

Engineering Leadership Forum

Submission on the Productivity Commission's Issues Report on Local Government Funding and Financing

15 February 2019

The Engineering Leadership Forum comprises the CEOs of New Zealand's professional engineering associations, including Engineering New Zealand, the Association of Consulting Engineers New Zealand, Water New Zealand, Civil Contractors New Zealand, the Institute of Public Works Engineering Australasia New Zealand Division, the Electricity Engineers' Association and Concrete NZ. These organisations represent well over 40,000 professional engineers.

Introduction

1. The member organisations of the Engineering Leadership Forum have extensive experience in working with Local Government (i.e. Territorial Local Authorities called TLAs hereafter). We assess that the funding and financing of TLAs is overwhelmingly dominated by infrastructure issues, for example:
 - dealing with deteriorating water supply, wastewater and stormwater systems (hereafter called '3water' systems),
 - building new infrastructure to service housing and commercial developments and the expanding demands of the tourism sector,
 - meeting new earthquake design requirements for buildings,
 - attempting to increase the service delivery, reliability and usage of public transport, and to improve regional air services,
 - defining and building resiliency into roading, transport and utility systems to deal with natural hazards,
 - preparing for climate change especially along the sea coast, and
 - the desirability of building new integrated energy centres and district heating schemes.
2. It is clear to the ELF that TLAs are significantly challenged to determine how much to spend and on what, and how to find appropriate ways to finance these investments – and we agree with the Commission's own reservations about TLA decision making processes (p11). We observe that there is poor awareness amongst senior TLA managers of modern approaches to infrastructure asset management, how this can inform complex investment decision making, and how this can also inform the setting of standards in regard to infrastructure maintenance and operations. We also assess that the root cause of this is the drift, over several decades, of the outsourcing by TLAs of professional engineering services and asset management capability. There is now no TLA left in NZ which has a 'chief engineer' (a professionally qualified and chartered engineer reporting to the TLA CEO on engineering standards and processes) and there are too few that have an experienced professional engineer in any management role.
3. The central theme of this submission is that this situation - the outsourcing of infrastructure management and professional engineering services by TLAs - is leading to a deterioration in the quality of TLA infrastructure management everywhere, a deterioration of the quality of decision making in regard to infrastructure investments, a deterioration in the quality of the investments that are being made, a decrease in skills training and building of in house TLA capability and knowledge, and as a consequence a significant increase in TLA business risk and a slide in their productivity.

4. The Productivity Commission describes the roles of local government as enablers of local democracy and providers of public services (at p8). The ELF assesses that nearly all of the 67 TLAs are too small to provide cost effective and efficient public services and infrastructure management. Instead new regionally-based organisations are required to take over the role of TLA infrastructure management and public service delivery. These organisations would have a critical mass in operations that justifies in depth professional engineering oversight, and enables best practice delivery of asset management systems, technologies and practices. They would working with and be potentially owned by the TLA's (or a newly created regional authority) they serve.

Infrastructure Ownership and Management

3. Best practice infrastructure management relies on the preparation and interpretation of detailed long-term asset management plans that are underpinned by accepted standards, practices, and methodologies, and prepared by asset management experts. We assess the outsourcing of professional engineering capability across the TLAs is leading to a progressive reduction in the ability of TLA senior management and their Councillors to understand what asset management means and the significance of the information it generates. Further, we assess that it makes it increasingly difficult for senior TLA management to give balanced, honest and well informed advice to elected councillors trying to make complex allocation decisions about competing new investments, maintenance regimes and asset replacement policies.
4. There is a place for outsourcing of activities. Advantages of outsourcing include putting the onus on consultants and contractors to meet the highs and lows of work activity, the ability of the consultant/contractor to bring in-house experts to assist problem solving more readily, and to have access to the latest technology that the TLA cannot afford to invest in and keep capable technical staff fully utilised. Disadvantages can arise when it becomes difficult to control the consultant/contractor or to seek adaption to business practices and style that are not normally acceptable, a lack of control of staff turnover, the loss of intellectual knowledge, duplication of roles between the contractor and the TLA leading to inefficiencies and confusion.
5. Best business practice, now well established in the private sector worldwide, is that ownership or capability is kept within organisations when the organisation's operational performance is significantly dependent on it, and when the strategic importance of the asset and activity is high. Outsourcing makes sense when strategic aspects and operational performance impacts are low. The management of infrastructure is one of the most significant activities undertaken by TLA's and should in our view never be outsourced. Instead TLAs should build in house capability in asset management in its widest sense, and be required to demonstrate this.
6. It seems that the small scale of nearly every TLA in NZ makes it hard to justify the investment in qualified staff that professional asset management requires. The upside of having 67 TLAs in close touch with their communities, as seems to be the accepted paradigm, needs to be countered by new organisations and collaborations between TLAs in regard to infrastructure and asset management.
7. The proposal to create a small number of 3water asset owning or management companies in response to the inadequate management of 3water assets over an extended period is a

specific example of such an initiative. Here there is a need for new investments of the order of some tens of \$billions to bring most regional water treatment systems and wastewater treatment plants up to acceptable international standards, and a further very large sum to replace the extensive networks found all over NZ of deteriorating asbestos cement pipes. However the problem of inadequate infrastructure management extends well beyond 3waters.

8. Many TLAs use contractors to deliver day to day services, and outsource asset management and professional engineering services. This can lead to TLA management becoming disconnected with their largest asset, and their largest financial liability - their infrastructure. However, there are some examples where integration of asset management processes across TLAs is occurring. A Wellington example is the creation of Wellington Water, in which each of the 5 TLA owners retains ownership and control of their respective assets.
9. We stress that these comments are not intended as a criticism of TLAs but to attempt to explain why the lack of national standards and policy in regard to infrastructure management and operation has led to the increasing dysfunctionality of infrastructure management throughout TLAs.
10. The progressive dilution of engineering expertise and the deterioration of infrastructure management and decision making in TLA's is not just a NZ problem. In Queensland, in an effort to reverse the situation, TLA's must have infrastructure investments approved by a Queensland registered engineer, and this statute-based regulation will soon be introduced into NSW.

Asset Management and Infrastructure Strategy

11. Asset management processes can inform TLAs on wider aspects of infrastructure strategy, including;
 - how to deal with making communities more resilient,
 - how to deal with the impacts of climate change,
 - purchasing policies,
 - the setting of infrastructure standards,
 - the identification of capability requirements, and
 - how to increase energy conservation, enable smart generation technologies and to lower energy usage within the wider TLA community.

Dealing with each of these:

12. *Resiliency*: Resiliency investments are measures taken to save repair costs and minimise economic disruption after earthquake or other natural hazards. These are often very different from normal infrastructure maintenance requirements. There is very clear and specific evidence of the value of these investments – the best example of many is the modest resiliency programme undertaken by Orion Energy (electricity distribution in Christchurch City and Canterbury) before the Christchurch earthquake which saved many millions in repair costs and significant economic costs by getting supply to businesses up and running quickly. This was in direct contrast to the collapse of the Christchurch City 3waters systems which were known for over 30 years to be at risk but were not repaired - costing NZ taxpayers some \$20 billion. The basic reason for this is that there is no formal requirement on infrastructure owners to ensure their systems are resilient. There is a 'best endeavours' clause in the CDEM

Act which is often ignored. This has created a vast legacy issue across both private and TLA owned infrastructure and especially in 3waters, ports and harbour facilities, electricity distribution lines, and in non-structural building components. The state of these systems is such that even in moderate earthquake and/or tsunami, significant and economically damaging delays will be experienced in returning businesses to normal with consequent major costs to the local *economy*. Professional infrastructure management practice can include consideration of risk weighted economic costs and benefits of resiliency investments, but this is a complex area of where engineering, risk assessment and economic impacts need to be equally considered by in house - based teams with access to the necessary information. The TLAs are also the obvious organisation to take the initiative in dealing with integrated resiliency activities on a regional basis by lifeline utilities, but with few exceptions TLAs ignore this role. The ELF has made extensive representations to Department of Internal Affairs and the Ministry of CDEM in regard to the need to build utility awareness and capability to better deal with risk reduction and hazard management issues which could be shared with the Commission if desired.

13. *Climate change:* Various reports for example *Adapting to Climate Change in New Zealand, Report on Options for adapting to climate change from the Climate Change Adaptation Technical Working Group, 2018*, and the recent Local Government NZ report *Vulnerable: the quantum of local government infrastructure exposed to sea level rise, LGNZ, January 2019* have spelt out the scale of the issues facing most TLAs. There is so far no coherency in programmes to deal with climate change, and this has been especially the case as TLAs try to define programmes to manage the retreat from the coastline, and to assign them priority against existing liabilities in the absence of any overarching national guidance or plan. There is a grave risk that in this unstructured environment TLAs will embark on foolish and wasteful expenditures driven by local and parochial interests. An independent review of all investments in this area should be a minimum, or preferably overseen by a new central government-based organisation which can take a regional approach – integrating the best advice on risk with the best design available to protect the balance of ratepayer’s interests. It would be bizarre for example if significantly different strategies were deployed in Eastbourne (Hutt City) and Seatoun (Wellington City).
14. *Purchasing:* Substandard purchasing practices throughout TLAs are well known to consultants, construction companies, and to the commercial sector generally, but the issue is not the TLA’s awareness of what is best practice, it is simply that the neither TLAs nor government monitor practice or insist on standards in implementation. There is no doubt that the quality of procurement impacts on every aspect of a project. Inexperience and poor procurement process lead to poor quality outcomes, increased whole of life costs, and locks in ongoing low productivity outcomes.

The absence of a robust, national pipeline of infrastructure projects and the continued focus on lowest capital cost has a detrimental impact on the construction industry, often requires higher skill requirements and costs in maintenance and operations functions and ultimately undermines public confidence in public infrastructure services. Improved procurement is the key to resolving these issues and this requires strong, national leadership. Well performing procurement entities have specialised teams who manage a well-planned and phased pipeline of work. This is supported with transparent, standardised processes, to truly understand and best allocate risk within a competitive marketplace to ensure the best value over the whole of the infrastructure’s life. Public infrastructure procurement needs a whole-of-system approach to the way public agencies procure engineering services. There needs to

be a strong and consistent focus to lifting procurement expertise and support systems across New Zealand.

ELF would strongly support a LGNZ lead collaboration with local government representatives and central government to undertake the business case for a centre of excellence in public procurement. This same approach was used for designing the proposed Local Government Risk Agency – a centre of excellence for local government risk management. The procurement centre of excellence functions could be included within an existing national agency or stand alone. As the national, shared repository for procurement expertise nationally, the procurement centre of excellence can provide a range offerings from: providing and developing career professionals in procurement, to providing advice, tools, processes and other support to all public agencies, along with post-procurement audits. This would lead to an immediate and rapid uplifting in procurement capability and public outcomes across the public infrastructure services.

15. *Standards:* The closure of the Ministry of Works in 1988 removed remaining central government oversight of standards and practices in infrastructure asset management and operation. TLAs have adopted their own standards – it is said that every wastewater plant in NZ is different for example - and the learning process that comes from sharing experiences and centralised oversight has ceased. The ELF supports the establishment of a national infrastructure body (hereafter IBody), as is currently being considered by Treasury, to oversee infrastructure standard setting. More on this below.
16. *Capability:* TLA staff training programmes at all levels of infrastructure management have become ad hoc and fragmented. The privatisation of some utility assets has compounded this. Today there are wide variations in standards and procedures between utility operators and TLAs and few national training programmes. Several of the ELF member organisations are actively working with the TEC to develop new qualifications and training programmes to assist TLAs. These will include new micro qualifications and a degree apprentice in asset management to support the more traditional NZ Diploma in Engineering and BEngTech offered by the polytechnics and the BEng offered by the universities. State owned organisations such as the NZ Transport Agency are sufficiently large and well-funded and have retained best practices in infrastructure management and operations, and show what can be done when there is appropriate oversight.
17. *Energy Conservation:* TLAs have also been generally disinterested in facilitating or even promoting the development of energy conservation programmes through for example the promotion of district heating schemes in new commercial and industrial developments, as are now very common in Europe and Asia. On a life cycle basis these are economic, so there is a case for some kind of central funding programme to ease TLAs into these investments. The worst example of this is the lack of a new district heating scheme in the central Christchurch rebuild – Christchurch is ideal for this kind of initiative as it has a large aquifer (the sink) only 50 metres below ground level.

Creation of the IBody

18. The recent Treasury consultation document on the formation of the IBody refers to a lack of scale in infrastructure investment, a focus on new-builds, variable purchasing capability in central and local government, poor information, and skills shortages. The ELF vision for the IBody (as presented to the Treasury in our submission) is that it has an operational bias, including facilitating the funding of major infrastructure projects. We see IBody as an

organisation with extensive technical and commercial capability, a focus on assisting the development of the infrastructure sector in a multitude of ways, and with a 30 year or more perspective. It would coordinate the setting of standards in infrastructure management and operation nationally, lead the implementation of best practice asset management practices, assist government set TLA policy for resiliency investments, climate change, and purchasing, and assist government deal with the emerging TLA infrastructure gap. The IBody would provide oversight and a national framework for the creation of new centres of TLA asset management and operations proposed in this submission.

Answers to specific questions in the Issues paper

19. We have selected only a few questions to answer (appended below), but we would be pleased to elaborate further if this would assist the Commission.

Concluding Comments

20. The ELF believes that the tensions between the community-scaled TLA sector and the need for much more sophisticated asset and hazard management are incompatible. TLAs have progressively shed their in-house capability in asset management and professional engineering and now find that their risk profiles are increasing, their operations and investment performance is questionable, and their productivity remains low. Further we observe that it is becoming increasingly more difficult for elected Councillors to understand significant issues around infrastructure ownership and service delivery, and the opportunities for long-term productivity gains.
21. We urge the Commission to give consideration to a paradigm shift in the way the TLA infrastructure sector is structured and managed, as we assess it is a key issue not just for TLA's but for the NZ economy. We would appreciate an opportunity to meet with the Commission to discuss our comments.

Contacts:

- Richard Bentley, Secretary, Engineering Leadership Forum richardj.bentley@xtra.co.nz Ph 027 4485900
- Peter Higgs, President and NZ Manager of the NZ Division of the Institute of Public Works Engineering Australasia peter.higgs@ipwea.org Ph 0274968200
- Neil Miller, Senior Policy Advisor, Engineering New Zealand neil.miller@engineeringnz.org Ph 022 0611507

Answers to specific questions in the Issues paper

Q1 What other differing circumstances across councils are relevant for understanding local government funding and financing issues?

- State of 3water utilities.
- State of other infrastructure.
- State of regional lifeline utilities.
- Varying risks to natural hazards.
- The demands of tourism.

Q2 What explains the difference between the amount that councils account for depreciation and the amount spent on renewing assets? Are changes needed to the methods councils use to estimate depreciation? If so, what changes are needed?

- Depreciation is simply an accounting technique to assist reflect the ageing of existing assets in formal accounts.
- Asset management –based planning deals with future issues and proposed investments and maintenance regimes and may throw up entirely different recommended cash usage than a depreciation calculation based on arbitrary depreciation rates.
- The important outcome is that TLAs make considered provision for future cash demands, however this is done.

Q8 How are local authorities factoring in response and adaptation to climate change and other natural hazards (such as earthquakes) to their infrastructure and financial strategies? What are the cost and funding implications of these requirements?

- As discussed, there is poor recognition of the need for resiliency investments both within TLA assets and in assets privately owned.
- Further, national guidelines on dealing with climate change and sea level rise are required to avoid wildly different outcomes between TLAs and there needs to be the funding available from central government to achieve this.

Q13 What other factors are currently generating local government cost pressures? What will be the most significant factors into the future?

- Significant future costs include remedying legacy 3water problems especially water quality, sewage plant expansions and upgrades and replacement of rotting asbestos drainage and sewage pipes all over NZ.
- Further, new costs will arise in dealing with tourists, sea level rise, climate change, and changing energy generation and supply patterns.
- Some TLAs may also experience a flight of (rates paying) industry as a result of heightened concern over the difficulty in insuring business assets and business disruption, and meeting increased compliance requirements, such as for earthquake – prone buildings.

Q14 How will future trends, for example technological advances and changes in the composition of economic activity, affect local government cost pressures?

- This is a significantly less important set of issues than those listed in Q13.

Q16 How effective are councils' Long-term Plan consultation processes in aligning decisions about capital investments and service levels with the preferences, and willingness and ability to pay, of residents, businesses and other local organisations?

- Not well, for all the reasons outlined in the discussion.

Q19 What practices and business models do councils use to improve the way they manage their infrastructure assets and the efficiency of their services over time? How effective are these practices and business models in managing cost pressures? Do councils have adequate capacity and skills to use these practices and business models effectively?

- Best practice asset management is a complex multidisciplinary tool that delivers information that can inform risk management, strategic planning, operations management and cash flow projections. Few TLAs do this properly. Few have the in-house capability to properly interpret the nuances of the process and assist elected councillors in their decision making.

Q22 What are the most important barriers to local government achieving higher productivity?

- As discussed, the realisation that the organisation of a TLA to enable local democracy needs to be complimented with new organisational structures, and regionally based, to deliver efficient public services.
- Our assessment is that the inefficiencies of the network of TLAs, 'doing their own thing' is one of the single greatest contributors to NZ's low labour productivity.

Q37 Under what circumstances (if any) could there be a case for greater central government funding transfers to local government? What are the trade-offs involved?

- Government transferred billions to the Christchurch community to assist the rebuild, so the precedent is well established.
- As discussed, if there had been a commitment to build resilient systems the government commitment could have been substantially reduced – it is good business for the government to assist TLAs be more resilient, and to accelerate these programmes though cash, soft loan or other mechanisms – as the government is effectively the underwriter of the local government system, as experience has shown.

Q49 How effective are the current oversight arrangements for local government funding and financing? Are any changes required, and if so, what is needed and why?

- As in Australia, requirements should be implemented that require TLA capital investments to be approved by an experienced professional engineer experienced in the matter.
- New provisions are needed to require TLA's to take more responsibility for the resiliency of their communities both through investments in improvements to TLA assets, to be able to request a resiliency audit of local privately owned lifeline utilities and their governance structures, and be able to require actions to be taken to remedy deficiencies.