

BUILDING
INNOVATION
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Investigation into the Current State of Procurement Practices in New Zealand

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Executive Summary

Background

New Zealand has a mature infrastructure management sector that prides itself on procurement practice innovation. However, the various infrastructure groups are not all at the same level of development, and Treasury often signals opportunities for improvement in the procurement area, in particular for the water sector.

For the Building Innovation Partnership (BIP) programme to effectively contribute to the further development of procurement, it is important to understand the key questions and industry issues to address. To this effect, BIP commissioned research to investigate the current state of procurement practices in the three waters sector in New Zealand.

Study scope

BIP commissioned Waugh Infrastructure Management to collaborate with BIP researchers on research covering the following areas:

- Understanding the main issues faced by the industry in relation to procurement in three waters, roading and vertical assets. This includes the procurement of capital assets and operational activities.
- Benchmarking New Zealand industry practice to international practices and academic research status.
- Consulting with major stakeholders such as Watercare, Water New Zealand, other research organisations, the Building Research Association of New Zealand (BRANZ), the Ministry of Business, Innovation and Employment (MBIE) and Infrastructure New Zealand.

A key outcome of the research was to develop a strategic overview of procurement in New Zealand's three waters sector to identify where the industry may gain the most value from improved procurement practices. A second outcome was to identify what industry activity is required to facilitate these gains and how the BIP programme may assist. A third outcome is to foster an industry-wide discussion of three waters procurement involving national and local government, including local iwi, consultants, contractors and suppliers.

No attempts were made to separate the three waters into their components: potable, waste and storm water. There were often clear indications of differences between the procurement of potable and wastewater services. Storm water services are often delivered under different models to services for the other two waters. Analysing these differences was beyond the scope of this report.

Gaps and opportunities

Industry opportunities

Industry opportunities listed in the gaps and opportunities table and documented in the report are summarised below:

- Development of procurement manuals, policies, strategies, guidelines and contract forms.
- Development of in-service industry training for the new manuals, guidelines and contract forms.
- Development of circular (sustainable) procurement guidelines and integration of these into three waters service delivery.
- Further adaption of alliance contracts for New Zealand conditions.
- Development of national water sector guidelines for performance-based contracts (PBCs).
- Development of regional and national procurement resources.
- Development of total supply chain management for the three waters sector.
- Development of standardised service levels.
- Continuation of the upgrade and standardisation of national three waters data, evidence base and data quality.
- Sector coordination and rules development (perhaps by Taumata Arowai).

Research gaps

The research opportunities listed in the gaps and opportunities table and documented in the report are summarised below:

- Ongoing industry research and integration into decision-making (see examples provided by the New Zealand transportation sector).
- Circular (sustainable) procurement, monitoring and reporting, and the integration of these into three waters service delivery. International comparisons for the effectiveness of New Zealand delivery.
- Integration of well-being and broader outcomes into three waters service delivery. Monitoring and reporting of outcomes. International comparisons for the effectiveness of New Zealand delivery.
- Total supply chain management for three waters service delivery.
- Research into the three waters sector skills shortages and using procurement to address these shortages.
- Further development of Te Mana o te Wai and integration into three waters service delivery.
- Finnish water service delivery models and lessons for New Zealand.
- Swedish water service delivery models and lessons for New Zealand.

- Continued research into and evaluation of three waters service delivery models adopted in New Zealand to measure New Zealand's effectiveness against international models.
- Continued research into and evaluation of the New Zealand use of alliances for three waters service delivery to measure New Zealand's effectiveness against international models.
- Continued research into and evaluation of the New Zealand use of PBCs for three waters service delivery to measure New Zealand's effectiveness against international models.
- Continued research into and evaluation of New Zealand's three waters evidence base and data quality, including international comparisons to measure effectiveness.

Conclusions

While the research for this white paper has provided useful insights into New Zealand's three waters procurement practice, there are many gaps and further work to be completed. These are opportunities for the New Zealand three waters sector. The conclusions of this white paper are:

Lagging practice

New Zealand's three waters sector procurement practice is lagging well behind New Zealand's transportation practice and international best practice. The exceptions are the vertical authorities (Wellington Water and Watercare) and larger local authorities.

Service delivery models are changing

The New Zealand Government is proposing to change water-service delivery models to a regional services delivery model. This approach is well within international norms. A review of international models demonstrated that New Zealand would need to adapt models to its own circumstances and practice drivers. Service delivery model changes will impact procurement requirements, with procurement most likely to be achieved by use of alliances.

Manuals, guidelines, policies and strategies

A range of New Zealand three waters sector procurement-specific manuals, guidelines, policies and strategies will need to be developed and deployed. These will need to incorporate best practice guidance adapted to the New Zealand sector. Industry training will need to accompany the adoption of manuals and guidelines.

Alliance contract development

The widening use of alliance procurement is expected in the three waters sector. Wellington Water and Watercare have deployed alliances and enterprise agreements for service delivery. As alliance use matures, there will be a need for the inclusion of wider community-service obligations (as currently part of Australian practice [1]) and other wider practice requirements, including those related to:

- a. small and medium-sized enterprises (SMEs)
- b. iwi and iwi businesses
- c. social equality and well-being practices
- d. total supply chain management practices
- e. circular (sustainable) practices
- f. Te Mana o te Wai practices
- g. climate change and adaptation considerations
- h. mandated community-service obligations

Performance-based contracts

Performance-based contracts (PBCs) should be incorporated into New Zealand three waters procurement practice, as indicated by international best practice.

Circular and broader outcome procurement

Circular (sustainable) procurement and the achievement of broader outcomes need to be integrated into New Zealand three waters procurement practice. This is indicated in the NZ Government Procurement Rules 4th Edition 2019.

Total supply chain management

Total supply chain development and management should be incorporated into New Zealand three waters procurement practice.

Skills shortage

Procurement practices should be used to assist in addressing the three waters skills shortage.

Research gap

The New Zealand three waters sector has a research gap. Ongoing independent research needs to be undertaken, and the research results should be integrated into three waters service delivery and practice development.

1 Introduction

1.1 Background

New Zealand has a mature infrastructure management sector that prides itself on procurement practices innovation. However, the various infrastructure groups are not all at the same level of development, and Treasury often signals opportunities for improvement in the procurement area, in particular for the water sector.

In order for the Building Innovation Partnership (BIP) programme to effectively contribute to the further development of procurement, it is important to understand the key questions and industry issues to address. To this effect, BIP commissioned research to investigate the current state of procurement practices in the three waters sector in New Zealand.

1.2 Scope of research

BIP commissioned Waugh Infrastructure Management to collaborate with BIP researchers on research covering the following areas:

- Understanding the main issues faced by the industry in relation to procurement in three waters, roading and vertical assets. This includes the procurement of capital assets and operational activities.
- Benchmarking New Zealand industry practice to international practices and academic research status.
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A key outcome of the research was to develop a strategic overview of procurement in New Zealand's three waters sector to identify where the industry may gain the most value from improved procurement practices. A second outcome was to identify what industry activity is required to facilitate these gains and how the BIP programme may assist.

A third outcome is to foster an industry-wide discussion of three waters procurement involving national and local government, including local iwi, consultants, contractors and suppliers.

1.3 Process of research

The research process involved:

- completing an international literature and practice review, including reviewing operations/maintenance and Capex
- completing an international review focused on smaller OECD (Organisation for Economic Co-operation and Development) economies with similar size and scale to New Zealand
- completing a New Zealand literature and practice review, including reviewing operations/maintenance and Capex
- surveying members of the New Zealand industry following analysis of the initial research. A sample of service providers was asked specific questions by telephone survey.
- asking specific questions to a sample of metros, regional collaborations, provincial city councils and smaller rural-based authorities across both the North and South Islands of New Zealand
- consulting industry stakeholders.

2 International Three Waters Practice Review

The review of international three waters procurement practice examined examples from the European Union (EU), the United Kingdom, Australia and the United States, and World Bank procurement implementation in Africa.

The review also focused on small OECD countries with a similar population, settlement density and spread-out geography to determine if they contained lessons for New Zealand. In practice, this meant the Nordic countries of Finland, Sweden, Norway and Denmark. Models of three waters service provision and procurement practice from these countries were researched to examine any correlations.

The review also involved examination of alternative service delivery mechanisms and circular procurement initiatives. Where appropriate, New Zealand comparisons are noted below.

2.1 Europe and the United Kingdom

2.1.1 European Union standards

The adoption and implementation of EU standards has occurred over the past 30 years leading to higher quality water and wastewater results in EU countries. The EU standards for the provision of public water and wastewater, and the subsequent environmental management, are higher than current New Zealand standards.

The major capital works needed to meet EU requirements were a major driver of water services privatisation in England and Wales in 1989. In many cases this has also led to water and wastewater charges in EU countries being significantly higher than in New Zealand, although local topography, water resource availability, and national governance and taxation practices are all noted as contributing to cost variations.

2.1.2 Scottish water

Scottish Water is the publicly owned, vertically integrated water and wastewater service provider for all of Scotland. Scottish Water is a frequently cited and studied model for New Zealand adoption.

In comparison with New Zealand water services, Scottish Water has had the advantage of 30 years of compliance with EU standards, and of financial support from the EU and the UK government to achieve these standards. Scottish Water has had the benefit of both time and money to achieve the required standards and service delivery.

Scottish Water's current service provision model is to use three alliance partners with 58 SMEs [2] engaged in sub-alliances to provide services in rural or remote areas. The three main alliance agreements cover water infrastructure, wastewater infrastructure and non-infrastructure (professional services).

The Scottish Water delivery model has matured over the past 30 years, and the inclusion of the 58 SME sub-alliance partners allows for local service provision supported by the three major alliance partners. This blend of country-wide expertise coupled with local services in alliance partnerships is worth considering for adaptation and implementation in New Zealand.

2.1.3 European use of public-private partnerships

Much wider use of Public-Private Partnerships (PPPs) is made in Europe [3-5] than in New Zealand. The research demonstrated the following key points regarding European PPP use in delivery of three waters services:

- Using PPPs supports off-balance sheet borrowing.
- PPPs allow users to side-step European municipal debt rules.
- There is a need for clear direction for where PPPs will meet the value-for-money test.

PPPs are utilised at a municipal level in Europe. The literature reviewed suggested that off-balance sheet borrowing to allow the European municipal debt rule to be sidestepped may be a major driver of PPP use, rather than service efficiency, management efficiency or the drive to acquire new technology.

2.1.4 Sweden public water and sanitation service

Sweden has in place a public water and sanitation service (the VA service) [6] that is:

- capable of sustained cost-effective and efficient delivery of service
- public and non-profit
- very cost-effective when compared to other international models

Sweden's partial privatisation of water and sanitation services has not provided demonstrable improvements in service, quality or cost. This has led to a process of re-municipalisation of service delivery.

Re-municipalisation trends were also noted across Europe in the *Study on Water Services in Selected Member States* by [3].

2.2 Australia

Australia has a much higher level of industry maturity than New Zealand in the deployment of a range of:

- manuals and guidelines
- PPPs
- alliances
- design-build (DB) and design-build-operate (DBO) contracts

Wider use is made of alternative capital works procurement options.

Australian state and territory water service delivery models are briefly reviewed in Table 2-1. below. Across Australia, a notable pattern is the differing service delivery models and arrangements for urban areas and regional/rural areas. State or council-owned vertically integrated providers, sometimes with separate bulk water providers, are the feature of urban models, while general council or regional providers are deployed in the regional/rural areas. There is some overlap of models and arrangements across the Australian states.

Strong regulation of Australian water services providers to ensure high-quality water supply is a feature of the Australian model.

Table 2-1: Australian State and Territory Water Services Providers

| State | Number of providers | Notes |
|------------------------|---|--|
| Queensland | <ul style="list-style-type: none"> ▪ Bulk supplier in South East Queensland: Seqwater ▪ Two council owned distributor-retailers in South East Queensland ▪ Total of 76 providers in 2017 | <p>South East Queensland has a bulk supplier and two distributor - retailers</p> <p>Remainder provided by councils</p> |
| New South Wales | <ul style="list-style-type: none"> ▪ Bulk provider: WaterNSW ▪ Sydney Water, Hunter Water | Difference in approach between urban and rural NSW |

| State | Number of providers | Notes |
|---------------------------|--|---|
| | <ul style="list-style-type: none"> Regional NSW has 100+ water utilities | |
| Victoria | <ul style="list-style-type: none"> 17 regional water companies | Water Act 1989 Strong regulation |
| South Australia | <ul style="list-style-type: none"> SA Water 67 total retailers licenced | SA Water is state owned All other retailers are councils or private The regulator is ESCOSA |
| Western Australia | <ul style="list-style-type: none"> Water Corporation WA (urban) Aqwest (Bunbury), Busselton Water 30 licenced water service providers | Different approaches to urban and regional arrangements Regulator and licencing system |
| Tasmania | <ul style="list-style-type: none"> TasWater | Owned by 29 councils and the state Formed in 2013 Manages 62 drinking water systems |
| Northern Territory | <ul style="list-style-type: none"> Power and Water Corporation | State owned |
| ACT | <ul style="list-style-type: none"> ACTewAGL | Public-private multi-utility partnership |

The report *Urban Water Governance in Australia: Submission to NZ Three Waters Review* by the Water Services Association of Australia [1] provides a good overview of Australian arrangements, reforms, successes and remaining issues. This paper also provides useful information on the use of community service obligations to achieve broader social objectives through water services.

2.3 Africa, World Bank

The Stockholm International Water Institute (SIWI) paper *How can Alternative Service Delivery Improve Water Services?* [7] was reviewed, as it provided a brief overview of alternative service delivery (ASD) mechanisms.

2.3.1 Summary of alternative service delivery mechanisms

The following points were noted from the paper:

- A spectrum of ASD from public ownership/service delivery contracts to design-build-finance-operate-maintain contracts (DBFOM) to privatisation was examined.
- Four main ASD examined were: management contracts, lease/affermage, DBFOM and institutional PPPs.
- There was discussion on how to leverage the ASD continuum.
- There is a focus on lifecycle cost and leveraging asset management solutions to achieve results.
- Integration of long-term financial and capital planning is essential.
- Governance factors may compromise the project outcome in PPP.
- Sufficiently experienced utility management is required to successfully use PPP as an alternative procurement mechanism.
- Political and senior management support is required to successfully develop major new projects.
- Governments must provide clear regulatory and institutional frameworks to both utilities and private sector partners.
- Utility companies need finance and technical experience, as well as capacity in senior management teams, to successfully lead PPP projects.

The paper noted that all PPP procurement options identified in the ASD continuum are, in essence, performance-based contracts (PBCs) [7].

2.3.2 Performance-based contracts

The World Bank has made wide use of country-adapted PBCs across its development portfolio and across network types. In the report *Water PPPs in Africa 2014*, the [8] notes that water PPPs have been used on the African continent since the 1959 implementation of the Cote d'Ivoire urban water affermage – a successful operation that continues to provide water to over seven million people today. PBCs have become a standardised and widely successful international methodology. [9] noted that over 1,000 water sector PPPs are now in place in West Africa.

2.3.3 New Zealand's adoption of PBCs

PBCs have primarily been deployed in New Zealand in the transportation sector, with hybrid PBC network outcomes contracts (NOCs) used with the state highway network. There were some limited attempts at the use of PBCs for water networks by local authorities in the 1990s and early 2000s, but no widespread adoption. The current enterprise and alliance contracts used for water networks contain elements of PBCs.

2.4 Circular (sustainable) procurement

The European Commission (EC) has been proactive in developing, prioritising and monitoring circular (sustainable) procurement practices including:

- EC integration into procurement practice [10]
- EC and Nordic multi-country procurement initiatives [11]
- EC environmental implementation reviews (the *Environmental Implementation Review 2019: Country Report Finland* [12] was reviewed as an example)

2.4.1 European Framework for the Circular Economy

The European Monitoring Framework for the Circular Economy [13] consists of ten indicators in four areas:

1. Production and consumption
2. Waste management
3. Secondary raw materials
4. Competitiveness and innovation

The ten indicators are:

1. Self-sufficiency for raw materials
2. Green public procurement
3. Waste generation
4. Food waste
5. Overall recycling rates
6. Recycling rates for specific waste systems
7. Contribution of recycled materials to raw material demand
8. Trade in recyclable raw materials
9. Private investments, jobs and gross value added
10. Patents related to waste management and recycling

Circular procurement is embedded into European practice, with government programmes, initiatives and funding coupled with monitoring, progress evaluation and public reporting.

2.4.2 New Zealand circular procurement

In New Zealand, procurement is moving in the same direction, with circular procurement specified in New Zealand practice, as discussed below. The three waters local authority survey completed as part of this white paper noted circular procurement has commenced with further development and implementation to be included in procurement practice going forward.

The fourth edition of the [14] lists the following expectations in the Government Procurement Charter:

2 – Undertake initiatives to contribute to a low emissions economy and promote greater environmental responsibility.

5 – Promote inclusive economic development within New Zealand

Rule 16 of the Charter also states that all agencies must consider Broader Outcomes, which requires them to consider “not only the whole-of-life cost of the procurement, but also the costs and benefits to society, the environment and the economy”.

The New Zealand government departments, Crown agencies and Crown entities are required to follow the *Government Procurement Rules*, but local authorities and water authorities are not. However, the *Government Procurement Rules* are used for guidance by some parts of the local government sector.

2.5 Case study: comparisons with Finland

During the compilation of this research, the similarities between Finland and New Zealand were noted, along with some interesting differences in approach.

2.5.1 Finland and New Zealand country comparison

The information below is presented to assist the New Zealand procurement discussion.

Table 2-2: Finland and New Zealand Country Comparison

| Comparator | Finland | New Zealand |
|--|------------------------------------|------------------|
| Land area (km2) | 338.4 | 268 |
| Population, 2020 (M) | 5.53 | 5.0 |
| Population density (per km2) | 19 | 15 |
| Percentage urban population | 85 | 87 |
| Largest city, 2020 (M people) | 1.1 | 1.6 |
| GDP, purchasing power parity (Bn USD) | 257 | 199 |
| GDP per capita | 46,559 | 40,266 |
| | | |
| Currency | Euro | NZD |
| Motorway (km) | 903 | 199 |
| Roads (km) | 104,161 | 94,000 |
| Rail (km) | 5,865 | 4,128 |
| High-speed rail planned | Helsinki–Turku Helsinki–Tampere | No current plans |
| | | |
| Water Poverty Index (2020) | 77.9 Rank 1 | 61 Rank 56 |
| Relative Water Stress Index (2009) | Very low | Low |
| Environmental Performance Index (2020) | 78.9 Rank 7 | 71.3 Rank 19 |
| | | |

| Comparator | Finland | New Zealand |
|--|------------------------------------|--|
| Education: PISA 2018 reading, math and science average score | 516 Rank 3 OECD | 503 Rank 8 OECD |
| Corruption Perceptions Index (2019) | 86 Rank 3 | 87 Rank 2 |
| United Nations Human Development Index (2019) | 0.925 Rank 12 | 0.921 Rank 14 |
| City population comparison (2020) | | |
| 7 largest cities in each country City sizes are very comparable | Helsinki 1.1M | Auckland 1.6M |
| | Tampere 235,000 | Christchurch 377,200 |
| | Oulu 203,750 | Wellington 215,400 |
| | Turku 191,603 | Hamilton 169,300 |
| | Jyvaskyla 141,374 | Tauranga 135,000 |
| | Lahti 120,081 | Lower Hutt 104,900 |
| | Kuopio 118,667 | Dunedin 104,500 |
| Water Services Delivery | | |
| Bulk water suppliers | Helsinki Tampere Hameenlinna | WaterCare (Auckland) Wellington Water |
| Urban municipalities | 113 | 11 |
| Rural municipalities | 331 | 50 |
| Cooperatives | 1000+ | |

| Comparator | Finland | New Zealand |
|--|---|--|
| Regional councils | 19 | 11 |
| Water Delivery Regulations and Operations | | |
| Wastewater discharge permits | 5 years | 20–30 years |
| Outsource contract period | 3 years | 3–15 years |
| Environmental outcomes | Best Environmental Practice Best Environmental Outcome | Resource Management Act (RMA) Consent conditions National Environmental Standards (NES), National Policy Standards (NPS) requirements |

Table information sources – Wikipedia, and the indices referenced in the Comparator column

2.5.2 Finland water services discussion

Finland has had a completely different history to New Zealand, which has contributed to the differences in the number and structure of municipal authorities and the organic development of locally owned private water cooperatives.

Finland was a territory of Sweden from the 1200s until 1809. It became a Russian Grand Duchy in 1809, and remained so until it gained independence in 1917, following the Russian Revolution. Finland had a civil war in 1918, then fought Soviet Russia during the Winter War of 1939 and the Continuation War during World War II. After World War II, Finland was still free, but that freedom had been bought at a high cost and bitter price. Having been previously dominated by imperial powers, Finland now has a very independent national character, and this shows in the large number of municipalities (which originally developed from church parish councils) and the privately owned water cooperatives.

The water cooperatives and the municipalities work together on the provision of water and wastewater services. This has led to the formation of bulk and regional service provision.

Economically, Finland is part of the EU and participates in a 450-million-person market. Finland meets EU requirements and is regularly audited on its progress towards meeting environmental and other standards [12]. The average water services cost structure in Finland is higher than in New Zealand, but it can be observed that this is a result of higher standards, climate, water resources and sensitive water body protection, and population distribution.

As in New Zealand, there has been regular research and review of the efficiency and effectiveness of Finland's water services provision. Gradual regionalisation and further cooperation are trends that are being observed within fiercely independent local ownership structures.

Features of Finland's water service provision are:

- At a very low level of public ownership (water cooperatives) [15, 16], but widespread service provision by outsourced private market contracts.
- Service provision contracts with a short duration (typically three years) [16] to maintain a competitive contracting market in a relatively small country.
- Five-year short-duration wastewater discharge permits ruled as Best Environmental Practice and Best Environmental Outcomes, due to sensitive water bodies and EU requirements and accords [17]. Short-duration discharge permits ensure continuous development and application of the latest treatment technologies and environmental thinking.

2.5.3 Observations for New Zealand

Finland has been able to meet EU water-regulation requirements over the past 30 years using a very distributed ownership structure that has developed over time because of national history.

The average cost of Finland's water services is almost double New Zealand's, although Finland has higher standards, sensitive receiving waters, and climatic and population distribution challenges.

Finland has merged municipal and cooperative service provision where it has made sense to do so, such as around the two largest cities – Helsinki and Tampere.

To protect sensitive environments, Finland has adopted a Best Environmental Practice and Best Environmental Outcome approach, coupled with short five-year discharge permits. This in turn impacts service provision contract length.

For New Zealand procurement practice, it can be observed from Finnish practice that:

- ownership structure does not preclude collaborative and cooperative procurement
- higher standards may come at a higher cost

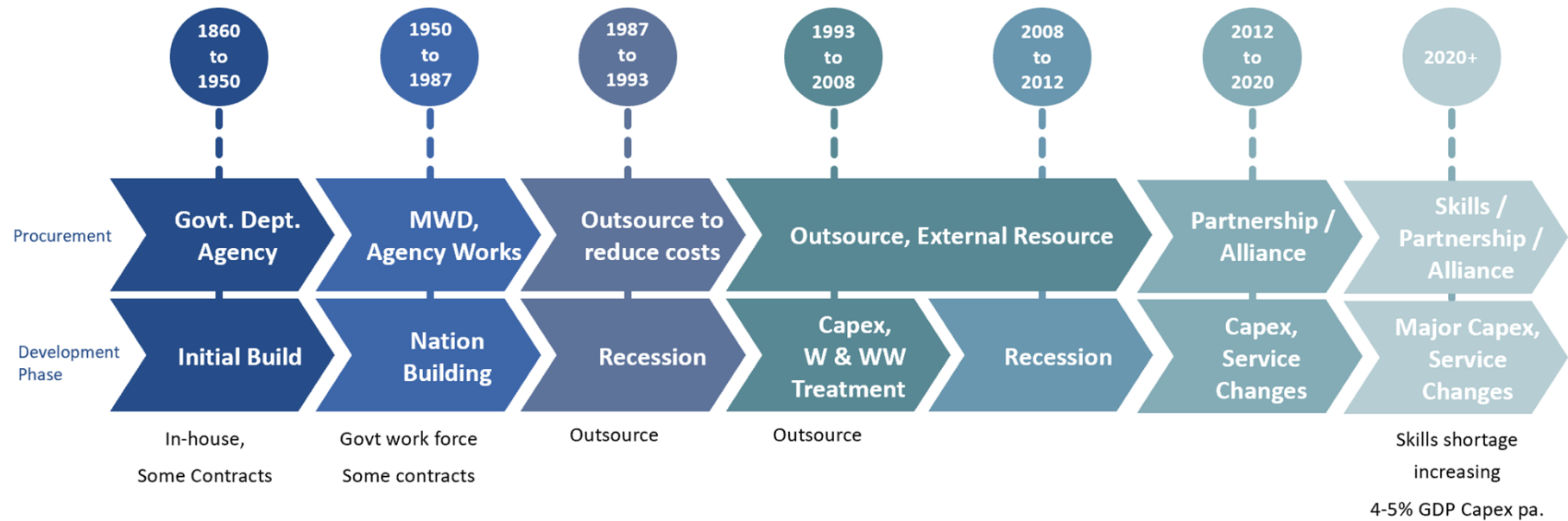
- environmental and discharge permit requirements can have a major impact on procurement objectives and timeframes
- preserving market competition needs careful consideration. In Finland, this has led to multiple short-duration (typically three-year) contracts.

3 New Zealand Procurement Practice Review

3.1 New Zealand procurement development

The development of infrastructure procurement practice in New Zealand can be matched to phases of national development, as shown in the summary schematic (Figure 3-1).

Figure 3-1: New Zealand Procurement Development



3.1.1 Initial infrastructure build, Public Works Department

During the “Vogel Era” of New Zealand’s development, Premier Julius Vogel borrowed heavily to build infrastructure and entice immigrants to New Zealand. Roads and railways were built. The Public Works Department was formed and operated during the period of 1876–1948. Municipal governments also borrowed to fund infrastructure such as water and wastewater systems. Most infrastructure was publicly funded and constructed. The Great Depression-era public works are included in this phase. This period is shown as the “initial build” phase in the schematic (Figure 3-1).

3.1.2 Nation building and the Ministry of Works

From World War II through to the large New Zealand recession that followed the share market crash in 1987, there was a phase of sustained infrastructure building and development that included roads, ports, airports, hydroelectricity schemes, electricity networks, telecommunications networks, and water and wastewater networks.

The Public Works Department became the Ministry of Works in 1948, and then the Ministry of Works and Development from 1974 to 1988. The Ministry completed strategic planning, engineering design, project supervision and civil construction. The majority of major infrastructure design and construction was completed by the Ministry as an integrated vertical during this nation-building phase.

3.1.3 Recession and outsourcing

New Zealand’s economy went into a deep recession following the 1987 share market crash. 10–12% of the population was unemployed, mortgage interest rates rose to 20% and the Government borrowed 60% of GDP to continue to fund social services. The previous national building procurement and business models were no longer seen as relevant, and in alignment with trends in Western democracies led by the United Kingdom and the United States, the New Zealand Government embarked on a period of privatisation and outsourcing of work. New Zealand local authorities followed the Government’s lead, and procurement during the recession period of 1987–1993 focused on the outsourcing of work to increase efficiency and reduce costs. The procurement models that are currently deployed in New Zealand saw their initial development in this period.

During this phase of New Zealand’s development there was very minor capital expenditure and minimal operations and maintenance expenditure to conserve scarce financial resources. The 2014 report *Water and roads: Funding and management challenges*, from the Office of the Auditor-General [18], notes that during the 1987–1993 recession period the rate of asset consumption was higher than the rate of asset creation, i.e. New Zealand was allowing its assets to deteriorate.

In practice, outsourcing typically involved the transformation of government departments to state-owned enterprises (SOEs) and council workforces to council-controlled organisations (CCOs), i.e. semi-privatisation with ownership by the asset-owning authority. Procurement practices reflected this ownership structure with the initial contracts being a catalogue of the works and services previously completed by the internal workforce.

3.1.4 Outsourcing and external resources

The 1993–2012 period saw the resumption of capital expenditure in roads, expressways, water and wastewater treatment facility upgrades to meet new standards, new electricity generation, and upgrades to electrical and telecommunications networks. The Government and councils started selling off SOEs and CCOs, particularly those involved in civil physical works delivery and design services. With the more broadly private and commercial engagement arrangements through this period, procurement methods changed, and new methods were introduced. Partnership and alliance contracts were introduced and tested, and PBC models were piloted in the transportation sector. Not every authority changed, with many retaining previous procurement methods, and in some cases, in-house design and physical works resources.

This period can be seen as a capital and maintenance catch-up from the previous 1987–1993 recession period. The 2008–2010 recession following the Global Financial Crisis was relatively minor in New Zealand, although there was some constraint in capital works and design service purchasing. Some of the lessons of the previous recession had been remembered.

3.1.5 Increasing capital, service level changes and alliances

The 2012–2020 period has seen increasing large infrastructure capital expenditure accompanied by increasing service-level expectations, particularly in the management of water and the delivery of enhanced environmental outcomes. The challenges of adapting to climate change have also developed in this period.

The 2011 Christchurch earthquake and 2016 Kaikoura earthquake led to the innovative use of alliance service delivery structures to deliver the required major horizontal infrastructure rebuilding quickly and efficiently.

In the transportation sector, there was also further adoption of alliances to deliver major projects, and wider use of hybrid PBCs, particularly for state highway maintenance work.

3.1.6 2020+ Major capital, alliances and skills shortage

The schematic (Figure 3-1) was prepared in November 2019 before the impact of the COVID-19 pandemic.

By November 2019, the New Zealand Government had signalled a major increase in infrastructure capital expenditure. The Government's response to the COVID-19 pandemic and subsequent New Zealand economic shock includes further increases in infrastructure capital expenditure. Taking a broad view, New Zealand is again entering an infrastructure "nation-building" phase. The need for major capital projects to proceed quickly and efficiently and the recent success of the earthquake rebuild alliance structures suggests that this next phase of procurement is likely to be undertaken via broad alliances structured to also allow for SME and iwi company involvement.

Water industry restructuring is also predicted to result in regional service delivery arrangements, and it is noted that existing regional water authorities have generally adopted enterprise/alliance-based procurement for service delivery (Watercare and Wellington Water). Recent years have also demonstrated a growing industry skills shortage, which is a legacy of the 1987–1993 recession period and subsequent outsourcing. Industry training and resource development decreased dramatically in the thirty-year period of 1990–2020.

As New Zealand ramps up into another major infrastructure building phase, this will need to be accompanied by a range of industry-wide training programmes at all levels – from physical works "on-the-job" training through technician level to academic degree level.

3.2 Transportation procurement practice

Since the outsourcing of the 1990s, New Zealand's transportation procurement practice has broadly progressed in line with international best practices. The continual improvement in practice over the 30-year period of 1990–2020 has been coordinated by the NZ Transport Agency (NZTA) and its predecessors, using a combination of funding incentives, research and coordinated procurement requirements.

3.2.1 Transportation national procurement manual

The NZTA publishes the *Procurement Manual for activities funded through the National Land Transport Programme* [19], which contains a range of procurement guidance for highway maintenance and for local road controlling authorities. Road controlling authorities are required to maintain a Procurement Strategy for Transportation Activities, which must be adopted by the relevant council and approved by the NZTA.

3.2.2 Procurement strategy for transportation activities

Councils must adopt a Procurement Strategy for Transportation Activities. Some Councils have widened this to include all their activities, including three waters, whilst many have just adopted a strategy for transportation. A typical table of contents for a procurement strategy is:

1. Executive summary

2. Preface
3. Service context
4. Procurement programme
5. Procurement environment
6. Approach to delivering the work programme
7. Implementation
8. Appendices

A Procurement Strategy for Transportation Activities is a comprehensive document, typically in the range of 50–70 pages.

3.2.3 Standardised service levels

The One Network Road Classification (ONRC) provides standardised service levels with a range of supporting guidance prepared by the national Road Efficiency Group (REG) initiative. Additional supporting guidance is provided by NZTA standards and Road Infrastructure Management Group (RIMS) best practice guides.

3.2.4 National data evidence base, data quality

The REG coordinates the Road Asset Management and Decision Support Systems initiative, which collates a national data analysis set, with annual monitoring and reporting of data quality.

3.2.5 Research integration with decision making

The New Zealand transportation sector has made continued use of research commissioned by the NZTA, the University of Auckland's Transportation Research Centre, REG, Infrastructure Decision Support (IDS) and RIMS. This research has been integrated into practice guides, research notes and industry decision models. The research base has informed service delivery models and the associated adaptation of procurement practices.

3.2.6 Performance-based contracts

The use of PBCs has been recognised as international best practice in transportation procurement, with the World Bank having been active in the implementation of these worldwide. New Zealand has also moved to using PBCs for both regional alliance contracts and the state highway NOCs.

There has been significant industry discussion and comment about the deployment and use of PBCs in New Zealand and, in particular, the inclusion of SMEs in these contract frameworks. This remains an area of evolving practice in the New Zealand context and is likely to include iwi companies in the future.

3.3 Three waters practices

New Zealand's three waters procurement practices are summarised below from the results of the authorities surveyed. Detailed results and analysis from the survey are included in Appendix B - NZ Procurement Survey.

3.3.1 Sector coordination

Water sector-wide coordination has historically been much weaker than in the transportation sector, due to the lack of a central funding and standard-setting body, such as NZTA in the transportation sector. More recently, Water New Zealand, Local Government New Zealand (LGNZ) and the Institute of Public Works Engineering Australasia (IPWEA) have worked hard to address this coordination gap with a range of data collation, standards development, data management and data quality projects. The establishment of Taumata Arowai is expected to increase water sector coordination, standard setting and quality management.

3.3.2 Analysis of local authority survey results

Table 3-1 provides a summary of the local authority survey interview analysis and findings. The raw data and detail of the survey analysis is included in Appendix B - NZ Procurement Survey.

Table 3-1: Survey Responses, Findings and Analysis of Results

| Area | Findings | Examples |
|---|--|--------------------------|
| Organisational arrangements and Capex planning | <ul style="list-style-type: none"> Capital project identification takes place in the Asset Management /Planning areas/departments in councils. | |
| | <ul style="list-style-type: none"> Projects are handed over to delivery teams for detailed programming, procurement and construction (with a 2–5-year programme timeframe). | |
| | <ul style="list-style-type: none"> There are a range of delivery planning frameworks that have been developed and implemented. | |
| | <ul style="list-style-type: none"> Individual projects are often grouped to form larger integrated contracts, often combining three waters with roading works. | Waipa, Hastings, Rotorua |

| Area | Findings | Examples |
|-----------------------------|--|--|
| | <ul style="list-style-type: none"> Term maintenance contracts often include capital renewals works. | Thames, Dunedin |
| | <ul style="list-style-type: none"> A few councils have in-house capability to deliver simple renewals. | Napier, Whangarei |
| Capital works | | |
| Procurement planning | <ul style="list-style-type: none"> Several councils start the project-delivery process by preparing procurement plans that document basic project details and the preferred procurement approach. | <p>Hastings – Procurement plans and sign-off.</p> <p>Dunedin – Prince 2 delivery framework.</p> <p>Waipa – developed a delivery framework and recently had it peer reviewed.</p> |
| | <ul style="list-style-type: none"> Non-construction / technical project objectives are identified as important and inform the procurement approach. | <p>Dunedin – includes 5% non-price attribute to local business. This has been increased to 25% in the wake of COVID-19.</p> |
| | <ul style="list-style-type: none"> Programmes are planned across multiple years. | Waipa, Rotorua, Watercare, Wellington Water, Hastings |
| Contract framework | <ul style="list-style-type: none"> Most councils use the NZS 3910 suite of contracts as the basis for their construction contracts, with the addition of special conditions, and NZS 3917 for maintenance term contracts. | |

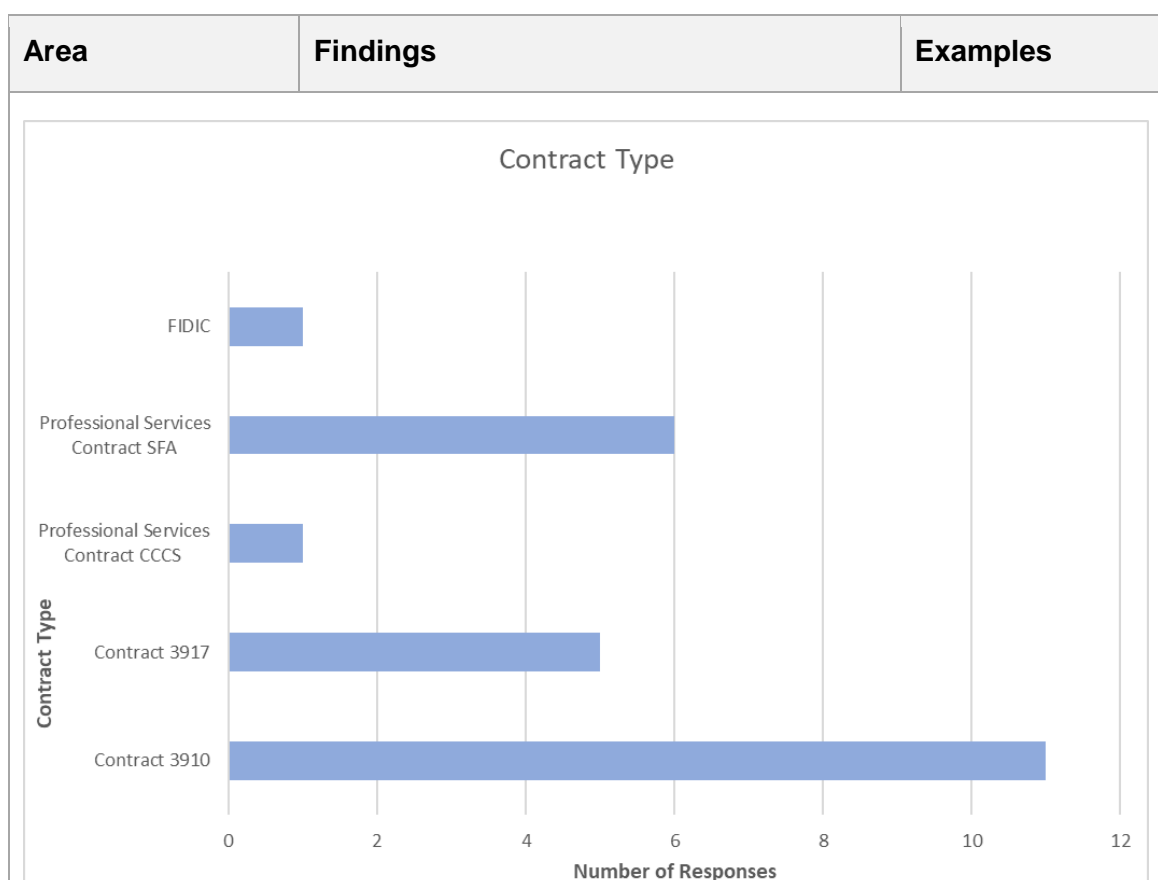
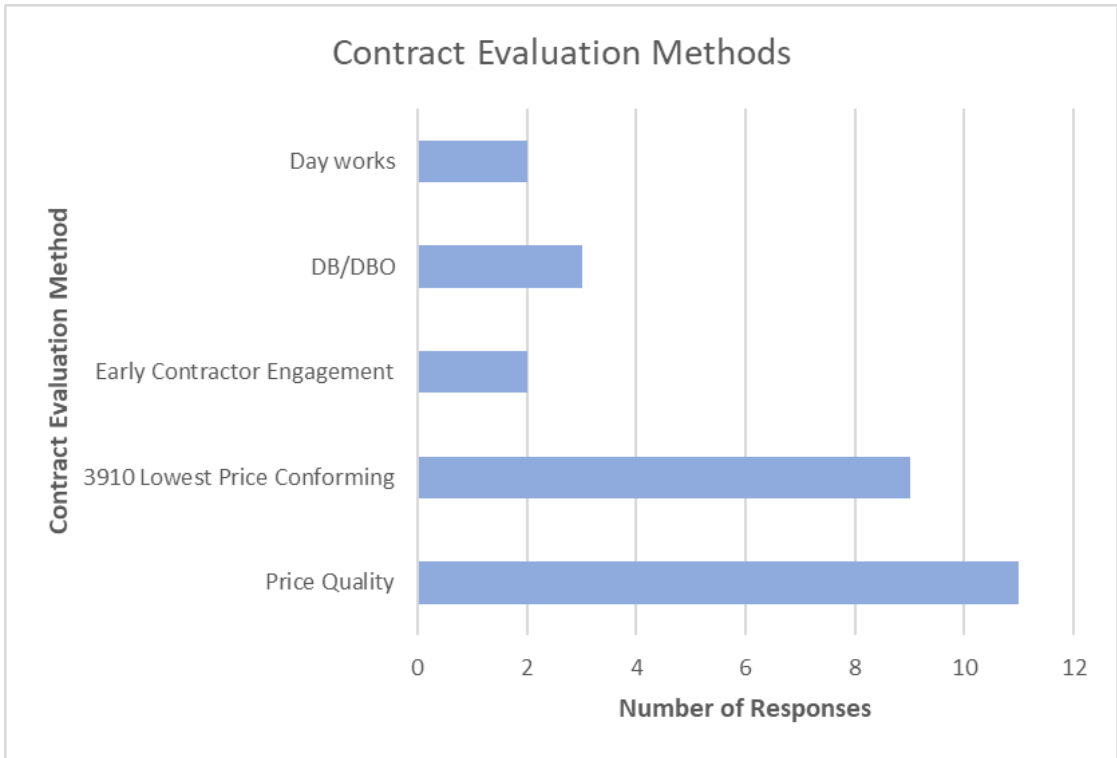


Figure 3-2: Contract Type Usage Comparison

| | | |
|-------------------------------|--|----------------------------|
| Procurement process | Some councils have found that contractor engagement in the project planning phase helps identify and reduce risk elements – helping to reduce costs. | Watercare enterprise model |
| | Some councils have lists of pre-qualified contractors to streamline procurement processes. | Hastings, Tauranga |
| Evaluation methodology | <ul style="list-style-type: none"> ▪ Dependent on project size and complexity ▪ Small/simple lowest price conforming (LPC) ▪ Medium complexity price quality method (PQM) | |

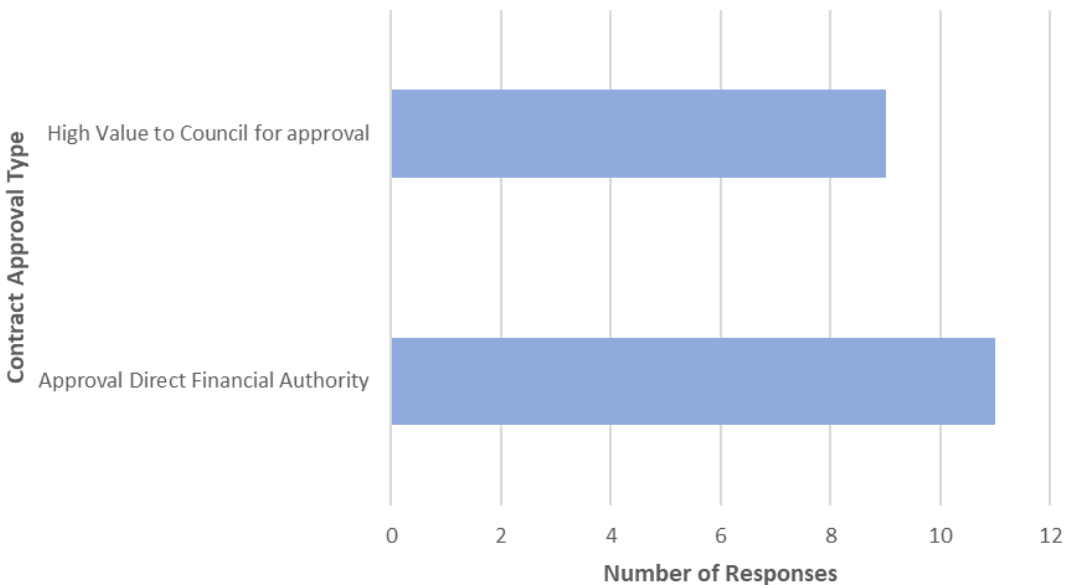
| Area | Findings | Examples |
|------|--|----------|
| | <ul style="list-style-type: none">▪ Very big and complex – preferred supplier, short list and early contractor engagement (ECI)▪ DB very rarely used▪ Emergency works – direct engagement▪ Several councils indicated that quality aspects are more important than price. | |

Contract Evaluation Methods

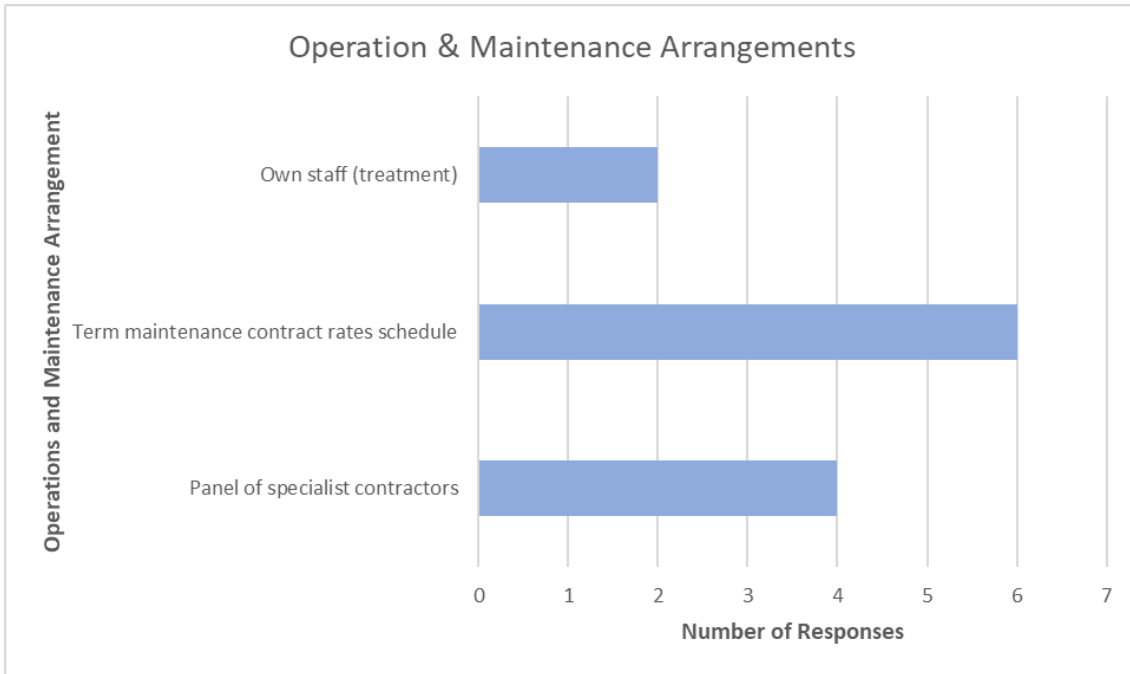


| Contract Evaluation Method | Number of Responses |
|------------------------------|---------------------|
| Day works | 2 |
| DB/DBO | 3 |
| Early Contractor Engagement | 2 |
| 3910 Lowest Price Conforming | 9 |
| Price Quality | 11 |

| | | |
|--|---|--|
| Figure 3-3: Contract Evaluation Method Comparison | | |
| Contract approvals | <ul style="list-style-type: none">▪ In-house tender adjudication panel and recommendation▪ Recommendation approvals via Delegated Financial Approvals (DFAs) depending on value<ul style="list-style-type: none">▪ High value to Chief Executive (CE) for approval under delegations | |

| Area | Findings | Examples | | | | | | |
|--|---|------------------------------|------------------------|---------------------|------------------------------------|---|-------------------------------------|----|
| | <ul style="list-style-type: none">▪ Very high value to council subcommittee or to full council meeting▪ Some councils have tender committees. Others take tender approvals to the full council.▪ CCOs also use DFAs with board approval instead of council. | | | | | | | |
| <div><p>Contract Approval</p><table><caption>Contract Approval Data</caption><tr><th>Contract Approval Type</th><th>Number of Responses</th></tr><tr><td>High Value to Council for approval</td><td>9</td></tr><tr><td>Approval Direct Financial Authority</td><td>11</td></tr></table></div> | | | Contract Approval Type | Number of Responses | High Value to Council for approval | 9 | Approval Direct Financial Authority | 11 |
| Contract Approval Type | Number of Responses | | | | | | | |
| High Value to Council for approval | 9 | | | | | | | |
| Approval Direct Financial Authority | 11 | | | | | | | |
| <p>Figure 3-4: Contract Approval Process Comparison</p> | | | | | | | | |
| Project Design | <ul style="list-style-type: none">▪ Small simple projects – in-house design | Napier City Council, Hauraki | | | | | | |
| | <ul style="list-style-type: none">▪ Larger contracts<ul style="list-style-type: none">▪ Individual project SFA▪ Professional Services (PS) – Alliance contract▪ PS – Panels | Hastings Alliance | | | | | | |

| Area | Findings | Examples |
|-----------------------------------|--|--|
| Construction Supervision | <ul style="list-style-type: none"> ▪ Small/simple/renewals – in-house or maintenance contractor ▪ Contracts based on NZS 3910 | Dunedin, Wellington Water, Watercare, Waipa – Waikato LASS |
| Operations and maintenance | | |
| Contract | <ul style="list-style-type: none"> ▪ NZS 3917 often used | |
| Reticulation maintenance | There are a range of approaches to operations and maintenance delivery: | |
| | <ul style="list-style-type: none"> ▪ In-house with individual specialised contracts for electrical/mechanical/control | Napier, Hauraki |
| | <ul style="list-style-type: none"> ▪ Term maintenance contracts (up to 8 years) with individual specialised contracts for electrical/mechanical/control | Dunedin, Watercare |
| | <ul style="list-style-type: none"> ▪ Some councils include both reticulation maintenance and pump station and treatment in a single contract. | Thames |
| | <ul style="list-style-type: none"> ▪ Some councils outsource reticulation and have pump station and treatment in-house. | Hastings, Dunedin, Waipa |

| Area | Findings | Examples | | | | | | | | |
|--|--|----------|--|---------------------|-----------------------|---|--|---|---------------------------------|---|
| <div><p>Operation & Maintenance Arrangements</p><table><caption>Operation & Maintenance Arrangements Data</caption><tr><th>Operations and Maintenance Arrangement</th><th>Number of Responses</th></tr><tr><td>Own staff (treatment)</td><td>2</td></tr><tr><td>Term maintenance contract rates schedule</td><td>6</td></tr><tr><td>Panel of specialist contractors</td><td>4</td></tr></table></div> | | | Operations and Maintenance Arrangement | Number of Responses | Own staff (treatment) | 2 | Term maintenance contract rates schedule | 6 | Panel of specialist contractors | 4 |
| Operations and Maintenance Arrangement | Number of Responses | | | | | | | | | |
| Own staff (treatment) | 2 | | | | | | | | | |
| Term maintenance contract rates schedule | 6 | | | | | | | | | |
| Panel of specialist contractors | 4 | | | | | | | | | |
| Treatment (water/ wastewater) | <ul style="list-style-type: none">▪ Water treatment – often in-house, some term contracts▪ Wastewater – some in-house, some term contracts▪ Also, individual specialised contracts for electrical/mechanical/control | | | | | | | | | |

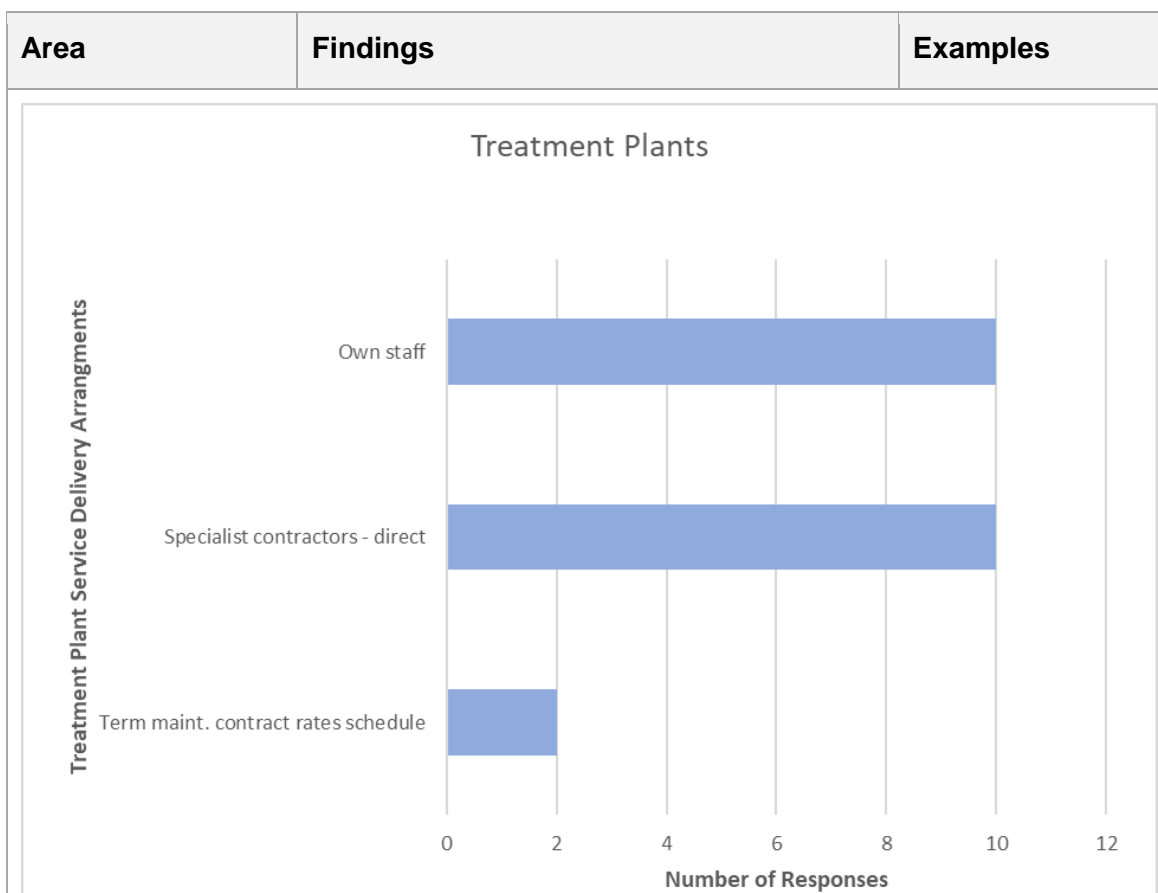
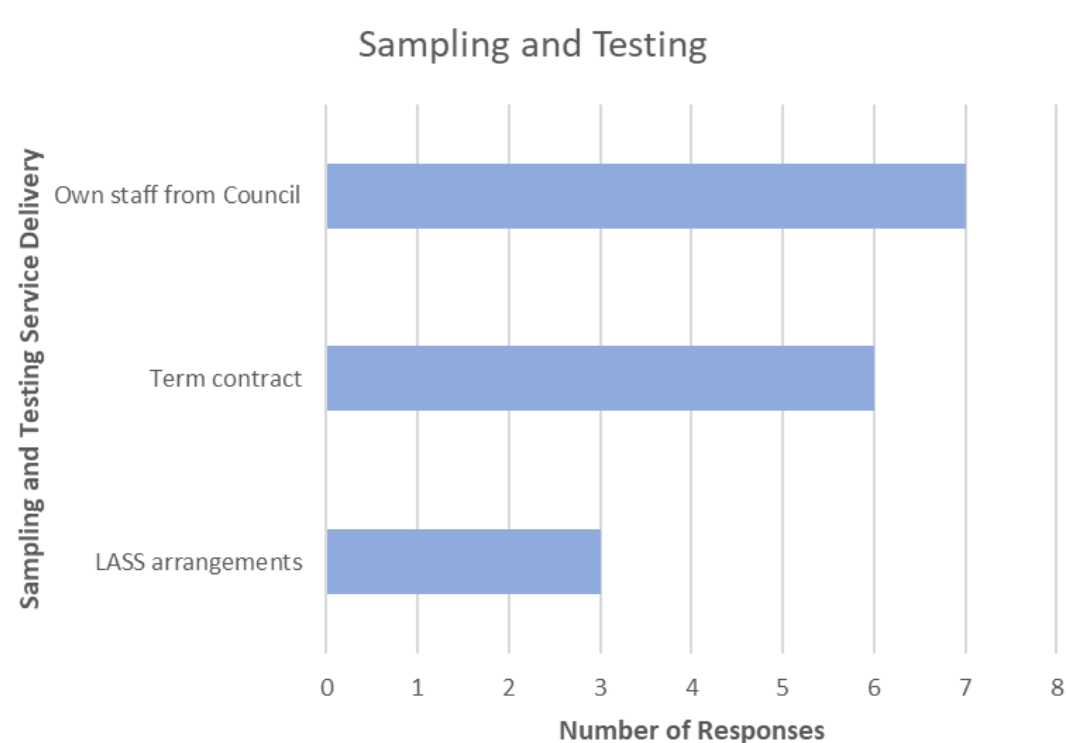


Figure 3-6: Treatment Plant Service Delivery Arrangement Comparison

| | | |
|----------------------|--|------------------------------|
| Sampling and testing | Some simple sampling/testing in-house | Watercare, Rotorua, Tauranga |
| | Mainly outsourced term contracts | |
| | Some contracts for three waters | Dunedin, Hastings |
| | Some individual water activity contracts | |

| Area | Findings | Examples | | | | | | | | |
|---|---|---------------|---------------------------------------|---------------------|------------------------|---|---------------|---|-------------------|---|
| <div><p>Sampling and Testing</p><table><tr><th>Sampling and Testing Service Delivery</th><th>Number of Responses</th></tr><tr><td>Own staff from Council</td><td>7</td></tr><tr><td>Term contract</td><td>6</td></tr><tr><td>LASS arrangements</td><td>3</td></tr></table></div> | | | Sampling and Testing Service Delivery | Number of Responses | Own staff from Council | 7 | Term contract | 6 | LASS arrangements | 3 |
| Sampling and Testing Service Delivery | Number of Responses | | | | | | | | | |
| Own staff from Council | 7 | | | | | | | | | |
| Term contract | 6 | | | | | | | | | |
| LASS arrangements | 3 | | | | | | | | | |
| <p>Figure 3-7: Sampling and Testing Service Delivery Arrangement Comparison</p> | | | | | | | | | | |
| <p>Professional Services (PS)</p> | <ul style="list-style-type: none">Some Councils have in-house capabilityPS support either via<ul style="list-style-type: none">PS contract or individual contracts – project procurement via quote/proposal and SFAPS panelsalliance arrangementsServices cover asset management (AM), investigations, optioneering, design, construction and supervision | <p>Napier</p> | | | | | | | | |

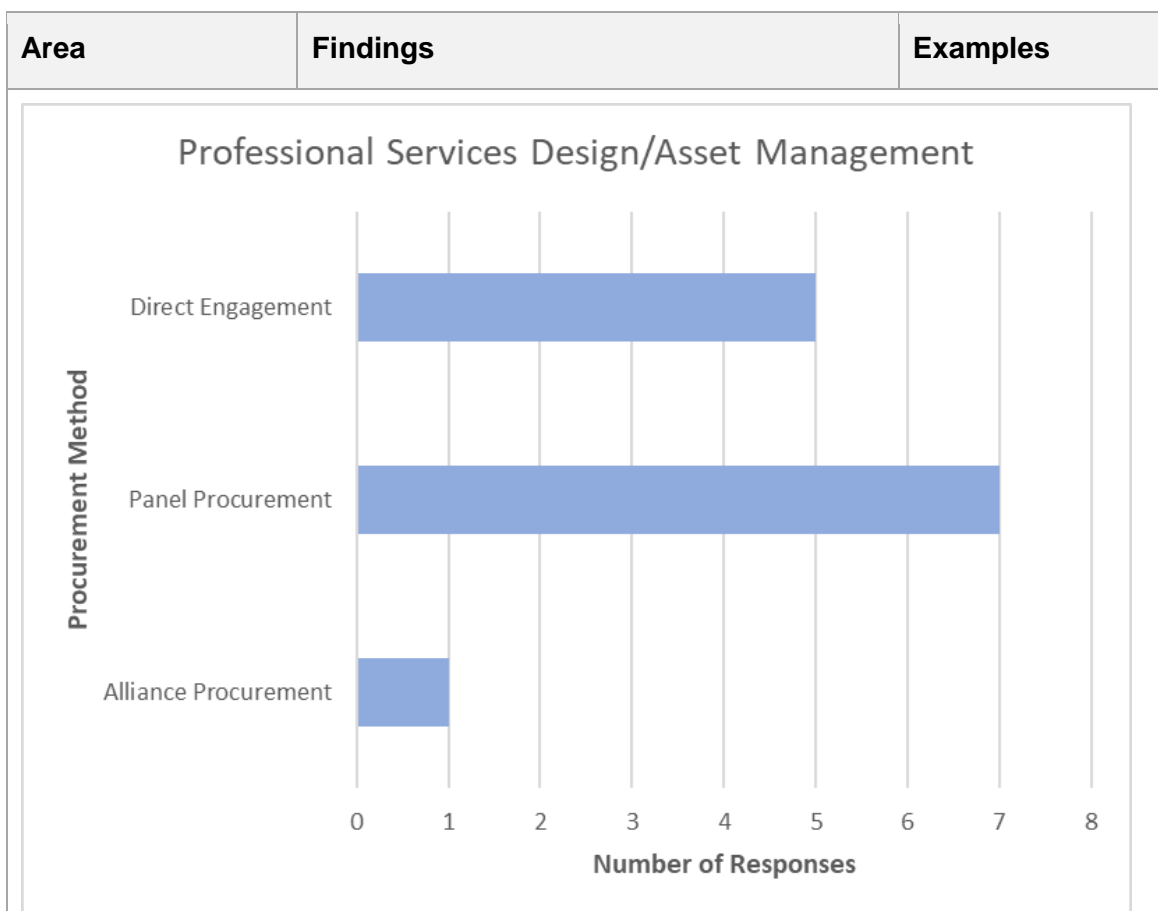


Figure 3-8: Professional Services Procurement Comparison

| Regional arrangements | | |
|-------------------------|--|--|
| Wellington Water | <ul style="list-style-type: none"> ▪ CCO with 6 councils ▪ Water committee with elected member reps, with board reporting to it ▪ Developed a Service Delivery Strategy ▪ Maintenance alliance arrangement with Fulton Hogan and contractor panels (contractors made up of clusters of small contractors) ▪ Wastewater Treatment Plant (WWTP) – Veolia term contract ▪ Design – in-house ▪ Major projects team for projects. \$10M project budget | |

| Area | Findings | Examples |
|---|---|------------------|
| | <ul style="list-style-type: none"> ▪ All water sampling outsourced via contract ▪ Consenting run as capital projects ▪ Approvals – direct financial authority within Wellington Water, not back to councils for decisions | |
| Watercare | <ul style="list-style-type: none"> ▪ Watercare is a CCO – 100% owned by Auckland Council (AC) ▪ They cannot return a dividend ▪ They are self-funded, not funded by AC rates ▪ They are a limited liability company with a board, which allows for limited political influence ▪ Massive asset base of >\$10B ▪ Three O&M term contracts ▪ Major projects are managed and contracted within an enterprise model | |
| Hawke's Bay – Regional three waters planning | <ul style="list-style-type: none"> ▪ Currently involved in regional planning process (with central government funding), following these steps: <ul style="list-style-type: none"> ▪ Strategic business case looking at a range of service delivery options ▪ Detailed business case ▪ Business case approval by all councils ▪ Outcomes back to central government ▪ Implementation ▪ Key issues: "loss of control", harmonisation of charges / larger partners subsidizing smaller | Hastings, Napier |
| Southern Region | <ul style="list-style-type: none"> ▪ Just received confirmation of funding from central government ▪ Next step is to implement business case approach as per Hawke's Bay (above) | Dunedin |

| Area | Findings | Examples |
|---|---|---------------------------------|
| Waikato Local Authority Shared Services (LASS) | <ul style="list-style-type: none"> ▪ Waikato LASS arrangements that have an influence in the three waters space include: <ul style="list-style-type: none"> ▪ a PS panel ▪ a supply arrangement for equipment and chemicals | Waipa, Thames, Hauraki |
| Hawke's Bay Local Authority Shared Services (LASS) | <ul style="list-style-type: none"> ▪ Currently limited three waters opportunities, but planning to expand | Napier, Hastings |
| Bay of Plenty | <ul style="list-style-type: none"> ▪ Planning sub-regional maintenance contract with Western Bay of Plenty District Council | Tauranga, Western Bay of Plenty |
| Other innovation | | |
| Rotorua | <p>Newly established whole of activity contracted long-term (10-year initially, potentially 25-year) consortium covering operations and maintenance, renewals and capital (including major \$55M WWTP upgrade DBO).</p> <p>Aim is for consortium to have end-to-end control of the network, so they can manage risk. Performance-based with penalties.</p> <p>This approach may be extended to water and storm water, based on how it goes with wastewater.</p> | |
| LASS | LASS arrangements used to procure PS and chemicals. | Waikato LASS |

3.3.3 Conclusion – procurement practices

New Zealand water sector procurement practices generally lag well behind New Zealand transportation procurement practices and international best practices. The larger, single-purpose regional authorities and some larger local authorities have deployed best practice procurement. Given that New Zealand transportation service delivery is managed by the same mix of large to small, urban to rural authorities as the water sector, the conclusion can be drawn that the issue is not one of authority size or location.

The transportation sector has a central standard-setting and funding authority (NZTA), which has led to clear guidelines, procurement standards, documentation, strategy adoption and a range of practices that align with international best practice. Transportation sector capacity, both public and private, has been maintained at the level necessary to follow these requirements.

The establishment of Taumata Arowai is expected to increase water sector coordination, standard setting and quality management.

The funding of the required changes and the water sector's capacity to deliver the changes will be a subject of continued national discussion.

4 Procurement in Three Waters

A summary of the research findings for three waters procurement is provided below.

4.1 Service delivery models

The international research showed that the service delivery model questions currently being faced by New Zealand are not unique and have been raised in many countries. Internationally, questions have been asked about:

- Achieving quality standards
- Service affordability
- Urban service delivery compared with regional and rural service delivery
- How much consolidation of service delivery achieves efficiency and a critical mass of expertise
- Application of democratic decision making
- Municipal service delivery compared with vertically integrated service delivery

It is noted from the international research that service delivery models are dependent on a range of factors, including:

- National historical development and municipal clusters
- Topology, geography and the availability of water resources
- Environmental objectives, practices and the sensitivity of receiving waters
- National legislation, regulation and international agreements
- The size of the state or country
- Position, whether major and urban or regional and rural
- National aspirations and social objectives

The countries reviewed here have all adopted different service delivery models based on responses to these factors.

Scotland has a publicly owned, vertically integrated service delivery authority [2] that uses private sector alliances and SME sub-alliances for service delivery.

Sweden has re-municipalised water services delivery [6] following partial privatisation in the 1990s. Sweden now has a strong public water and wastewater service, which uses private sector support where appropriate

Finland has regional supra-municipal water services developed around major cities, municipal water services and 1000+ independent water cooperatives [16]. Almost all water services delivery is carried out by private companies who contract on short-term (typically three-year) contracts to the various publicly owned water authorities and cooperatives. In summary, the Finnish water service delivery model is public or cooperative network ownership with private contracted service delivery.

Australia has different service delivery models for each state or territory [1]. Tasmania, South Australia, Northern Territory and ACT have single, publicly owned, vertically integrated service delivery authorities. New South Wales, Queensland and Western Australia deploy the same model (with bulk suppliers) in the major urban areas, with regional, municipal water services providers in regional and rural areas. Victoria has 17 regional water companies. Features of the Australian service delivery models are large, vertically integrated authorities; strong regulation; and differentiated urban and regional / rural service delivery models.

The range of factors listed above suggests that New Zealand will need to develop a service delivery model that is unique to its own circumstances, social objectives and treaty obligations. Service delivery models impact service delivery procurement.

4.2 Service delivery procurement

International best practice water services delivery procurement includes a mixture of:

- PBCs [8]
- Service delivery alliances
- Vertically integrated service delivery authorities using either internal service providers or alliances with external providers
- Externally contracted service delivery, with key planning elements retained internally

Sweden has taken a different route with a national water and wastewater service deployed at a municipal level [6].

New Zealand water services procurement can be split by the vertical providers (Wellington Water, Watercare) and larger authorities who are trending towards international best practice procurement. The medium and smaller authorities generally use a range of more traditional procurement, with the NZTA *Procurement Manual* [19] providing guidance and evaluation methods.

4.3 Alternative service delivery

New Zealand has deployed conservative and traditional approaches to water services delivery, as detailed in the analysis of the local authority survey results.

Wellington Water, Watercare and larger provincial authorities have moved away from this traditional approach with the use of alliances / enterprise agreements that contain PBC elements.

A wider range of ASD approaches, which have been led by the international development banks, have been successfully deployed worldwide since the 1950s, including management contracts, lease/affermage, DBFOM and institutional PPP [7].

PBCs have been successful over many decades in international water services delivery and hybrid PBCs have been successfully adapted to New Zealand conditions in the transportation sector. Whilst there was some minor use of PBCs in the New Zealand water sector in the 1990s, their use has not been widely adopted. However, there does not seem to be any reason why PBCs cannot be adapted and deployed for New Zealand water services delivery.

5 Three Waters New Zealand Change, Models and Procurement Impacts

The New Zealand three waters sector is entering a period of change as a result of the Central / Local Government Three Waters Reform Programme.

5.1 Sector change

'The Government Inquiry into Havelock North Drinking Water' [20] and subsequent recommendations have led to the New Zealand Government planning for wide-ranging changes in the three waters sector. The final shape of these changes has yet to be determined.

Changes announced to date include:

- Formation of the water regulator Taumata Arowai
- An update to the National Policy Statement for Freshwater Management (Freshwater NPS)
- Inclusion of Te Mana o Te Wai in the Freshwater NPS and Taumata Arowai legislation
- July 2020: A Government funding package of \$761 million tied to support for local government water services delivery arrangements
- Initial Government support for public multi-regional models for water services delivery, subject to consultation with local government

For further information, please see <https://www.dia.govt.nz/Three-Waters-Reform-Programme>

5.2 Procurement manual and strategy

The NZTA *Procurement Manual* [19] has been adopted and is widely used by local authorities for transportation and three waters procurement and contract evaluation. However, the NZTA *Procurement Manual* naturally lacks guidance specific to the water sector. Adapting the NZTA *Procurement Manual* into a new three waters manual that does include water sector-specific guidance would be of assistance for New Zealand water sector procurement. As has occurred following the adoption of the NZTA *Procurement Manual*, more consistent and best practice procurement would be embedded across the sector as a result of using a standardised procurement manual.

5.3 Service level standardisation

The New Zealand Drinking Water Standards set service levels for water quality. All other service levels are set by consents or authority-adopted practices. The Water New Zealand *2017–2018 National Performance Review* [21] demonstrated many similarities in service levels delivered by authorities, and also many variations.

Internationally, minimum service levels are set, monitored and reported on by regulators, and it is expected that Taumata Arowai will fulfil similar functions in New Zealand. Service level standardisation is in progress in the New Zealand transportation sector using the ONRC, and this is having a wide range of associated benefits in the monitoring, analysis and reporting on of road network performance. Three Waters service level standardisation, when developed, will integrate with procurement, and monitoring, analysis and reporting requirements will be integrated into specifications.

5.4 Evidence base and data quality

The Water New Zealand *2017–2018 National Performance Review* [21] highlighted the variations in the New Zealand three waters evidence base and data quality. This is a topic that has garnered much discussion from the Office of the Auditor-General, industry associations and government oversight agencies.

The New Zealand three waters evidence base and data quality require ongoing and substantive work. It is expected that Taumata Arowai will oversee the standard setting and standardisation of this required work. The benefits of a good evidence base and data quality can be observed in the New Zealand transportation authorities, with their national database, data quality reporting, analysis and reporting tools being deployed.

See <https://www.nzta.govt.nz/roads-and-rail/road-efficiency-group/projects/data-quality/> for more detail.

5.5 Integrating research with decision making

This report reviewed a wide range of papers and reports. Many of the international research papers reviewed were from universities and governments or international governmental entities.

New Zealand's three waters sector provided a range of high-quality papers and reports, typically from industry associations, from industry lobby groups or commissioned by government departments. Within New Zealand, independent university research was notably less abundant. This is a contrast to the New Zealand transportation sector where there is 20+ years of research commissioned by NZTA (and previous agencies), including substantive university-based research. The results of integrating quality independent research into decision making are clear in the New Zealand transportation sector.

The New Zealand three waters sector has not had the same benefits from quality independent research. This reflects in the wider industry decision making, maturity and adoption of international best practices. There is a research gap in the New Zealand three waters sector that will need to be addressed as the industry progresses.

5.6 Alliance procurement and inclusions

The widening use of alliance procurement in the three waters sector is expected, as previously discussed. Wellington Water and Watercare have deployed alliances/enterprise agreements for service delivery. As alliance use matures, there will be a need for the inclusion of wider community service obligations (as is currently part of Australian practice) [1] and other wider practice requirements. These obligations may require the inclusion of:

- SMEs
- iwi and iwi businesses
- social equality and well-being practices
- total supply chain management practices
- circular (sustainable) practices
- Te Mana o te Wai practices
- climate change and adaptation considerations

From international practice observations, a key insight from this report is:

The further away from the current predominant New Zealand direct democracy service delivery model that three waters service delivery moves, the more likely it is that the inclusion of wider social policy objectives will be required of the regulated water authorities.

One of the criticisms of the current New Zealand water services delivery model is that wider community service obligations are tangled up in water service delivery and are not transparent costs. International practice shows that if a model of vertically integrated regional service delivery is adopted, these obligations will still be mandated. The costs may be more transparent, and where the costs sit will be a question of political policy.

5.7 Performance-based contracts

PBCs are an internationally proven mechanism for the efficient delivery of water services, with the contract forms and specifications well supported by the international development banks. Hybrid PBCs have been successfully deployed in the New Zealand transportation sector.

The New Zealand three waters sector has not seen wide use of PBCs for service delivery. Further adoption of PBCs would assist the New Zealand three waters sector in moving towards accepted international best practice.

5.8 Total supply chain management

During the research and interviews, the use of total supply chain management and fully integrated supply chains by major New Zealand companies (for example, Air New Zealand and Fonterra) was noted.

Total supply chain management and supply chain integration has developed as a management practice over the past two decades and is well covered in academic and industry research and literature. New Zealand has good corporate examples of successful implementation.

Total supply chain management and supply chain integration has not been a feature of New Zealand three waters service delivery and is an area of practice that would benefit from further research, development and industry implementation.

6 Gaps and Opportunities

The gaps and opportunities identified in this report are summarised below.

Table 6-1: Gaps and Opportunities

| Item | Comments | Progress Response |
|---|---|---|
| National Water Procurement Manual | <ul style="list-style-type: none"> Similar to transportation sector but with water sector-specific requirements Development and documentation of best-value approaches | <ul style="list-style-type: none"> Taumata Arowai water-safety inclusions Te Mana o Te Wai inclusions |
| Procurement Policy / Strategy | <ul style="list-style-type: none"> Could be managed by each authority, as an extension of the transportation policy or as a standalone water policy Same format as transportation sector | Taumata Arowai |
| National Water Sector Guidelines <ul style="list-style-type: none"> Alliance contracts Capital Works Procurement – DB, DBO, CMAR PPPs, RAB | <ul style="list-style-type: none"> Series of national guidelines/manuals on alliance contracts, various capital works procurement around DB principles, PPPs, Construction Management at Risk (CMAR) and Regulated Asset Base (RAB) Use Australian Water Guidelines and New Zealand Transportation Guidelines for reference | |
| Alliance adaptation for New Zealand conditions | <p>Review of alliance guidance to ensure inclusion of requirements that are specific to the New Zealand water sector:</p> <ul style="list-style-type: none"> SMEs iwi and iwi companies | Scottish Water provides an example of SME inclusion |

| Item | Comments | Progress Response |
|--|--|-------------------|
| | <ul style="list-style-type: none"> community service obligations social equity total supply chain management circular procurement Te Mana o te Wai climate change and adaptation | |
| National Water Sector Guidelines <ul style="list-style-type: none"> PBCs | <ul style="list-style-type: none"> National Water Sector Guidelines for the use of PBCs in New Zealand Use international guidelines for reference | |
| Integration of the fourth edition of the New Zealand Government Procurement Rules | <ul style="list-style-type: none"> Government procurement charter principles integrated into three waters procurement practice | |
| Circular Procurement | <ul style="list-style-type: none"> Circular (sustainable) procurement integrated into three waters procurement practice | |
| Broader Outcomes | <ul style="list-style-type: none"> Broader outcomes and community service obligations integrated into three waters procurement practice | |
| Standard Contract Forms for Alliance, Capital Works, DB, DBO, PPP, RAB, PBC | <ul style="list-style-type: none"> A series of standard contract forms for use and adoption by the New Zealand water industry | |

| Item | Comments | Progress Response |
|--|---|---|
| In-service industry training on National Water Sector Guidelines and contract forms | <ul style="list-style-type: none"> Development and delivery of training in new National Water Sector Guidelines on alliances, PPP, DB, DBO, capital works and PBCs | |
| Regional and National Procurement Support Resources | <ul style="list-style-type: none"> Deployment of regional and national procurement support resources to encourage and support continued procurement development and excellence | MBIE Government Procurement Rules See Hawke's Bay example |
| Research Integration | <ul style="list-style-type: none"> Ongoing industry research and integration into practices A research gap is noted for three waters | See examples from the NZ transportation sector Taumata Arowai |
| Supply Chain Development and Management | <ul style="list-style-type: none"> Review and strengthen supply chains across the water sector through forward-looking procurement Integrate total supply chain management into three waters practice | |
| Three Waters Skills Shortage | <ul style="list-style-type: none"> Use of procurement to assist in addressing the three waters skills shortage | See example from New Plymouth District Council Subset of total supply chain management |
| Te Mana o te Wai | <ul style="list-style-type: none"> Development and integration of Te Mana o te Wai principles into three waters procurement practice | |
| Further Research | | |
| Finnish model | <ul style="list-style-type: none"> Short-term contracts to encourage competition | |

| Item | Comments | Progress Response |
|---|---|--|
| | <ul style="list-style-type: none"> Short-term consents to allow rapid uptake of new technology and better environmental outcomes | |
| Sector Resource Stocktake – Swedish Model | <ul style="list-style-type: none"> Further investigation of Swedish water service model and current status, gains | |
| Independent three waters research gap and sector integration of research | <ul style="list-style-type: none"> Research gap identified for New Zealand three waters | See examples of research and industry integration from the NZ transportation sector. |

6.1 Industry opportunities

Industry opportunities listed in the gaps and opportunities table above (Table 6-11) and documented in this report are:

- Development of procurement manuals, policies, strategies, guidelines, and contract forms
- Development of in-service industry training for the new manuals, guidelines and contract forms
- Development of circular (sustainable) procurement guidelines and integration of these into three waters service delivery
- Further adaption of alliance contracts for New Zealand conditions
- Development of national water sector guidelines for PBCs
- Development of regional and national procurement resources
- Development of total supply chain management for the three waters sector
- Development of standardised service levels
- Continuation of the upgrade and standardisation of national three waters data, evidence base and data quality
- Sector coordination and rules development (Taumata Arowai will be responsible for the coordination and rules development))

6.2 Research gaps

The research opportunities listed in the gaps and opportunities table and documented in the report are summarised below:

- Ongoing industry research and integration into decision making (see examples provided by the New Zealand transportation sector)
- Circular (sustainable) procurement, monitoring and reporting, and the integration of these into three waters service delivery. International comparisons for effectiveness of New Zealand delivery
- Integration of well-being and broader outcomes into three waters service delivery. Monitoring and reporting of outcomes. International comparisons for effectiveness of New Zealand delivery
- Total supply chain management for three waters service delivery
- Research into the three waters sector skills shortages and using procurement to address this
- Further development of Te Mana o te Wai and integration into three waters service delivery
- Finnish water service delivery models and lessons for New Zealand
- Swedish water service model and lessons for New Zealand
- Continued research into and evaluation of three waters service delivery models adopted in New Zealand to measure New Zealand's effectiveness against international models
- Continued research into and evaluation of the New Zealand use of alliances for three waters service delivery to measure New Zealand's effectiveness against international models
- Continued research into and evaluation of the New Zealand use of PBCs for three waters service delivery to measure New Zealand's effectiveness against international models
- Continued research into and evaluation of New Zealand's three waters evidence base and data quality, including international comparisons to measure effectiveness

7 Conclusions

This white paper has captured useful insights into New Zealand three waters procurement practice, including identifying many gaps and future work to be completed. These are opportunities for the New Zealand three waters sector. The conclusions of this research are as follows.

7.1 Lagging practice

The New Zealand three waters sector procurement practice is lagging well behind the New Zealand transportation sector's practice and international best practice.

The exception is the vertical authorities (Wellington Water and Watercare) and larger local authorities.

7.2 Service delivery models are changing

The New Zealand Government is proposing to change water service delivery models to a regional services delivery model. This approach is well within international norms. Reviews of international models demonstrated that New Zealand would need to adapt these models to its own circumstances and practice drivers. Changes in service delivery models will impact procurement requirements, with procurement most likely to be achieved by use of alliances.

7.3 Manuals, guidelines, policies and strategies

A range of manuals, guidelines, policies and strategies will need to be developed and deployed specifically for procurement in the New Zealand three waters industry. They will need to incorporate best practice guidelines adapted to New Zealand. Industry training will be needed to accompany the adoption of these manuals, guidelines, policies and strategies.

7.4 Alliance contract development

Alliance contract concepts and development need to continue to allow the inclusion of current and developing New Zealand water sector-specific requirements.

7.5 Performance-based contracts

PBCs should be incorporated into New Zealand three waters procurement practice, as indicated by international best practice.

7.6 Circular and broader outcome procurement

Circular (sustainable) procurement and the achievement of broader outcomes need to be integrated into New Zealand three waters procurement practice. This is indicated in the fourth edition of the New Zealand [14].

7.7 Total supply chain management

Total supply chain development and management should be incorporated into New Zealand three waters procurement practice.

7.8 Skills shortage

Procurement practices should be used to assist in addressing the three waters skills shortage.

7.9 Research gap

The New Zealand three waters sector has a research gap. Ongoing independent research needs to be undertaken and the research results need to be integrated into three waters service delivery and practice development.

Appendix A - Terms and Acronyms

| Term or acronym | Definition |
|------------------|--|
| Affermage | <p>An affermage is one type of a delegated management contract in the private-public partnership (PPP) spectrum. Under this type of contract, the operator is responsible for operations and maintenance. The operator collects the tariff directly from consumers on behalf of the contracting authority.</p> <p>(Definition copied from https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/documents/The%20rise%20of%20hybrid_WUMI%20June%202011_EN.pdf)</p> |
| ASD | Alternative Service Delivery |
| BIP | <p>The Building Innovation Partnership (BIP) is an industry-led research programme focused on improving infrastructure planning, design, construction and management processes, and the development of engineering solutions that improve the resilience and affordability of our built assets.</p> <p>This seven-year research programme (2018–2025) is a Quake Centre initiative, based at the University of Canterbury and supported by the Government Research Partnerships Scheme and industry.</p> |
| Capex | <p>Capital expenditures, commonly known as Capex, are funds used by a company to acquire, upgrade and maintain physical assets such as property, buildings, an industrial plant, technology or equipment. Capex is often used by a firm to undertake new projects or investments. Making capital expenditures on fixed assets can include everything from repairing a roof to building, to purchasing a piece of equipment, to building a brand-new factory. This type of financial outlay is also made by companies to maintain or increase the scope of their operations. (Definition copied from https://www.investopedia.com/terms/c/capitalexpenditure.asp)</p> <p>Capex can be used interchangeably to refer to the funds used and the works undertaken.</p> |

| Term or acronym | Definition |
|-----------------------------|--|
| CMAR | Construction Management at Risk Contract. With the CMAR delivery method, the owner first selects and retains the design firm, similar to a design-bid-build project. The difference with the CMAR approach is that once the designer is selected, the project moves forward with the early stages of the design process; but with the intent of initiating a second contract with a construction manager when the design process is within a range of 30 to 60 percent of the development. (Definition copied from http://info.waterdesignbuild.com/blog/what-is-construction-management-at-risk-cmar) |
| DB | Design-Build contract |
| DBFOM | Design-Build-Finance-Operate-Maintain contract |
| DBO | Design-Build-Operate contract |
| Green infrastructure | Green infrastructure or blue-green infrastructure is a network providing the “ingredients” for solving urban and climatic challenges by building with nature. The main components of this approach include storm water management, climate adaptation, less heat stress, more biodiversity, food production, better air quality, sustainable energy production, clean water and healthy soils, as well as the more anthropocentric functions such as increased quality of life through recreation and providing shade and shelter in and around towns and cities. Green infrastructure also serves to provide an ecological framework for social, economic and environmental health of the surroundings. (Definition copied from Wikipedia https://en.wikipedia.org/wiki/Green_infrastructure) |
| IDS | Infrastructure Decision Support |
| Infrastructure | The term infrastructure generally encompasses economic (e.g. transport, telecommunications, electricity, water and sewers) and social infrastructure (e.g. schools, hospitals and social housing). |

| Term or acronym | Definition |
|-----------------|--|
| | Infrastructure exists in nodes or networks. Roads, railways, electricity distribution and water supply are examples of networks. Any particular section only has a useful function if it is physically linked to other sections, each contributing to the performance of the system as a whole. Other infrastructure exists in the form of nodes or discrete assets (ports, airports, hospitals, etc.), which do not need to be directly linked to other similar assets, although conceptually they form a network as well. (Definition copied from p26 https://www.itf-oecd.org/sites/default/files/docs/private-investment-transport-infrastruture.pdf) |
| NOC | Network Outcomes Contract |
| NPS | National Policy Statement |
| NZTA | New Zealand Transportation Agency |
| ONRC | One Network Road Classification |
| OPEX | <p>Operating expenses are the costs for a company to run its business operations on a daily basis. Examples include:</p> <ul style="list-style-type: none"> ▪ Rent ▪ Utilities ▪ Salaries and pension plan contributions ▪ Any expense considered sales, general, & administrative expenses (SG&A) on the income statement ▪ Research & development ▪ Property taxes ▪ Business travel <p>As operational expenses make up the bulk of a company's regular costs, management typically looks for ways to reduce operating expenses without causing a critical drop in quality or production output. In contrast to capital expenditures, operating expenses are fully tax-deductible in the year they are made. (Definition has been copied from https://www.tqju.org/support/solutions/articles/what-is-the-difference-between-capex-and-opex and is included for completeness)</p> |
| PBC | Performance-Based Contract |

| Term or acronym | Definition |
|--------------------|--|
| PPP | Public-Private Partnership |
| Procurement | <p>Procurement is described as “catch all” to describe any work stream that leads to the contractual engagement of private sector parties for the delivery of public sector infrastructure project. (Definition copied from p8 of https://infrastructure.org.nz/resources/Documents/Reports/Infrastructure%20NZ%20Procurement%20Study%20Report%20FINAL.pdf)</p> <p>Or</p> <p>All aspects of acquiring (buying or obtaining) and delivering goods, services and works. It starts with identifying the need and finishes with either the end of a service contract or the end of the useful life and disposal of an asset. (Definition copied from p3 of https://www.rangitikei.govt.nz/files/general/Policies/Procurement-policy-2014_191023_032723.pdf)</p> |
| RAB | Regulated Asset Base funding model. An RAB model is used to incentivise private investment into public projects by providing a secure payback and return on investment for developers. Within this mechanism, operating companies manage the infrastructure project, taking ownership of the assets and operating costs. (Definition copied from https://www.nsenergybusiness.com/features/regulated-asset-base-model-nuclear/) |
| REG | Road Efficiency Group (NZTA) |
| RIMS | Road Infrastructure Management Group |
| SME | Small and medium-sized enterprise |
| Stakeholder | <p>A person, group or organisation that has interest or concern in an organisation. Stakeholders can affect or be affected by the organisation's actions, objectives and policies. Some examples of key stakeholders are creditors, directors, employees, government (and its agencies), owners (shareholders), suppliers, unions and the community from which the business draws its resources.</p> <p>Not all stakeholders are equal. A company's customers are entitled to fair trading practices, but they are not entitled to the same consideration as the company's employees. (Definition copied from http://www.businessdictionary.com/definition/stakeholder.html)</p> |

Appendix B - NZ Procurement Survey

A New Zealand three waters industry procurement survey was completed as part of the research for this report. The survey was completed via telephone during the New Zealand COVID-19 Levels 3 and 4 lockdown (March to May 2020). A high level of cooperation was received from the industry, during a difficult period. The survey was completed with 13 authorities and achieved a good mix of regional, urban, provincial city, smaller town and rural authorities.

Authorities surveyed

The following organisations were surveyed to establish practice across a range of authority sizes and types. In total, 27 councils were contacted to request interviews. Many councils responded positively and were interviewed, but due to COVID-19, it was difficult to contact council staff to arrange meetings.

Table 7-1: Councils Surveyed to Establish Practice

| Organisation | Type | Interviewee | Status |
|---------------------------|------------------|------------------------------|----------|
| Napier | Provincial | Gary Schofield | Complete |
| Napier | Provincial | Sharon O'Toole/Jon Kingsford | Complete |
| Wellington Water | Metro | Steve Hutchinson | Complete |
| Whangarei DC | Provincial | Andrew Venmore | Complete |
| Hawke's Bay Collaboration | Regional | Craig Thew/Toni Goodlass | Complete |
| Hastings DC | Provincial | Craig Thew | Complete |
| Watercare | Metro | Stuart Bird | Complete |
| New Plymouth DC | Provincial | Robert van Bentham | Planned |
| Waipa | Provincial/Rural | Lorraine Kendrick | Complete |
| Dunedin CC | Metro | Chris Jones | Complete |
| Hauraki DC | Provincial | Adrian de Laborde | Complete |
| Thames Coromandel DC | Provincial | Mohamed Imtiaz | Complete |

| Organisation | Type | Interviewee | Status |
|--------------|------------|-----------------|----------|
| Rotorua DC | Provincial | Stavros Michael | Complete |
| Tauranga CC | Metro | Bryan Everitt | Complete |

Interviewer comments

- The study information sheet was a useful introduction tool
- Asking the interviewees whether they could recommend other council colleagues was helpful for arranging meetings.
- Some council contacts have not responded to email request for a meeting
- One of the interviewees mentioned that the Department of Internal Affairs (DIA) is also doing procurement study/investigation work.

Survey responses – raw data

Raw data from the interviews with participating authorities is included in the following tables.

Table 7-2: Survey Response – Whangarei District Council

| Whangarei | Andrew Venmore – Water Services Manager |
|--------------------------------|--|
| Capex | No comments on Capex |
| Contract framework | 3910 |
| Evaluation methodology | Dependent on project size and complexity: <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM ▪ V big and complex – preferred supplier or short list ▪ DB very rarely used |
| Professional Services (design) | Contracted by project based on specialisation – SFA Small projects – design done in-house (Approx. 1M /yr) |
| Operations | |
| Reticulation | Term contract – up to 8 years (Downers) |

| | |
|-----------------------------------|---|
| Whangarei | Andrew Venmore – Water Services Manager |
| Treatment | In-house Contracted specialist contractors (Electrical, control, mechanical) |
| Water sampling and testing | In-house sampling |
| Regionalisation | Not a focus |

Table 7-3: Survey Response – Napier City Council

| | |
|---------------------------------------|---|
| Napier City | Jon Kingsford – Director Infrastructure, Sharon O’Toole – Procurement Manager |
| Capex | Projects identified by AMs fed into LTP process (timing and budget), optioneering by AMs then handed over to Design and Projects team for final design, procurement and construction. NCC in a phase of three waters master planning, so pulled works back to reactive renewals over this time. Also reviewing LOS and network capacity and issues. |
| Contract framework | 3910 |
| Evaluation methodology | Dependent on project size and complexity: <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM (quality over price a focus) ▪ V big and complex – preferred supplier or short list |
| Professional Services (design) | Generally, use in-house design team, but depending on resource levels and capability – PS contracted in – large complex design. PS by specialisation, by contract – SFA (up to \$75K) or Conditions of Contract for Consultancy Services (CCCS) for larger value PS contracts. |
| Operations | In-house works department Electrical / control term contract Mechanical contracted in |
| Reticulation | In-house works department |

| | |
|-----------------------------------|---|
| Napier City | Jon Kingsford – Director Infrastructure, Sharon O’Toole – Procurement Manager |
| Treatment | In-house Contracted specialist contractors (electrical, control, mechanical) |
| Water sampling and testing | Term contract for sampling and testing with Water Testing Hawke’s Bay |
| Contract approval | By DFA senior Mgt, CE, council |
| Regionalisation | Planning investigations process underway. There are several challenges to work through: impacts on the organisations and structure without three waters, resourcing issues, asset valuation of individual councils affecting potential shareholding, political issues, harmonisation of fees and charges (needs to be done over time). It is a complex process; leadership is a key component. Legislation change may be required to implement change. The planning process costs a lot and is complex. HB LASS not really used in three waters space at this time |

Table 7-4: Survey Response – Wellington Water

| | |
|-------------------------|--|
| Wellington Water | Steve Hutchinson – WW Advisor |
| Intro comments | WW is a CCO with 6 councils as shareholders Water Committee made up of council representatives (generally the mayors) WW board WW works with councils to get budgets approved in LTPs Challenge has been developing consistent AM system through the 6 councils Consents run as capital projects Recently been through Service Delivery Strategy Development process, and have an alliance agreement with Fulton Hogan |
| Capex | Planning – dev procurement plans larger projects Alliance agreement with Fulton Hogan Small projects done by maintenance contractor |

| | |
|--|--|
| Wellington Water | Steve Hutchinson – WW Advisor |
| Contract framework | 3910 |
| Evaluation methodology | <p>Dependent on project size and complexity: but greater focus on QUALITY, not just price</p> <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM, generally 60/40 split ▪ V big and complex – alliance with FH |
| Professional Services (design): | <p>PS panel of 3 consultancies</p> <p>Also do simple design in-house</p> |
| Operations | <p>Water – in-house works department</p> <p>Electrical control – term contracts</p> |
| Reticulation | In-house works department |
| Treatment | <p>Wastewater – term contract with Veolia for WWTP</p> <p>Water treatment – in-house</p> <p>Contracted specialist contractors (electrical, control, mechanical)</p> |
| Water sampling and testing | Term contract for sampling and testing outsourced |
| Contract approval | By DFA to CE and board (not to councils) |
| Regionalisation | WW is a regional approach |

Table 7-5: Survey Response – Waipa District Council

| | |
|-----------------------|--|
| Waipa DC | Lorraine Kendrick – Manager Project Delivery |
| Intro comments | <p>Growing Capex programme, driven by compliance. 2013: 13M prog. 2020: 100M prog.</p> <p>Programme grown from 2012 started with lots of planning, 2015 LTP increased Capex budgets</p> <p>Development of a delivery team a priority – Programme managers and project managers</p> <p>Developed a project management framework</p> |

| | |
|---------------------------------------|--|
| Waipa DC | Lorraine Kendrick – Manager Project Delivery |
| | Delivery structure reviewed in 2018 |
| Capex | <p>Planning – dev procurement programmes based on projects that can be grouped together. Focus on good early consultation</p> <p>Lead in requirements and land purchase issues</p> <p>Do a lot of market investigation and testing to determine local capability</p> <p>Focus on developing procurement strategies and programmes for the financial year ahead</p> <p>Procurement strategies ID principle, engineer’s rep, sign off by project sponsor</p> |
| Contract framework | As close to 3910 as possible, with limited with special conditions |
| Evaluation methodology | <p>Dependent on project size and complexity: but greater focus on QUALITY, not just price</p> <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Focus on PQM – medium complexity PQM generally 60/40 split ▪ V big and complex – alliance with FH |
| Professional Services (design) | <p>Use the Waikato LASS – gives a range of skills and better rates</p> <p>Also do simple design in-house</p> |
| Operations | <p>Term contract based on 3917</p> <p>Panel for electrical, control and mechanical</p> <p>Electrical control – term contracts</p> |
| Reticulation | In-house reticulation ops |
| Treatment | <p>Shared arrangements with Hamilton CC and Waikato DC</p> <p>Water treatment – in-house</p> <p>Contracted specialist contractors (electrical, control, mechanical)</p> |
| Water sampling and testing | Term contract for sampling and testing outsourced |

| | |
|--------------------------|---|
| Waipa DC | Lorraine Kendrick – Manager Project Delivery |
| Contract approval | By DFA to GMs CE and council |
| Regionalisation | Use of Waikato LASS |

Table 7-6: Survey Response – Hastings District Council

| | |
|---------------------------------------|---|
| Hastings DC | Craig Thew – Asset Management Group Manager |
| Intro comments | Procurement planning important – asking what we want to achieve early on, non-project objectives to be considered too including Te Mana o te Wai |
| Capex | Have a tiered approach with some simple works going to maintenance contractor, then a pre-qual group of contractors, then open tenders. Have a runway approach to project planning: 0 (simple no design) – 4 (high value and complex). Planning looks at best for project. Planning looks at community value aspects and other drivers such as job creation, use of local contractors. |
| Contract framework | 3910 |
| Evaluation methodology | Dependent on project size and complexity: <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM ▪ V big and complex – invited and ECI |
| Professional Services (design) | Alliance with Stantec for a long time. Now moving towards panel arrangement. Panel of 2 plus some specialist consultants. |
| Operations | Water – in-house operators |
| Reticulation | Term contract Moving to greater risk-reward sharing in next contract, being planned at the moment. Specialist contractors for electrical, control and mechanical – direct engagement moving to term contracts |
| Treatment | Wastewater – term contract with Veolia for WWTP |

| | |
|-----------------------------------|---|
| Hastings DC | Craig Thew – Asset Management Group Manager |
| | Water treatment – in-house Contracted specialist contractors (electrical, control, mechanical) |
| Water sampling and testing | Term contract for sampling and testing outsourced to Water Testing Hawke's Bay |
| Contract approval | By DFA to GM, CE and council |
| Regionalisation | <p>In the middle of regional approach planning. Status quo won't cope with delivering the "new normal". Need more resources, people and dollars.</p> <p>Different options being looked at:</p> <ul style="list-style-type: none"> ▪ Enhanced status quo – same as now with a bit more collaboration ▪ Shared services ▪ Management CCO (Wellington Water), need to harmonise costs across the region ▪ Asset owning CCO (Watercare) <p>Looking for a best-for-region and best-for-council outcome Challenge: fears related to letting go of control! HDC has half the total asset value in the region Cost implications for smaller councils Fear that bigger councils will subsidise the smaller Next steps: detailed business case -> council approval -> not in the LTP timeframes, so 3–5 years</p> |

Table 7-7: Survey Response – Thames Coromandel District Council

| | |
|-----------------------------|--|
| Thames Coromandel DC | Mohamed Intiaz – Infrastructure Manager |
| Intro comments | Challenge in the district is resources |
| Capex | There is a capital delivery team |
| Contract framework | 3910 |

| | |
|---------------------------------------|---|
| Thames Coromandel DC | Mohamed Imtiaz – Infrastructure Manager |
| Evaluation methodology | <p>Dependent on project size and complexity:</p> <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Focus on PQM – medium complexity PQM, generally 60/40 split ▪ V big and complex – DBO WWTPs, ECI ▪ Emergency works – direct engagement |
| Professional Services (design) | Can use the Waikato LASS – also have long-standing consultants – SFA and fit for job based on specialisation |
| Operations | <p>Term contract based on 3917</p> <p>Electrical, control and mechanical specialised contractors used</p> <p>Veolia has right to renewals works up to \$70K</p> <p>Also have in-house reps monitoring contractor</p> |
| Reticulation | Veolia term contract |
| Treatment | <p>Wastewater and water treatment part of the maintenance contract</p> <p>Contracted specialist contractors (electrical, control, mechanical)</p> |
| Water sampling and testing | <p>Sampling by Veolia</p> <p>Testing by Watercare</p> |
| Contract approval | By DFA to GMs, CE and council (if it exceeds AP budgeting) |
| Regionalisation | Use of Waikato LASS |

Table 7-8: Survey Response – Hauraki District Council

| | |
|-----------------------|--|
| Hauraki DC | Adrian de Laborde – District Engineer |
| Intro comments | Have a technical services unit, plan procurement and do basic design |
| Capex | |

| | |
|---------------------------------------|--|
| Hauraki DC | Adrian de Laborde – District Engineer |
| Contract framework | 3910 |
| Evaluation methodology | Dependent on project size and complexity: <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Focus on PQM – more complex PQM ▪ Use the Waikato LASS procurement policy |
| Professional Services (design) | Can use the Waikato LASS – also have in-house technical services and fit for job based on specialisation |
| Operations | Term contract based on 3917 Electrical, control and mechanical specialised contractors used Veolia has right to renewals works up to \$70K Also have in-house reps monitoring contractor |
| Reticulation | In-house And strong focus on using local contractors where possible |
| Treatment | In-house with support from contracted specialist contractors (electrical, control, mechanical) |
| Water sampling and testing | Sampling by ? Testing by Hamilton City |
| Contract approval | By DFA to GMs, CE and council (if it exceeds \$1M) |
| Regionalisation | Use of Waikato LASS |

Table 7-9: Survey Response – Watercare

| | |
|-----------------------|--|
| Watercare | Stuart Bird – Head of Supply Chain |
| Intro comments | Watercare is a CCO –100% owned by Auckland Council (AC) They cannot return a dividend They are self-funded, not funded by AC rates They are a limited liability company with a board This allows for limited political influence Massive asset base of >\$10B |

| Watercare | Stuart Bird – Head of Supply Chain |
|---------------------------------------|---|
| Capex | <p>Have an enterprise model in place for all large project delivery \$2M to \$150M. 2 contracting partners for 10 years. Allows for good programme planning and contractors' input into planning, early contractor engagement and risk sharing early on to reduce costs</p> <p>Take a programme-before-project approach</p> <p>Renewal has a TARP programme – where projects are grouped into bundles of work for 5 years</p> <p>Larger contracting partners sub in smaller contractors</p> |
| Contract framework | 3910 |
| Evaluation methodology | <p>Dependent on project size and complexity: Dominated by the enterprise model</p> <p>Also have:</p> <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM with emphasis on quality over price ▪ V big and complex – to enterprise partners |
| Professional Services (design) | <p>PS panel of 3 consultancies (GHD, Stantec and Beca)</p> <p>Also looking to integrate into the enterprise contract</p> |
| Operations | <p>Have 3 term maintenance contracts in place for different parts of the AC region – 10-year term</p> <p>Electrical control and mechanical services contracted in too</p> |
| Reticulation | Have 3 term maintenance contracts |
| Treatment | <p>Wastewater and water treatment – in-house</p> <p>Contracted specialist contractors (electrical, control, mechanical)</p> |
| Water sampling and testing | Sampling and testing in-house with own lab |
| Contract approval | By DFA to CE and board (not to council) |
| Regionalisation | Watercare is a regional approach – asset-owning CCO |

Table 7-10: Survey Response – Dunedin City Council

| Dunedin City | Chris Jones – Contract Delivery Manager |
|---------------------------------------|--|
| Capex | Programme developed by the AM team Capex delivery team given 12- to 24-month programme to implement detailed delivery plans. Project delivery framework based on PRINCE2 |
| Contract framework | 3910 suite |
| Evaluation methodology | Dependent on project size and complexity (take a best-for-project approach): <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM, generally 60/40 split ▪ V big and complex – preferred supplier, short list or DBO |
| Professional Services (design) | DCC has a tiered panel arrangement for professional/design services |
| Operations | |
| Reticulation | Term maintenance contract that includes an element of renewals delivery |
| Treatment | Pump stations and treatment plants – in-house, with support from contracted specialist contractors (electrical, control, mechanical) |
| Water sampling and testing | Term contract for sampling and testing with Eurofins Some sampling done in wastewater by DCC operators |
| Contract approval | By DFA senior Mgt, CE, Council Tenders Committee |
| Regionalisation | Southern region recently received funding to investigate three waters regional shared services arrangement. The process is about to commence. |

Table 7-11: Survey Response – Tauranga City Council

| Tauranga City | Bryan Everitt – Team Leader Engineering Services |
|---------------------------------------|--|
| Capex | Programme developed by combination of the AM team, strategic planning team and ops team (renewals) |
| Contract framework | 3910 for Capex |
| Evaluation methodology | <p>Dependent on project size and complexity (take a best-for-project approach):</p> <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM ▪ V big and complex – preferred supplier <p>TCC are in the process of establishing a contractors' panel (similar to a pre-qual process)</p> |
| Professional Services (design) | <p>Professional/design services on a project-by-project basis, based on expertise required</p> <p>Contracts: either SFA or, for large ones, CCCS</p> |
| Operations | |
| Reticulation | Term maintenance contract that includes an element of renewals delivery too. Also covers M&E, and some grounds maintenance |
| Treatment | <p>Pump stations and treatment plants – in-house</p> <p>With support from contracted specialist contractors (electrical, control, mechanical)</p> |
| Water sampling and testing | In-house lab also undertakes lab services for other councils |
| Contract approval | By DFA senior Mgt, CE, council |
| Regionalisation | <p>TCC is pro regional approaches and is in the process of procuring a sub-regional maintenance contract with Western Bay of Plenty District Council (WBOPDC)</p> <p>Also provide lab services to others</p> |

Table 7-12: Survey Response – Rotorua DC

| Rotorua DC | Stavros Michael – GM Infrastructure |
|---------------------------------------|--|
| Capex | Group set up – planning team, ops team, capital mgt team Capex programme based on 3-year horizon, based on LTP budget allocations |
| Contract framework | 3910 for Capex and hybrid best-for-project approach |
| Evaluation methodology | Dependent on project size and complexity: <ul style="list-style-type: none"> ▪ Small/simple – LPC ▪ Medium complexity – PQM ▪ V big and complex – invited DBO Is a focus on quality and PQ ratios set up accordingly? |
| Professional Services (design) | Professional/design/AM services – panel selection, based on expertise required. Contracts either SFA or, for large ones, CCCS |
| Operations (water/storm water) | |
| Reticulation | In-house ops team, M&E and control contracted in |
| Treatment | In-house ops team, M&E and control contracted in |
| Water sampling and testing | In-house lab also undertakes lab services for other councils for three waters |
| Contract approval | By DFA senior Mgt, CE, council (>1M) |
| Wastewater activity approach | Newly established long-term (initially 10-year, potentially 25-year) contracted whole-of-activity consortium covering ops/maintenance, renewals and capital. (Including major \$55M WWTP upgrade DBO) Aim is for consortium to have end-to-end control of the network. They can manage risk – performance based with penalties. This approach may be extended to water and storm water, based on how it goes with wastewater |

| Rotorua DC | Stavros Michael – GM Infrastructure |
|------------------------|---|
| Regionalisation | RDC not averse to regional approaches, however, they are approximately 1 hour from their neighbouring councils. This affects the value proposition. RDC would need to see evidence of benefit and value. |

Survey responses – analysis methodology

The survey was completed with standardised questions, and the responses were recorded against each of the questions.

This survey methodology allowed the responses for each question to be entered into a spreadsheet grid for each authority, and a count of the responses to be made and then graphed.

Survey responses – analysis results

The summary of the interview analysis and interview findings are included in Section 3.3.

Appendix C - Stakeholder Consultation

Consultation regarding the results of this white paper has been undertaken with the following industry stakeholders:

- Infrastructure New Zealand
- Water New Zealand
- New Zealand Infrastructure Commission
- Engineering New Zealand
- IPWEA NZ
- Department of Internal Affairs
- Ministry of Business, Innovation and Employment
- BRANZ
- Civil Contractors New Zealand
- Contractor representatives (Downer, Fulton Hogan, City Care)
- New Zealand universities

Responses and observations from stakeholder consultation have been included in the final version of this white paper and have added to the overall robustness of the report.

Appendix D - References

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