructure Backlog*

A preliminary data analysis was performed prior to running the multiple regression model. Since the model is regressed only for the four jurisdictions (NSW, VIC, QLD and SA) that have provided data on the infrastructure renewal ratio, the correlation analysis is also undertaken only for these four jurisdictions. The results are shown in Table 14 below.

**Table 14.** Pearson Correlation Matrix.

| | IFBLOG1 | IFBLOG2 |
|---|---|---|
| IFBLOG1 | 1.000 | |
| IFBLOG2 | -.018 | 1.000 |

Source: the Authors.

## 6. CONCLUSION

The current study seeks to pay long-overdue attention to the problem of infrastructure renewal backlog, which is of significance for local government but has been largely ignored in the academic literature (Dollery *et al*., 2007a). There have been several recent Australian public inquiries into the problem in various jurisdictions, undertaken either by

government or professional bodies (FSRB 2005; PWC 2006). Yet the academic literature that has empirically explored infrastructure backlog has focused only on financial sustainability. Thus, the current study attempts to investigate whether there is any impact on infrastructure renewal backlog by the way in which stakeholders are prioritised by mayors and CEOs in the local government context. The study attempts to provide new insight into a possible factor, beyond financial perspectives, that may drive the infrastructure renewal backlog problem—that being stakeholder salience.

This study has sought to advance the modelling and testing of the influence of stakeholder salience (Mitchell *et al*., 1997) on infrastructure renewal backlog in the public sector through a survey of LGA mayors and CEOs. More specifically, this modelling has addressed hypotheses and provided evidence about the relationship between the salience of different stakeholder groups and the actual and perceived performance of the LGA in terms of its infrastructure renewal backlog. The regression results suggest that the only contributing factor on perceived infrastructure renewal backlog is the ACLG, which is a control variable. This control variable was found to have a positive significant impact, indicating that the amount of infrastructure renewal backlog experienced by LGAs varies according to the ACLG category into which the LGA falls. The findings from this article add to stakeholder salience conceptualisation by proving that financial resources act as a critical impact on stakeholder salience and its impact on infrastructure renewal initiatives.

The findings of the current study are consistent with some empirical studies (Agle *et al.*, 1999; Magness 2008; Boesso and Kumar 2009b; Myllykangas *et al*., 2010) that employed the dynamic theory suggested by Mitchell *et al*. (1997) when investigating the relationships between stakeholder salience and different organisational performances. However, the findings support the views that stakeholder status is impermanent and determined through the eyes of the decision-maker (Mitchell *et al.*, 1997) and that in-spite of stakeholder status, it is transitory in nature (Magness 2008). Thus, the findings suggest the theory of stakeholder salience needs conclusive insights to describe the relationship between stakeholder salience and different organisational financial performances. Agle *et al.* (1999) also note that empirical studies of this approach to stakeholder theory are still developing.

This result should be a concern to both State government departments responsible for local government and the federal government's Infrastructure Australia funding and advisory body. Even though 'public' stakeholder claims and needs are found to influence the prioritisation of

infrastructure decisions made at the local government level, this prioritisation process has not been effective in addressing the magnitude of the infrastructure renewal backlog problem faced by LGAs. The findings of this study indicate that the backlog problem cannot be resolved only through a process of stakeholder groups influencing infrastructure decision-making at the local community level. Dependency on the influence of existing 'public' stakeholders is a crucial issue for the infrastructure renewal backlog problem. As predicted by PWC (2006), the burden of the need to renew infrastructure may be transferred to future generations of ratepayers. Hence, there is a case for more direct intervention by government stakeholders in setting and enforcing renewal backlog targets or thresholds for LGAs. This direct intervention is especially relevant for rural jurisdictions.

**REFERENCES**

Access Economics (2006). *Local Government Finances in New South Wales: An Assessment*,. Access Economics Pty Ltd, New South Wales.

Agle, B. R., Mitchell, R. K. and Sonnenfeld, J. A. (1999). What Matters to CEO? An Investigation of Stakeholder Attributes and Salience, Corporate Performance, and CEO Values. *Academy of Management Journal*, 42(2), pp. 507-525.

Australian Bureau of Statistics (ABS) (2011). National Regional Profile 2005-2009. Online version accessed 14 June 2016, http://www.ausstats.abs.gov.au/ausstats/nrpmaps.nsf/NEW+GmapPages/national+regional+profile>.

Australian Bureau of Statistics (ABS) (2012). 5512.0 - Government Finance Statistics. Online version accessed 14 March 2016, http://www.abs.gov.au/ausstats/abs@.nsf/PrimaryMainFeatures/5512.0.

Boesso, G. and Kumar, K. (2009a). An Investigation of Stakeholder Prioritization and Engagement: Who or What Really Counts. *Journal of Accounting and Organizational Change*, 5(1), pp. 62-80.

Boesso, G. and Kumar, K. (2009b). Stakeholder Prioritization and Reporting: Evidence from Italy and the US. *Accounting Forum*, 33(2), pp. 162-75.

Boyne, G., Gould-Williams, J., Law, J. and Walker, R. (2002). Plans, Performance Information and Accountability: The Case of Best Value. *Public Administration*, 80(4), pp. 691-710.

Byrnes, J., Dollery, B., Crase, L. and Simmons, P. (2008). Resolving the Infrastructure Funding Crisis in Australian Local Government: A Bond Market Issue Approach Based on Local Council Income. *Australasian Journal of Regional Studies*, 14(2), pp. 115-131.

Cannadi, J and Dollery, B. (2005). An Evaluation of Private Sector Provision of Public Infrastructure in Australian Local Government. *Australian Journal of Public Administration*, 64(3), pp. 112-118.

Carnegie, G. D., Tuck, J. and West, B. (2011). Price Setting Practices in Australian Local Government. *Australian Accounting Review*, 21(2), pp. 193-201.

Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) (2010). 2007-08 Local Government National Report, Australian Government, Canberra.

Department of Infrastructure, Transport, Regional Development and Local Government (DITRDLG) (2012). *2008-09 Local Government National Report*. Australian Government, Canberra.

Division of Local Government NSW (DLGNSW) (2013). Our Purpose, Department of Premier and Cabinet, NSW Government. Online version accessed 13 March 2016, http://www.dlg.nsw.gov.au/dlg/dlghome/dlg_InformationIndex.asp?areaindex=SERVICESandindex=700andmi=1andml=1.

Dollery, B. and Mounter, S. (2010). Local Infrastructure Investment, Maintenance and Renewal: A Comparative Analysis of Contemporary Australian and New Zealand Local Government. *Australasian Journal of Regional Studies*, 16(2), pp. 217-31.

Dollery, B., Byrnes, J. and Crase, L. (2007a). The Infrastructure Crisis in Australian Local Government: A Proposed Federal Asset Solution. *Australasian Journal of Regional Studies*, 13(1), pp. 3-19.

Dollery, B., Byrnes, J. and Crase, L. (2007b). Too Tough a Nut to Crack: Determining Fiscal Sustainability in Australian Local Government. *Australasian Journal of Regional Studies*, 13(2), pp. 110-32.

*Financial Assistance Act 1995* (Cwlth) (Austl.)

Financial Sustainability Review Board (FSRB) (2005). *Rising to the Challenge; Towards Financially Sustainable Local Government in South Australia.* South Australian Local Government Association.

Greenley, G. E., Hooley, G. J., Broderik, H. A. and Rudd, J. (2004). Strategic Planning Differences Among Different Multiple Stakeholder Orientation Profiles. *Journal of Strategic Marketing*, 12(3), pp. 163-182.

Indigo Shire Council (2012). *Annual Report*, Indigo Shire Council.

Institute of Public Works Engineering Australia (IPWEA) (2006). *Sustainable Communities Critical Insights; Delivering Services, Building Futures....Enhancing Lifestyles*. Sydney. Online version accessed October, 2012, http://www.ipwea.org/assetmanagement/home/.

Jones, S. and Walker, R. G. (2007). Explanators of Local Government Distress. *ABACUS*, 43(3), pp. 396-418.

Kloot, L. and Martin, J. (2001). Local Government Accountability: Explaining Differences. *Accounting, Accountability and Performance*, 7(1), pp. 51-71.

Lapsley, I. (1992). User Needs and Financial Reporting: a Comparative Study of Local Authorities and the National Health Services. *Financial Accountability and Management*, 8(4), pp 281-98.

Lee, J. and Fisher, G. (2004). Infrastructure Assets Disclosure in Australian Public Sector Annual Reports. *Accounting Forum*, 28(4), pp. 349-67.

Local Government Association of Queensland Inc. (LGAQ) (2006). *Size, Shape and Sustainability; Guidelines Kit*. Local Government Association of Queensland, Brisbane.

Magness, V. (2008). Who are the Stakeholders Now? An Empirical Examination of the Mitchell, Agle, and Wood theory of Stakeholder Salience. *Journal of Business Ethics*, 83(2), pp. 177-92.

Misangyi, V. F., Weaver, G. R. and Elms, H., (2008). Ending Corruption: The Interplay Among Institutional Logics, Resources, and Institutional Entrepreneurs. *Academy of Management Review*, 33(3), pp. 750-770.

Mishra, S. and Suar, D. (2010). Do Stakeholder Management Strategy and Salience Influence Corporate Social Responsibility in Indian Companies? *Social Responsibility Journal*, 6(2), pp. 306-327.

Mitchell, R. K., Agle, B. R. and Wood, D. J. (1997). Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts. *Academy of Management Review*, 22(4), pp. 853-886.

Mitchell, R., Agle, B., Chrisman, J. and Spence, L. (2011). Towards a Theory of Stakeholder Salience in Family Firms. *Business Ethics Quarterly*, 21(2), pp. 235-255.

Murray, D. and Dollery, B. E. (2005). An Evaluation of Performance Measurement and the Identification of "at Risk" Municipal Councils in NSW Local Government. *Economic Papers*, 24(4), pp. 332-45.

Myllykangas, P., Kujala, J. and Lehtima¨ki, H. (2010). Analysing the Essence of Stakeholder Relationships: What Do We Need in Addition to Power, Legitimacy, and Urgency? *Journal of Business Ethics*, 96(1), pp. 65-72.

New South Wales Department of Local Government (2006). *Local government code of accounting practice and financial reporting*.

Pfeffer, J., (1981). Management as Symbolic Action: the Creation and Maintenance of Organizational Paradigm. *Research in Organizational Behaviour*, 3, pp. 1-52.

Pilcher, R. (2005). Financial Reporting and Local Government Reform - A (Mis) Match? *QRAM*, 2(2), pp. 171-192.

Pilcher, R. (2009). Deconstructing Local Government Performance in Infrastructure Measurement. *Asian Review of Accounting*, 17(2), pp. 163-76.

Pilcher, R. and Dean, G. (2009). Consequences and Costs of Financial Reporting Compliance for Local Government. *European Accounting Review*, 18(4), pp. 725-44.

Podsakof, M. J. and Organ, D. W. (1986). Self-Reports in Organizational Research: Problem and Prospects. *Journal of Management*, 12(4), pp. 531-544.

PricewaterhouseCoopers (PWC) (2006). *National Financial Sustainability Study on Local Government*. PricewaterhouseCoopers, Sydney.

Roberts, E. S. (1999). In Defence of the Survey Method: An Illustration from a Study of User Information Satisfaction. *Accounting and Finance*, 39(1), pp. 53-77.

Roorda, J. (2006). *The Present Condition and Management of Infrastructure in NSW Local Government.* Report commissioned by the independent inquiry into the financial sustainability of NSW local government, Sydney.

Suchman, M.C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review*, 20(3), pp. 571-610.

Taylor, D. W. and Rosair, M. (2000). The Effects of Participating Parties, the Public and Size on Government Departments: Accountability Disclosures in Annual Reports. *Accounting, Accountability and Performance*, 6(1), pp. 77-97.

Victorian Auditor General (VAG) (2009). *Local Government Results of the 2008-09 Audits*. Victorian Auditor General's Office, Victoria.

Western Australian Local Government Association (WALGA) (2006). *Systematic Sustainability Study: In your Hands- Shaping the Future of Local Government in Western Australia, Interim Report*. Western Australian Local Government Association, Perth.