

INFRASTRUCTURE STRATEGY – BENEFITS TO ASSET MANAGEMENT PLANNING FOR A GROWING DISTRICT

K. Hermens, C. Scrimgeour (CH2MBeca Limited), B. Everitt (Waikato District Council)

ABSTRACT

In 2015 local authorities across New Zealand adopted their first 30 year Infrastructure Strategies for their water, sewerage, stormwater and flood protection, and transportation activities. These strategies are intended to make local communities aware of important infrastructure decisions coming up in the short and medium term, taking into account renewals, growth and level of service requirements, public health and environmental outcomes, and infrastructure resilience.

Waikato District is the second largest district in New Zealand and is located between two of the country's fastest growing cities, Auckland and Hamilton. Some parts of Waikato District are under pressure to develop new infrastructure to keep up with growing communities, while other parts must maintain ageing systems with little growth.

Key strategic issues for Waikato District are population growth, asset knowledge, resilience, environmental requirements, road safety and maintenance costs. Preparing long term development plans, condition and performance assessments, addressing resilience and getting assumptions right are some of its asset management challenges.

This paper describes Waikato District Council's journey in creating the 2015 Infrastructure Strategy, including successes and lessons learned. It also recommends actions for improving the next Infrastructure Strategy in 2018.

KEYWORDS

Long Term Plan, Infrastructure Strategy, Asset Management, Resilience to Natural Hazards, Growth

INTRODUCTION

In August 2014 the Local Government Act was amended to require local authorities to prepare 30 year Infrastructure Strategies to be incorporated into their Long Term Plans (LTPs). These documents record the proposed capital and operational expenditure required over the next 30 years for water, sewerage, stormwater, flood protection and transportation activities (as a minimum). They also assess the risk of natural hazards to, and the resilience of, infrastructure.

For more than a decade local authorities have been preparing ten year plans every three years for all their functional activities. These plans have tended to focus on capital and operational expenditure in the first three years. Recently, the Office of the Auditor General raised concerns that local authorities were consistently spending less than planned and about the quality of long term infrastructural planning across New Zealand. The recent experiences resulting from earthquakes in Christchurch also prompted questions about how much of the rest of New Zealand was at risk of significant infrastructural damage should similar events occur.

The intent of these Infrastructure Strategies is to:

- Raise public awareness of the overall infrastructural issues and decisions which need to be made over the next 30 years;
- Ensure that local authorities are planning to meet the changing needs of their communities; and
- Assess the risk to infrastructure and its resilience to natural hazards, such as earthquakes.

This will allow affordability issues to be highlighted and for communities to be more involved in making long term decisions.

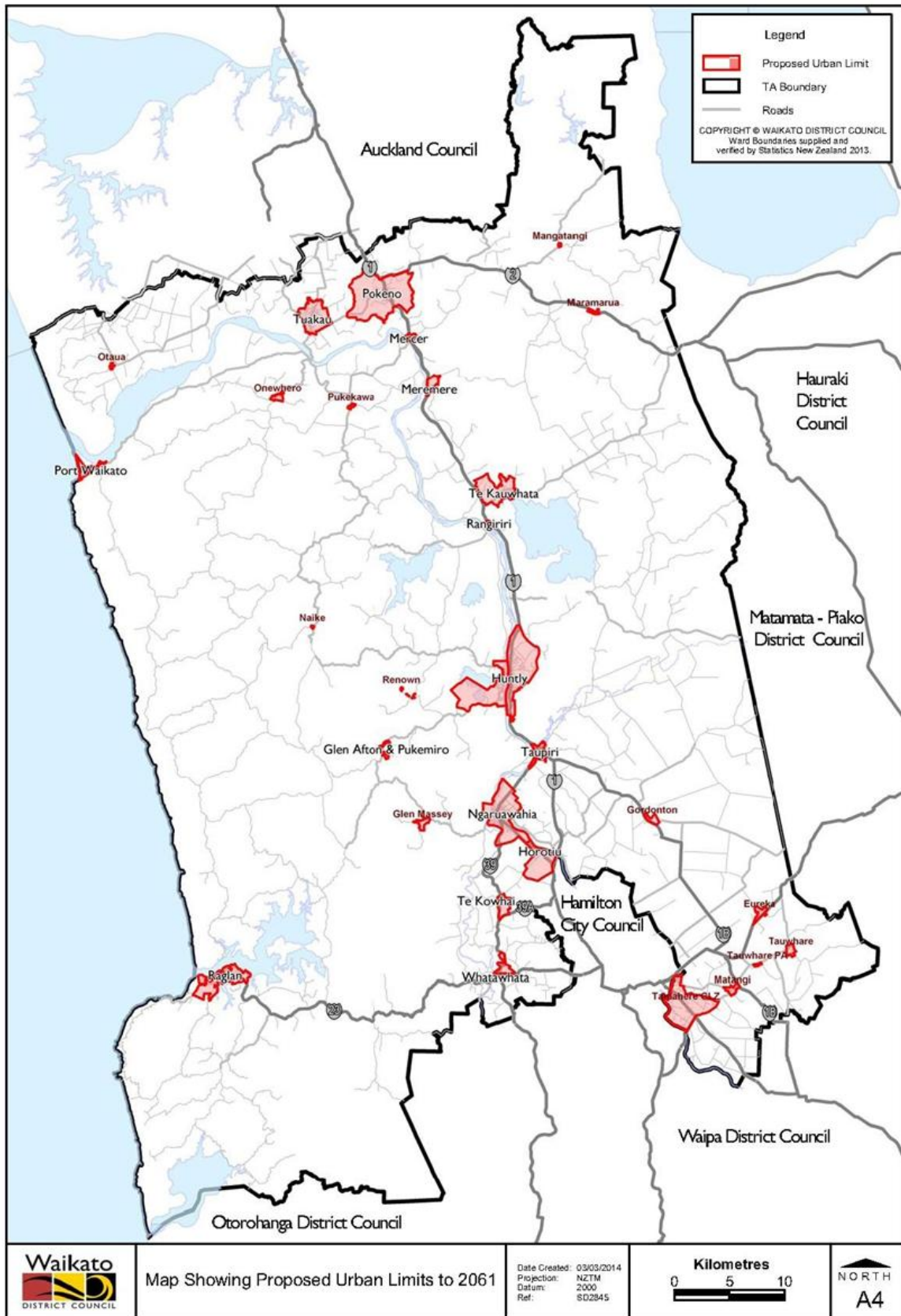
This paper describes how Waikato District Council developed its first Infrastructure Strategy, and how this process assisted in highlighting key strategic issues to be addressed and asset management improvements to focus on prior to the next Infrastructure Strategy and LTP. While these learnings are specific to Waikato District Council, they are likely to have interest to other local authorities in regard to their Infrastructure Strategies.

1 ABOUT WAIKATO DISTRICT

Waikato District has more than 64,000 residents, and at over 400,000 hectares, it is the second largest geographic district in New Zealand. It is located in the heart of the 'Golden Triangle', stretching between Auckland and the Waikato and Bay of Plenty regions, which generates a significant share of the nation's economic activity. About 40 per cent of New Zealand's population lives within a 150 kilometre radius of the Waikato District. The Waikato Expressway (State Highway One) and the North Island Main Trunk railway run through the district. The mighty Waikato River threads its way through the district to the sea at Port Waikato. Waikato District includes the major towns of Huntly, Ngaruawahia, Raglan, Te Kauwhata and Tuakau. Smaller settlements include Gordonton, Matangi, Tamahere, Meremere, Port Waikato and Pokeno. Refer to Figure 1 for an outline map of Waikato District.

Pokeno, Tuakau and Te Kauwhata and the area surrounding Hamilton City are the fastest growing areas within the district. More the 88,000 people are expected to live in Waikato District by 2045. Industrial growth is focused around Horotiu, Tuakau and Pokeno. Waikato District Council operates ten water treatment plants and nine wastewater treatment plants. It has over 1,812km of sealed and 600km of unsealed roads.

Figure 1: Waikato District Towns and Settlements



Waikato District Council along with Waipa District Council, Hamilton City Council and Waikato Regional Council, agreed on a sub-regional growth strategy known as Future Proof. The Future Proof Growth Strategy, launched in 2009, includes a settlement pattern that identifies the preferred scenario for where urban development should take place in the Hamilton, Waipa and Waikato districts. This Strategy was updated in 2012 to take account of the Council reorganisation of the Franklin District which resulted in the addition of extra area to the north of Waikato district.

Future Proof Growth Strategy forecasts are based on a medium growth scenario and the Strategy outlines a vision that will see:

- Thriving towns and rural communities
- Natural resources that are protected and used sustainably
- Affordable and sustainable infrastructure
- Strong governance and partnerships

Since 2009 the Waikato District Council has implemented a number of changes to support the Future Proof Growth Strategy. These include variations to the District Plan which were designed to protect rural environments and encourage sustainable, vibrant communities.

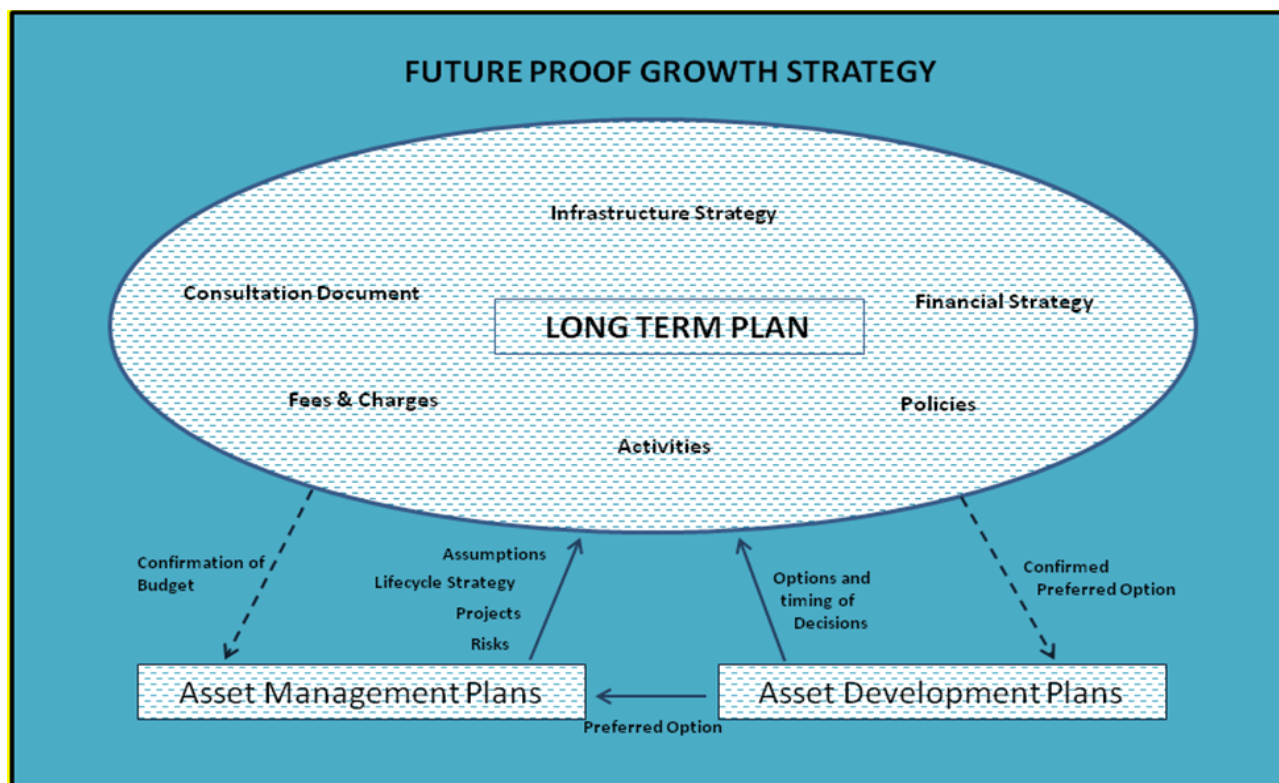
2 DEVELOPING THE INFRASTRUCTURE STRATEGY

2.1 LINKAGES

An Infrastructure Strategy is intended to be a high level document that identifies the significant infrastructural issues for a district and highlights options for managing the issues and the implication of the options as required by the Local Government Act. Ideally it should be linked closely to the Financial Strategy and informed by the asset management plans (AMPs). Waikato District Council also has asset development plans for its three waters activities that identify the current and future needs and issues facing these activities over the next 50 years and assess options for meeting these needs.

Waikato District Council's asset development plans and AMPs integrate with the Future Proof Growth Strategy by recognising specific areas of growth identified in the preferred settlement pattern and providing for network and community infrastructure to ensure that growth is sustainable and affordable over the period of the LTP and beyond. Figure 2 shows the relationship between the Infrastructure Strategy and the Future Proof, the LTP, AMPs and asset development plans.

Figure 2 – Linkages between the Infrastructure Strategy and Other Planning Documents



2.2 TIMING

Waikato’s first Infrastructure Strategy was created at the same time as the Financial Strategy, AMPs and the budget models for the 2015/25 LTP were being formed. The first draft of the Infrastructure Strategy was written using information from draft AMPs and the previous LTP, staff knowledge and preliminary information available from the 50 year asset development plans that were being developed at the same time as the Infrastructure Strategy.

Waikato District Council volunteered to work with Audit NZ to provide a draft Infrastructure Strategy earlier than other councils. This offered benefits to both parties in that Audit NZ was developing the audit criteria for the Infrastructure Strategies and Council could receive early feedback on their expectations. Initial feedback from Audit NZ shaped the format of the Infrastructure Strategy as described in the next section.

Following several staff reviews and revisions, the draft Infrastructure Strategy was presented to a Council meeting in November 2014. This version did not include inflated capital and operational costs because the budget model was not completed until January 2015.

Following further comments from Audit NZ and updated financial information, including inflated capital and operational costs, a further draft Infrastructure Strategy was presented to a Council meeting for adoption as part of the draft 2015/25 LTP in February 2015.

2.3 FORMAT

The format of the Infrastructure Strategy was based on the requirements S101B of the Local Government Act 2002 and guided somewhat by the Department of Internal Affairs model Infrastructure Strategy. This example guided the level of detail required but further information was needed to meet Audit NZ requirements.

The Local Government Act requires the Infrastructure Strategies to describe significant decisions about capital expenditure. Waikato District Council used levels of significance from its draft Significance and Engagement Policy to determine which significant capital expenditure decisions were to be documented in the Infrastructure

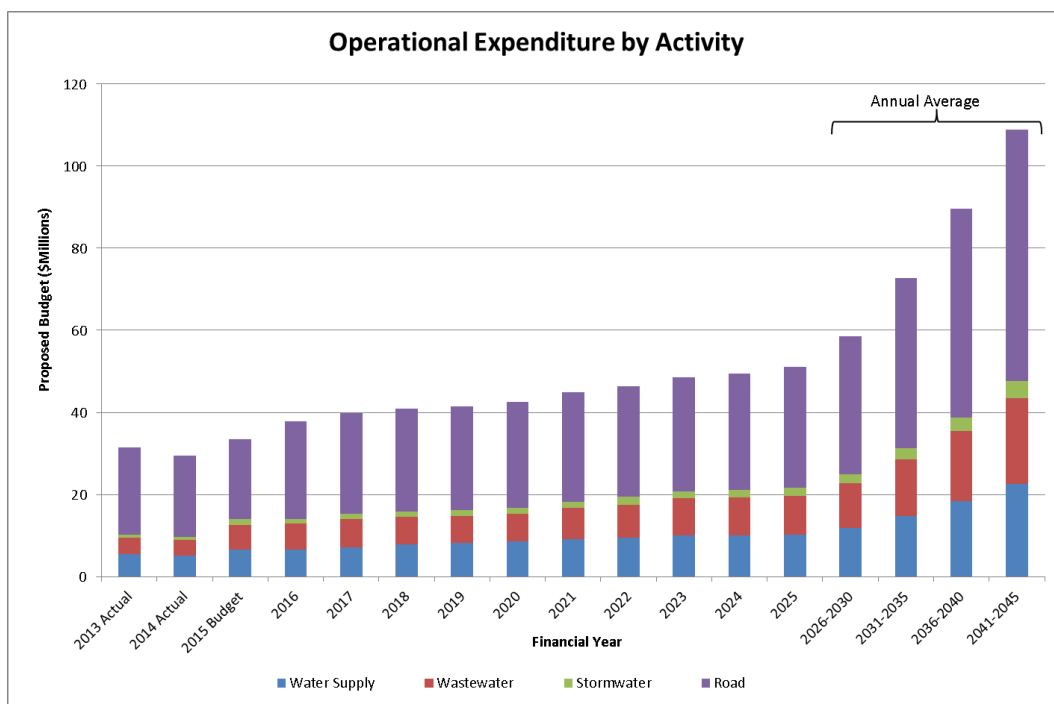
Strategy. On reflection, in comparison to some Infrastructure Strategies from other districts, the Waikato District version shows a large number of projects. The many smaller projects tended to swamp the more significant projects. However, for small communities even a small project can have a large impact on their level of service and what they pay for it. This observation will be investigated prior to the development of the next Infrastructure Strategy to determine whether this is specific to the Waikato District Council Significance and Engagement Policy and the numerous smaller communities that the District has or some other cause.

Initial feedback from Audit NZ included the need to add additional detail on levels of service, criticality, resilience, asset condition and asset descriptions. Audit NZ also wanted to see a focus on strategic options for each activity and the risks associated with these options. Assumptions for asset management and linkages with the financial strategy also needed to be documented. This additional information made the Infrastructure Strategy document very long and duplicated a lot of information that was already in other sections of the LTP.

Some of the key outcomes of the Infrastructure Strategy were the operational expenditure and capital expenditure projections for the 30 year period. Figures 2 and 3 show the operational costs and capital costs respectively. The expenditure for years 11-30 is displayed as 5 year averages as allowed for in the legislation. This shows the level of accuracy for these years is much lower than for the first 10 years. All figures are inflation adjusted.

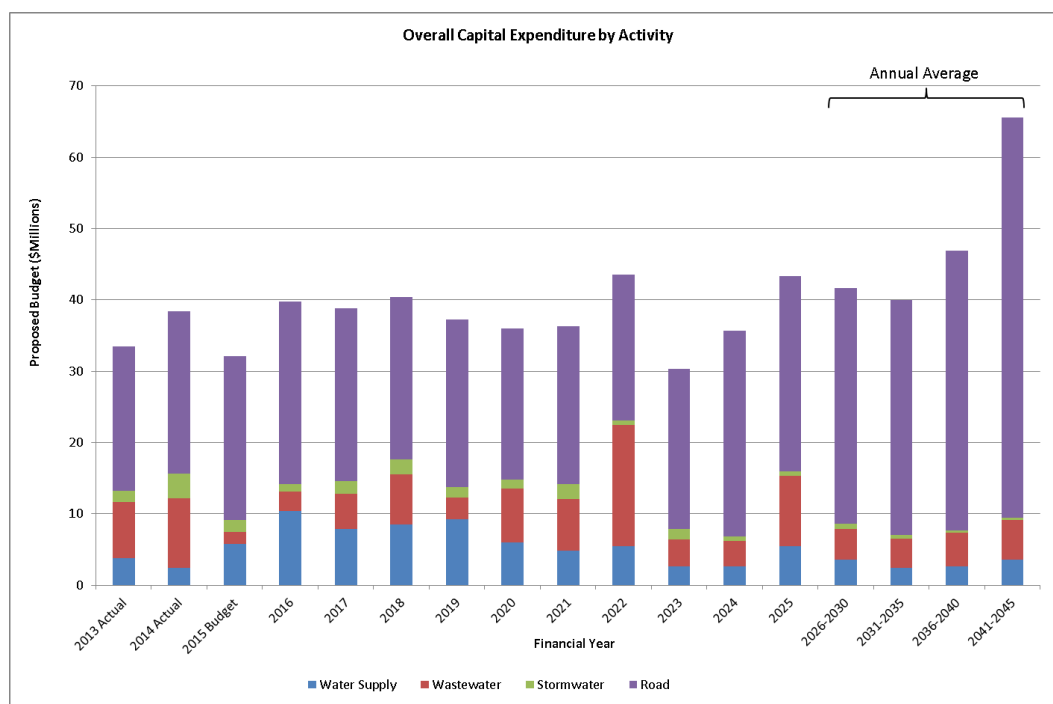
Feedback on these graphs has found that some readers have difficulty with the representation of the 5 year averages shown on the same scale as the first 10 years of the Strategy. Different ways of representing this information in an easier to read format will be reviewed for the next Infrastructure Strategy.

Figure 3: Actual and Proposed Operational Expenditure for Infrastructural Activities from 2013 to 2045



Expenditure on maintaining the road network is the largest proportion of infrastructural operational costs. Approximately 100km of former State Highway road will be vested in Council (from the New Zealand Transport Agency) when the Waikato Expressway is fully operational. The additional operational costs for these roads are shown from about 2026. The costs of maintaining water supply and wastewater infrastructure are quite similar, while stormwater costs are much lower.

Figure 4: Actual and Proposed Capital Expenditure for Infrastructural Activities from 2013 to 2045



Costs associated with the transportation activity make up the largest proportion of capital costs. Major bridge replacements are expected between 2041 and 2045 which increases proposed expenditure in this period by almost \$20 million. There are also periods of elevated water supply, wastewater and stormwater expenditure in the first 10 years that reflect upgrades and extensions to expected meet growth, levels of service and environmental requirements.

3 STRATEGIC ISSUES IDENTIFIED

Waikato District's strategic issues were formulated based on the Future Proof Growth Strategy, the draft LTP document, staff knowledge, AMPs and regulatory and policy reviews carried during the preparation of asset development plans. The key strategic issues that affect Waikato District Council's infrastructure are outlined below.

3.1 POPULATION GROWTH

Residential growth is expected particularly in the northern part of the district around both Pokeno and Tuakau and areas surrounding Hamilton City. The following impacts of growth are anticipated:

- Increased pressure on existing infrastructure;
- Increase in water use and wastewater and stormwater discharges to the environment;
- Requirement for robust asset data and network modelling to assist in decision making;
- Increase in the number of assets vested in Council;
- Increase in maintenance, operations and depreciation costs to residents;
- Increased need to maximise funding potential;
- Increased industrial requirements with impacts on infrastructure capacity and treatment processes and efficiency; and
- The need for Council to provide major infrastructure in advance of development.

3.2 ASSET KNOWLEDGE

Council does not have a good overall understanding of the condition and projected performance of its water and wastewater assets. Carrying out a detailed assessment of the condition and performance of these assets would provide a better understanding of what needs to be maintained or replaced.

3.3 RESILIENCE

Council needs back-up options in case important water or roading infrastructure fails. The criticality of assets has been assessed but the risks to assets from seismic events have not been assessed in detail.

3.4 ENVIRONMENTAL REQUIREMENTS

Resource consent conditions have changed or are likely to change in future. There will be a requirement for alternative discharge or improved quality of treated wastewater and stormwater discharged to the environment. Water allocation and efficient use are also affecting existing water supplies as the Waikato River catchment is nearing its allocation limit.

Waikato District Council has several very small water supply and wastewater networks that supply local communities. They are subject to the same levels of environmental compliance as any other municipal water supply or wastewater networks in New Zealand.

3.5 TRAFFIC SAFETY

Unsealed roads have potential safety issues in areas with flood scouring, unevenness, corners or high use. There is considerable public demand to seal unsealed roads within the district. The wider Waikato Region has a high rate of road crashes.

3.6 MAINTENANCE COSTS

When the Huntly and Hamilton sections of the Waikato Expressway are completed, Council will inherit additional roads and bridges to maintain which will increase maintenance and renewal costs. The maintenance cost of roads impacted by forestry activities is also increasing.

4 ASSET MANAGEMENT CHALLENGES IDENTIFIED

Waikato District Council is committed to improving its asset management practices, guided by its asset management policy, and providing better information for the Infrastructure Strategy going forward. Some of the key asset management challenges and plans to address these challenges are described below.

4.1 CONDITION PERFORMANCE INFORMATION FOR THREE WATERS NETWORKS

Waikato District Council uses asset management systems for its three waters, roads and footpaths infrastructure assets to record inventory, condition and performance information and generate asset renewal profiles based on age and condition. These systems are also used to carry out revaluation and depreciation calculations to be fed into the finance system.

An assessment of the confidence in the accuracy and completeness of the inventory data for each asset type was undertaken as part of the 2014 asset management plan review. Generally transportation assets and water/wastewater pipes and pump stations were assessed as having data based on sound records and investigations with only minor shortcomings. Treatment plants and stormwater assets were assessed as having incomplete asset data with lower accuracy. Council has commenced projects to bring the inventory data for these assets up to a reliable standard.

The confidence in the condition and performance information available for each asset type has also been assessed. Overall transportation assets had reliable condition and performance information as this information is provided to the New Zealand Transport Agency. Water, wastewater and stormwater condition and

performance information was limited and most data in the asset management system was extrapolated from limited sample information or estimated from age.

Waikato District Council included consultation on asset assessments in the consultation document for the 2015/25 LTP to highlight this issue to the community. The LTP stated this work would “give us a better understanding of what we have and what we need to fix, maintain or modernise”. The cost to undertake the asset assessments (over 10 years) is estimated to be \$2.4 million for water supply assets and \$1.08 million for wastewater assets. The following options were given in the Consultation Document:

- **Option 1: Planned asset assessment programme (recommended option)** – The benefit of doing this will mean the renewals programme for assets can be planned in the best way possible – maximising dollars and results. Assets that are more likely to need replacing sooner can be addressed before they ‘fail’ causing customer disruption and environmental concerns.
- **Option 2: Status quo – continuing without the asset assessment programme** – This option means that renewals and replacements will be undertaken in an ad hoc and sometimes reactive manner.

Council received 181 responses regarding the proposal to undertake a complete assessment of the condition of our most critical water supply and wastewater infrastructure assets across the district. The majority of responses (80%) preferred Option 1 – Planned asset assessment programme.

Now that sufficient funding is in place for condition and performance assessment work it is expected that the level of asset management practice and forward planning will improve significantly in the next LTP.

4.2 ASSET MANAGEMENT AND DEVELOPMENT PLANS

In 2014, Waikato District Council invested a lot of time and effort in preparing its AMPs to bring them up to a consistent standard across the organisation and to meet the new requirements of the Local Government Act. This was carried out as a formal project over several months using a cross organisational team of staff and industry specialists. This meant that information from the AMPs was readily available for input to the Infrastructure Strategy.

Waikato District has widely geographically spread communities with very different needs. Some communities are experiencing high levels of growth and urbanisation while other areas have little growth but high maintenance needs. Due to the widespread nature of this district and varied demographics, it can be difficult for communities to see issues from a district wide perspective and some are still only interested in what is happening in their backyard.

During 2014, 50 year asset development plans were developed for the three waters activities. These focused on the key infrastructure required to service the forecast growth, meet levels of service and changing environmental requirements over the Future Proof Growth Strategy planning period. The purpose of the asset development plans was to identify the current and future needs and issues facing these activities, from a district wide perspective, over the next 50 years and assess options for meeting these needs.

Factors which affected the preparation of the asset development plans are insufficient asset knowledge and accurate population projection information. The population projections were continually being updated, right up to August 2014 which allowed very little time for in depth scenario analysis of the impacts of population uncertainty on infrastructure development.

The 50 year water supply asset development plan was based on understanding the needs of each community. Options were developed that considered both availability of water resources and the capacity of infrastructure to deliver this efficiently and holistically across the whole district. This district wide view is more beneficial for Waikato District with its many communities than the ‘scheme’ based approach of an AMP where each community is considered in isolation.

Key outputs of the water supply asset development plan were the preferred options to service the communities in the central part of the district (Ngaruawahia, Huntly, Taupiri and Hopuhopu) with a combined scheme and to service Pokeno and Tuakau from the Watercare network. Various options were assessed using a detailed multi

criteria assessment process. Due to time constraints, there was no opportunity to include these options in the Infrastructure Strategy and LTP to provide the community with a better understanding of the choices involved and the cost implications.

The 50 year wastewater asset development plan highlighted improved discharge quality was likely to be required for those wastewater treatment plants with discharge resource consents expiring during the planning period. A number of alternative options for upgrading existing plants were identified. The reliance on discharging to Watercare's wastewater network in Tuakau and Pokeno is also a key strategic issue of which the public should be aware. The Infrastructure Strategy and LTP are good places to identify these high level strategic options and risks.

The 50 year stormwater Asset Development Plan mainly focused on strategy policy planning and flood hazard assessments. New stormwater infrastructure is generally included in Structure Plans that are consulted on publicly via the District Plan.

Council found considerable benefit in developing 50 year plans for its three waters activities as they allow district wide planning over the period of the Future Proof Strategy and assess options for delivering these services. It is expected that these plans will be reviewed regularly as the District's needs change and that they will provide good information to be fed into the Infrastructure Strategy and Consultation Document to allow the community to make decisions on how the three waters activities are delivered.

4.3 ASSUMPTIONS

In preparing a robust Infrastructure Strategy, a local authority needs to make clear assumptions for each activity and whether these are likely to change over the next 30 years. These relate to financial, service delivery and environmental considerations:

- **Financial** – these factors include how the activities will be funded via rates, development contributions and subsidies. They must also consider any potential changes to funding levels and regulations.
- **Service delivery** – an Infrastructure Strategy must also consider how the overall population and demographics will change over time, such as growth or decline, an aging population and how this will affect level of service expectations. It also helps to know more about the condition and performance of infrastructure and when key spending decisions will need to be made. Assumptions are also made on how the service is delivered and by whom.
- **Environmental** – considerations should consider the effects of environmental compliance, the risk of infrastructure to natural hazards within a district and assess the resilience of the infrastructure to such natural hazards. Planning is also required to incorporate the anticipated effects of climate change on the performance of key infrastructural activities.

In the case of Waikato District Council, most financial factors are well known but there is a degree of uncertainty in developing new infrastructure to meet the demands in the growth areas of Pokeno, Tuakau and Te Kauwhata while maintaining aging networks in other areas with little growth. Waikato District Council works with neighbouring local authorities to plan for growth, participating in initiatives such as the Future Proof Growth Strategy and the Sub-regional Three Waters Strategy. The way the three waters activities are delivered in Hamilton City, Waikato and Waipa Districts is currently under review.

Population forecasts are clearly one of the largest assumptions in forecasting growth expenditure. This is a specialist area of study which is greatly affected by external factors and global and national policy decisions. It would be ideal if the timing of census and meshblock information could be aligned at a national level with other strategic planning requirements.

With regard to environmental requirements, councils are often in a difficult position in that they have to budget for assumed outcomes (often on a conservative basis) prior to engaging in negotiations with regulatory agencies and consultation with the community. For example, Waikato District Council has several water take and wastewater discharge consents that are due for renewal in the next 10 years. Future budgets must consider the cost of renewing these consents and the likely infrastructure upgrades required based on these future consent

conditions. This information is covered in the asset development plans and had more time been available options could have been included in the Infrastructure Strategy for public review and comment.

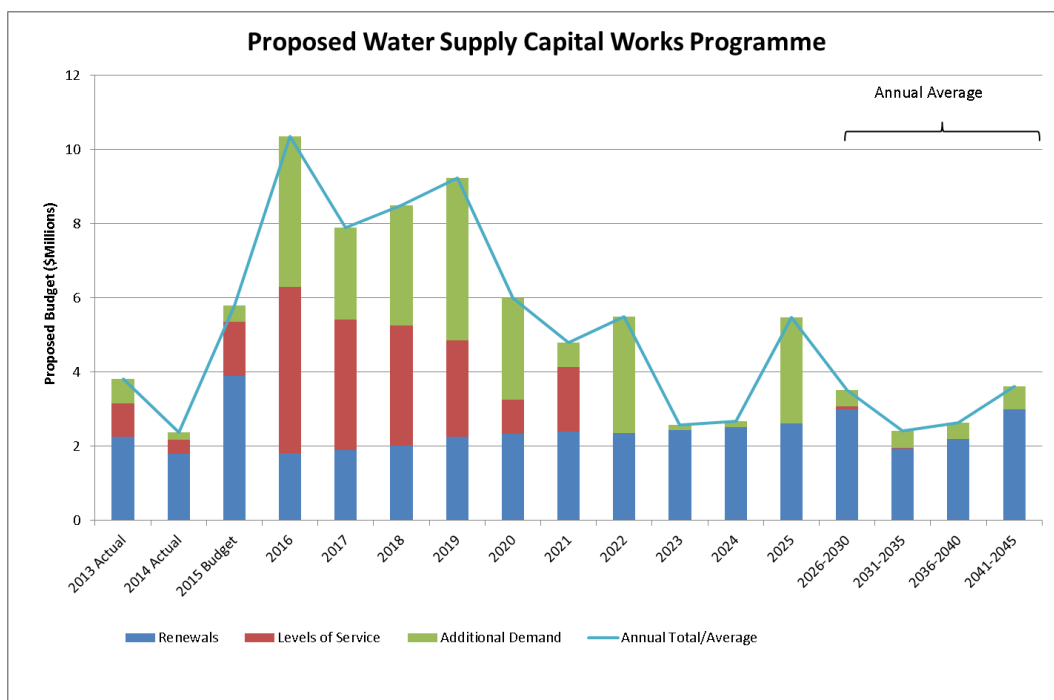
Further work is also required to assess the risk to natural hazards across the district and the ability of infrastructure to perform in the event of a natural disaster.

4.4 FINANCIAL SYSTEMS

Capital and operational expenditure costs for projects for the first 10 years of the Infrastructure Strategy were entered into the Council’s normal budget model. This model adjusts the figures to include inflation and provides totals for each expenditure category. Capital expenditure costs are split into either renewal, levels of service or additional demand categories. A single project can be related to all three of these categories and a % split is estimated.

An example of an activity capital works programme from the Infrastructure Strategy is shown in Figure 4. There is a wide range of projects in the first 10 years but most expenditure in years 11-30 is for renewals. Council is currently investing in water supply network models which will assist in identifying levels of service and growth requirements in years 11-30 for both the AMPs and the Infrastructure Strategy.

Figure 5: Water Supply Capital Works Programme



Operational costs for years 11-30 were generally based on the year 10 values which were then manually adjusted for growth and inflation. Capital renewal costs for years 11-30 were available from the AMPs and were manually adjusted for inflation. Some capital expenditure to improve levels of service and provide for additional demand was available from the 50 year development strategies, historical reports and staff knowledge.

Investment in updating Council budget models to cater for a 30 year period would assist in preparing the financial aspects of the Infrastructure Strategy and allow the funding implications of the expenditure to be determined.

Currently once a new subdivision is completed, the new public assets are vested in Council. It is useful to include the expected vested assets in the capital expenditure forecasts as a new category. This helps to explain why upgrades to other Council assets are required and why maintenance costs are increasing.

4.5 RESILIENCE TO NATURAL HAZARDS

The recent earthquakes in Canterbury have put a national focus on risk management in the event of a disaster and have resulted in legislative changes that require an assessment of resilience to natural hazards in an Infrastructure Strategy under the Local Government Act 2002. Waikato District Council owns \$1.7 billion of assets many of which are vulnerable to events affecting or will be affected by the Waikato River.

The following measures contribute to improving the resilience of Council's infrastructure to natural hazards:

- **Insurance and Disaster Recovery Fund** – In 2013, Council secured commercial insurance for its underground assets such as water supply, wastewater and stormwater infrastructure via a Local Authority Shared Services group insurance programme. In the event of a natural disaster affecting water, wastewater, stormwater and arterial bridges, Council will be able to secure a proportionate amount to pay for the repair and replacement of these assets. In addition to this insurance cover, Council is proposing to increase the investment in its own disaster recovery fund to self-insure for events that may not trigger the natural disaster insurance policy claim criteria.
- **Operational Plans** – The AMPs for infrastructure activities identify specific risks related to natural hazards and mitigation/control actions for high priority risks. They also describe operational practices related to localised hazards such as flooding and landslips and are under continual review.
- **New Developments** – With regard to new developments, the Waikato District Plan (Waikato and Franklin Sections) does contain some provision for managing the risk of natural hazards. Generally, the District Plan does not manage the effects of a natural hazard event after buildings or infrastructure have been developed. A District Plan review is programmed for the next few years which will provide further studies on natural hazards.
- **Climate Change** – Indications, based on the Ministry for the Environment guidelines, are that as a result of climate change the Waikato District will be hotter on average, experience more extreme events (heavy rainfall and droughts) but may have little change in average annual rainfall. Sea level change for coastal communities is also a climate change issue. The AMPs identify specific impacts on each infrastructure activity which are considered when planning new assets or replacing assets. Further direction is needed at an organisational level regarding the climate change assumptions to be used when planning new infrastructure.
- **Seismic assessments** of infrastructural assets have been very limited to date but it is planned as a future improvement to the AMPs.
- **Criticality assessments** of Council's water supply, wastewater and stormwater networks were undertaken in 2014. Critical pipe assets were identified based on pipe size, age, location (under railway, state highways, above ground) and size of catchment serviced. For water supply, less than 10% of pipes are the most critical. The most critical wastewater pipes identified represented 0.7% of the network. Very few stormwater pipes are in the most critical ranking. Future condition assessment work will be focused on assessing the condition of the most critical assets first and prioritising these assets for maintenance or renewal. The road network has a high degree of built in resilience. If any road or part thereof is closed for any reason there is generally an alternative route, though it may involve a lengthy detour. There are some bridges and roads of high importance which, if closed, would cause significant detour costs or hinder access to important facilities.

5 BENEFITS TO ASSET MANAGEMENT PRACTICE

The process of preparing the 2015/2045 Infrastructure Strategy has provided several benefits to Waikato District Council's asset management practices and how it engages with the community on key decision about infrastructure delivery and services. These benefits are also relevant to all local authority Infrastructure Strategies:

- **Longer planning period** – The community now has an appreciation of proposed expenditure over 30 years rather than 10 years which is more suited to longer life assets and the services they provide;

- **Community awareness** – Information that had previously been hidden deep within AMPs is now available to the public via the LTP and the community can see the full picture;
- **Changing needs** – The changing future needs of a community are clearly linked with level of service and infrastructure requirements;
- **Wider view** – The infrastructural activities are viewed from a sub-regional and district wide perspective, identifying issues such as potential timing conflicts and also providing a picture of overall expenditure;
- **Resilience to natural hazards** – This allows councils to focus on work to be done to fully assess its infrastructure in terms of resilience to natural hazards;
- **Capital drivers** – Financial information in the Infrastructure Strategy can simply explain the drivers for capital expenditure – levels of service, additional demand or renewals.
- **Public decisions about options** – The opportunity is available for these documents to give the community high level choices around strategic decisions for water, wastewater, stormwater and transportation activities. The public also have the opportunity to learn about these activities and the reasons for work required, for example, condition assessment programmes.

6 KEY LEARNINGS AND RECOMMENDATIONS

The journey in creating its first Infrastructure Strategy was interesting for Waikato District Council and provided some key learnings and actions to work on prior to the next Infrastructure Strategy in 2018.

The following learnings and recommendations are provided for councils to consider when preparing for the next Infrastructure Strategy in 2018:

- **Timing** – Give early consideration to the planning and timing of the supporting information/documents such as population forecasts, hydraulic models, asset development plans and AMPs so that good information is available in time to prepare the Infrastructure Strategy.
- **Project Management** – Allow for time and budget for project management of the AMP and LTP process to manage workstreams and align delivery timeframes. Use a team approach to get consistency and buy in from staff from across the organisation.
- **Format** – Review the overall format of the Infrastructure Strategy to make it easier for the community to gain an understanding of the key issues and risks. The presentation of financial data, options, alternatives and decisions to be made should be in a user friendly, easy to read format. The format of the Strategy should also be aligned to avoid repetition between the AMPs, Financial Strategy and LTP, while retaining the pertinent information. Discuss further with Audit NZ about their expectations regarding the format and confirm the format of the Infrastructure Strategy. It is expected that Audit NZ will provide more direction on this at a national level prior to the next LTP.
- **Asset Management Practice** – Continue condition/performance assessment and modelling programmes so that expenditure becomes focused on a just in time approach to replace existing assets. Further develop lifecycle asset management options based on levels of intervention (cost), level of service, service delivery risk. Further develop robust asset development plans that assess options for current and future needs.
- **Resilience** – Carry out further assessment of infrastructural resilience to natural hazards.
- **Financial** – Update budget models to allow operational and capital expenditure for years beyond year 10.

As local government has experienced with AMPs, Infrastructure Strategies will improve over time, if a plan is in place and lessons learnt from the previous version are recorded. Waikato District Council is committed to improving its asset management practices and providing better information as it continues on its journey towards the next Infrastructure Strategy.

ACKNOWLEDGEMENTS

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