Infrastructure and Water
CONSULTANCY SERVICES LIMITED

Local Government Funding and Financing Inquiry
New Zealand Productivity Commission
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SUBMISSION TO PRODUCTIVITY COMMISSION ISSUES PAPER: LOCAL GOVERNMENT FUNDING AND FINANCING INQUIRY.

INTRODUCTION

This is a personal submission based on my 40 plus years of experience in managing municipal infrastructure, most as a senior manager. I was the '3 Waters' Manager for New Plymouth City/District Council from 1983 until 2001, then General Manager Infrastructure until 2012, after which I moved to take the role of City Engineer/Chief Asset Officer for Wellington City until 2017.

I am one of only two local government engineers to have been the national president of Engineering New Zealand (previously The Institution of Professional Engineers New Zealand), and am also a past president of Water New Zealand. I hold engineering and environmental management qualifications in New Zealand, the United Kingdom and Australia, and was the engineering and local government expert on the Havelock North Drinking Water Inquiry.

WATER NEW ZEALAND SUBMISSION

I have read the Water New Zealand submission and support everything therein. I wish however to expand on two matters:

Water Metering

The advantages of water metering are well argued in the Water NZ submission, although whenever introducing meters is proposed, it always becomes a major political debate. The recent experience in Kapiti District is an excellent example. Opposition includes claims of 'privatisation by stealth' and concerns about the impact on lower income earners of a 'new tax regime'.

The issue that is seldom debated is the difference between metering and tariff structures. The two are not the same and can be unbundled. Metering is essential to understand the demands on the network and tariff systems can used to influence customer behaviour, including customer differentiation, and to address concerns about any impacts on the lower socio economic sector. Again Kapiti is a good example where an independent tariff committee with representation across customer types and support agencies is tasked with recommending tariffs and monitoring their impact.

Comparison with the Telco sector is insightful. Whereas most customers are on fixed monthly fees for a bundle of services, there is still intensive metering of use to inform the supplier of the utilisation of the network so that they can determine investment requirements. Without such information, any investment decisions will inevitably be sub optimal.

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It would be helpful if the Commission were to highlight the essential difference between metering and tariffs.

There is also a more subtle advantage of metering that influences the relationship between supplier and customer. Under current law, where a local authority provides a reticulated water supply (which is the norm), the relationship between the local authority and customer is a 'administrative' one with the supplier's and customers' rights and responsibilities defined by legislation and bylaw, not in contract. Although metered water is still defined as a 'Rate' and set in accordance with the Rating Act, having a metered supply tends to establish a more contractual type relationship between the parties, with rights and responsibilities better understood and more willingly observed by both.

Curiously, and due to a historic anomaly, trade waste charges (which directly measure the volume and strength of an individual customer's industrial wastewater flows) are not 'Rates', and can be subject to individual agreement should a local authority choose to do so.

Network Capacity and Utilisation

In response to the Commission's Question 18: *'How much scope is there for local government to manage cost pressures by managing assets and delivering services more efficiently?';* the Water NZ submission accurately summarises the current status of asset condition knowledge; however a network's performance depends not only on condition, but just as importantly on capacity and utilisation. Low water pressure or flowrates, overflowing sewers, and flooding are usually caused by capacity deficiencies, not only condition. Condition can influence capacity, but if a pipe is too small it's too small!

The only practical way to understand the capacity and utilisation of the complex infrastructure networks that deliver water, sewerage and stormwater management is to utilise computer based hydraulic models.

These are expensive to develop, calibrate and maintain. Without such tools, the extent and location of network deficiencies and the impact of new development (both infill and greenfield) is difficult to accurately assess, as are the consequent investment requirements.

The ability to coordinate investment for growth with that required for renewals, has the potential to achieve substantial savings, as the marginal cost of installing a larger pipe when one already needs replacing is very low, particularly if the existing pipe is within a developed urban environment. Work undertaken during my time at Wellington City identified tens of millions of dollars of savings that could be reduced in a ten year period by aligning growth and renewals investment.

Hydraulic modelling is a highly specialist area and drives to the heart of the capability challenges with the current local government structure as identified by the Havelock North Inquiry. Many local authorities do not have any, or up-to-date hydraulic models, and to develop them is problematic. The specialists are difficult to hire in-house and even if successful, the local authority risks becoming overly reliant on a key individual, and any such individual is at risk of becoming technically isolated.

The solution to this is often to utilise specialist external consultants, but in doing so the local authority is at risk of becoming a captive client.

Hydraulic models are also essential to properly operate a network. By way of example, Hastings District Council were fortunate to be able to use the capability of Wellington Water to model the

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Havelock North network to optimise the emergency chlorination needed after the 2016 campylobacter outbreak, but did not have this capability in-house.

The international trend is to not only have computer models, but for them to be real-time dynamic models with inputs such as rainfall, diurnal variation and special events (e.g. All Black Tests).

I also offer two relevant examples.

New Plymouth District Council (with a population of 75,000 – a large local authority by NZ standards) has water network models (developed and maintained by an external consultant), no sewerage models and out of date stormwater models (developed in the 1990s and not maintained, nor recalibrated for network changes or changing climate trends).

When I went to Wellington City in 2012, I was surprised to find that there were no models for any of their three water networks (nor had most of the other cities in the Wellington Region). I had a significant challenge in convincing the elected Council of the need for, or value of, an investment of in excess of $10 million (and the ongoing updating and maintenance costs).

It was not until we established Wellington Water Limited that we had sufficient scale to be able to commit the resources to addressing this need.

In summary, although there are known concerns about the confidence of asset condition for the sector, in my experience, the knowledge about asset capacity and utilisation is much worse.

Should the Commission wish to further examine this issue, Water New Zealand would probably be able to help through their Hydraulic Modelling Special Interest Group.

I am available and would be pleased to further assist the Commission as necessary.

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