Controller and Auditor-General
Tumuaki o te Mana Arotake

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# Getting the right information to effectively manage public assets: Lessons from local authorities

Photo acknowledgement: David Moynahan,
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# Getting the right information to effectively manage public assets: Lessons from local authorities

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# Overview

Public assets, such as the roads people drive on, the footpaths they walk on, the infrastructure that delivers drinking water, and the playgrounds and parks that children play on, affect the quality of life of all New Zealanders. Local authorities are responsible for managing these sorts of public assets, and people expect them to be managed well.

Elected councillors are expected to make deliberate and well-informed decisions about how best to manage the assets they govern. To do so, they need relevant and reliable information about those assets. As communities and environments change, the challenges that local authorities face are becoming more complex and so are the decisions that they need to make. For many local authorities, funding is also becoming more constrained. Having high-quality asset information helps local authorities have meaningful discussions with their communities about choices and decisions affecting how services will be delivered.

We looked at how five local authorities approached identifying and gathering the right information on their assets. The five local authorities understood that having high-quality asset information, including a sound understanding of the condition of those assets, gives them more certainty when planning for maintenance and replacement.

Each of the five local authorities tested and continually challenged the quality of the asset information, both when it was gathered and when they were ready to use it. The five local authorities were also looking at how to best store this information so it would be ready and available for both day-to-day and longer-term decisions. Overall, the five local authorities were improving their ability to gather, record, and retain asset information and were making it available to those who need it.

Because local authorities have a lot of assets, they need to use their resources effectively when gathering, recording, and retaining asset information. They need to have a systematic method that prioritises gathering information about the most important assets and for decisions that require the most certainty. If local authorities do not know which assets are the most important, they risk not having the right information when they need it.

Local authorities have more to do to formally identify their most important assets to enable them to prioritise gathering information about them. In my view, this is an issue that needs to be addressed with some priority. I challenge all local authorities to consider how well they understand which of their assets are the most important and how they prioritise information on those assets to effectively maintain them and plan for their replacement.

Successfully gathering and preserving the value of high-quality asset information depends on the participation and commitment of the people who work for and with local authorities. Efforts to improve practices are strengthened when senior leaders openly recognise the importance of high-quality asset information. The people we spoke to at the five local authorities were aware of the need to improve their asset information and have been improving processes and systems to achieve that.

In my view, local authorities – and all asset-intensive entities – must be more open to developing relationships with each other and with peer organisations to share experience and knowledge. The experience and behaviours we saw, supported by improving systems and processes, led me to the view that people in local authorities can contribute more to these kinds of relationships, which they will benefit from as well.

I thank the staff of the five local authorities and the people they engage to gather their asset information for their co-operation and openness.

Greg Schollum
Deputy Controller and Auditor-General

29 November 2017

# 1 Introduction

1.1 Public assets, such as roads, footpaths, and drinking water supplies, support the provision of services to about 4.8 million people in this country. People expect these services to be safe and able to be used when they want and need to use them.

1.2 People also expect local authorities to manage the public assets that support these services well so that they are capable of continued operation.

1.3 Leaders of local authorities sometimes have to make difficult decisions that have widespread and lasting effects on their communities. Local authorities need to know which assets are the most important for delivering essential services. By identifying their most important assets, and directing resources towards gathering the right information about them, local authorities are better placed to make informed decisions about how to best manage those assets. A poor or incomplete understanding could lead to poor decisions with longer-term negative effects, including asset renewal planning that is not sustainable or achievable.

1.4 Given the importance of many public assets to people's lives, we considered it important to look at what local authorities were doing to gather, record, and retain information on their most important assets. In our recent work, we have reported on the importance of accurate and reliable asset information, and on the need for local authorities to better understand the condition of their assets. These include:

- Our high-level assessment of the 2015-45 infrastructure strategies in our November 2015 report, *Matters arising from the 2015-25 local authority long-term plans,* shows that more than half of the local authorities discussed the need to get better information about their assets.
- The need to gather and use the right information on asset condition has been reinforced in recent reviews and audits of local government entities, such as our reports, *Managing the assets that distribute electricity* (June 2017) and *Managing public assets* (June 2013).
- Our reports on water and roading asset challenges have also illustrated the importance of accurate and reliable asset performance information.

1.5 Our April 2017 report, *Local government: Results of the 2015/16 audits*, emphasised the importance of local authorities having a comprehensive understanding of assets:

> *A comprehensive understanding of the age and condition of critical assets, as well as of future demand (for example, increases or decreases depending on demographic changes or changes to environmental standards), is important in assessing whether the actual and planned expenditure is sustainably maintaining assets.*

*Once local authorities have a comprehensive understanding of their critical assets and the cost of adequately maintaining them, elected members can make informed decisions about managing their assets and have well-informed conversations with their communities about how to fund that cost or the consequences of not doing so.*

## What we focused on

1.6 For this report we focused on how local authorities were gathering, recording, and retaining asset information and how they were making it available within their organisation. We carried out our audit work at Tauranga City Council, Napier City Council, Tararua District Council, Waimakariri District Council, and Dunedin City Council (the five local authorities). We chose these local authorities because they are at different stages of improving the quality of their asset information and each face specific challenges. See Figure 1.

1.7 We did not look at how the five local authorities managed their assets. However, where it is relevant to the quality of their asset information, we do discuss some of the benefits and difficulties the five local authorities experienced in managing and planning for the eventual replacement of their assets.

## How we did the work

1.8 We looked at whether the five local authorities gathered, recorded, and retained the asset information they needed and made it available to use to inform their asset management practices. We expected the processes for gathering, recording, and retaining asset information to be effective. We also expected there to be asset information available to inform the local authorities' asset management decision-making and their wider requirements.

1.9 We reviewed more than 300 documents provided by local authority staff and spoke to 36 people who worked at or with the five local authorities.

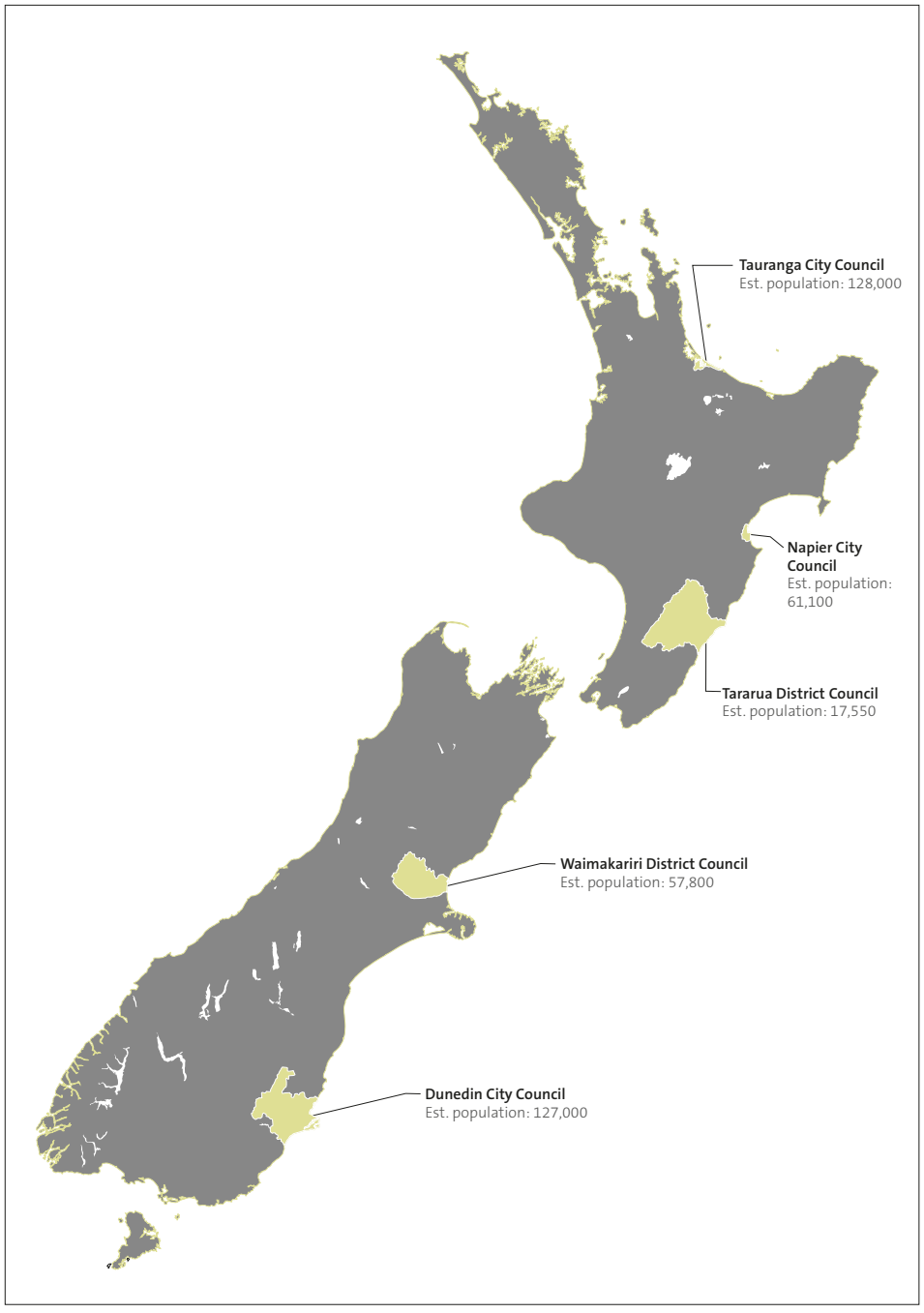
## The structure of this report

1.10 In Part 2, we describe the five local authorities' approaches to defining their asset information needs. We also discuss why it is important that local authorities identify asset information needs that are relevant for future use and prioritised on the most important assets.

1.11 In Part 3, we discuss how the five local authorities supported gathering, recording, and retaining high-quality asset information.

1.12 In Part 4, we discuss how the five local authorities ensure that their asset information is made available to their decision-makers, including other teams that do not directly manage assets.

**Figure 1**
**The five local authorities we looked at**




Source: Estimated population as at 30 June 2016 from Stats NZ Tatauranga Aotearoa.

# 2 Knowing which asset information is most important

2.1 In this Part, we discuss:

- factors that help local authorities determine what asset information they need, including the right types of information for their most important assets;
- understanding and considering the intended uses of asset information when defining those needs; and
- deciding on approaches that best prioritise resources towards more accurate information on the most important assets.

### Summary of our findings

2.2 The five local authorities understood the relationship between their assets and the services they deliver. However, they need to improve how they identify and prioritise gathering information about their most important assets. Prioritising the most important assets will help the five local authorities to use their limited resources to best effect.

2.3 The five local authorities had identified the right types of information they needed to gather, record, and retain. They also understood how this information helped them know more about the actual condition of their assets, what they needed for day-to-day asset management, and how the information could support them to make well-informed decisions about maintaining and replacing their assets.

## Local authorities need to identify which assets matter most

2.4 We expected the five local authorities to understand how their assets, and the services that they provide, contribute to positive outcomes for their communities. We also expected the local authorities to use this knowledge when identifying and prioritising gathering information about their most important assets.

### The relationship between services and assets and positive outcomes for communities

2.5 The five local authorities understood how the services that their assets provide support their communities, which was demonstrated in their strategic documents and other publicly available information. Staff from local authorities described how their asset management and information roles contributed to providing positive community outcomes.

2.6 Dunedin City Council demonstrated the relationship succinctly in its strategic documents. The Council explained the relationship between the overall good public health outcomes it works towards and asset types, such as those that

provide drinking water and solid waste services. Making these connections clear to the public does not need to be complex or require high levels of detail.

2.7 Tauranga City Council also clearly understood the relationship and took an approach to asset information that was driven by its strategic needs. The Council understood the value of having high-quality asset information. This was reinforced to staff when they were involved in identifying and agreeing on what the asset information would be used for.

2.8 The five local authorities all drew a connection between their assets and the community outcomes they were working towards. Understanding this connection is important for local authorities to be able to identify the most important assets.

## Local authorities need to improve how they identify their most important assets

2.9 Local authorities need to know which of their assets are the most important to support the continued delivery of services. If they do not focus their efforts towards their most important assets, they risk not using their limited resources effectively. This could affect the quality of the information that was needed to make important decisions about the assets, which is likely to affect the quality of services provided to communities.

2.10 One key way of identifying the most important assets is to assess how critical a local authority's assets are to it continuing to deliver essential services to its community. A criticality assessment of an asset typically evaluates the consequences to the community of the asset failing and the impact of that failure. These consequences are used to help determine where the asset is rated on a scale of higher to lower criticality. An asset with a higher criticality rating is likely to be one of the more important assets to a local authority.

2.11 The five local authorities were all at different stages of implementing criticality assessments, which evaluate and identify the criticality of assets. Overall, the five local authorities' level of understanding of which assets were of highest criticality – and therefore were some of the most important assets – was lower than we expected.

2.12 Two local authorities were well progressed in developing and implementing criticality assessments for most of their assets. Two other local authorities had recognised that their previous approaches to criticality assessment were lacking and were developing new methodologies. However, they still had some progress to make before the new methodologies could be used. One local authority had

documented its intended approach to criticality assessments, but there was little evidence that this was incorporated into how it managed its assets overall.

2.13 Tauranga City Council had implemented criticality assessments over its roading assets and much of its "three waters"[1] services assets. The Council had identified one key asset class where full implementation of criticality assessment across those assets was still required, and was working to address that.

2.14 Tauranga City Council staff told us that using criticality assessments brings benefits to its management of assets. It recognised that it needed enhanced asset information for more important assets, which have higher and different management needs.

2.15 It was unclear how one of the five local authorities assessed the criticality of its assets or applied this knowledge to determine its asset information needs. We were told that some experienced staff knew which assets were the most important. However, we could not see how this knowledge, held by only a few people, was being used to formally identify the higher information needs relating to those assets.

2.16 One other local authority had also relied on knowledge held by specific people in its organisation and found it difficult to access that knowledge and experience. However, this local authority understood the need to capture and formally document this information and was actively working towards that. The local authority was working on bringing that information into its development of criticality methodologies, and its initial identification of which assets were likely to be of highest criticality. These assessments were also informed by both external expertise and other staff experience.

2.17 Although the knowledge of experienced staff is valuable, local authorities cannot get the full benefit of this knowledge if it remains limited to only some staff and is not formally documented. Local authorities in similar situations need to bring this information into the organisation's systems, where knowledge is less likely to be lost and will be accessible to everyone who needs it.

By using criticality assessments, local authorities can better identify their asset information needs and prioritise information on their most important assets. Local authorities and other asset-intensive organisations that have not yet identified those assets need to address this urgently. Decisions on the most important assets are far reaching, potentially more complex, and likely to need enhanced information to be properly informed. If local authorities cannot identify their most important assets they risk making poor decisions for their communities.



1 The three waters are drinking water, wastewater, and stormwater.

### Knowing which assets have highest criticality helps planning for resilience

2.18 Identifying the assets with highest criticality also helps local authorities to plan for resilience. Planning for resilience is about understanding how the overall network of assets copes with significant events, such as earthquakes and flooding, and how it continues to operate effectively.

2.19 We spoke to local authority staff who felt a deep responsibility to ensure that the local authority's assets could continue operating and delivering services after significant events.

2.20 Staff told us that, as well as understanding which of a local authority's own assets were of highest criticality, knowing how local businesses planned to respond to a large-scale event can help the local authority assess the future resilience needs of its asset networks. In practical terms, that might mean the local authority knowing which assets need to operate continuously to deliver essential services to the community, based on knowing which local businesses will be able and ready to cope on their own after a shock event, or an event that evolves over time, such as climate change. A number of local authority staff talked about the potential effects of climate change, and some thought that more needed to be done to plan for these.

## Processes to identify asset information needs should consider how information will be used

2.21 We expected the five local authorities to get input from people who plan and manage assets so that they could ensure that the asset information gathered meets the needs of those who use the information. We also expected local authorities to consider the needs of those who use asset information for other purposes, including those who value or insure assets and those who prepare financial reports.

2.22 The five local authorities had taken appropriate steps to consider the needs of people in their organisation who use the asset information. This included people in the wider business, such as those who prepared financial reports, valued the assets, and arranged insurance cover, and predictive modellers. Workshops had been organised with these people to understand and identify their asset information needs.

2.23 The five local authorities had identified and documented the types of asset information that needed to be gathered, recorded, and retained. Documentation included job task checklists, contract arrangements with organisations that gather

asset information, and published codes of practice for the assets that developers install in land-use development.

2.24 The asset information needs were documented in formats that were relevant to the asset information gatherers and specific to the different types of information. These formats were designed to communicate what asset information was to be gathered.

2.25 We did not see a lot of evidence that the five local authorities were regularly reviewing their asset information needs. We encourage all local authorities to regularly review what information is needed about which assets, so they can respond quickly when those needs change.

## Local authorities need to prioritise their different information-gathering approaches

2.26 For their asset information to be used reliably, the five local authorities need to understand its level of accuracy and completeness. This was referred to by local authority staff as "information confidence".

2.27 Understanding the implications and potential consequences of different levels of information confidence can help inform decision-makers about how reliable the information is and assess whether it is reliable enough for the decisions they are making.

2.28 In principle, a physical inspection of an asset is likely to give higher information confidence. However, because of the cost involved, it is usually not possible to conduct physical inspections of all assets or of whole networks of assets, such as a city's underground wastewater pipes. A physical inspection is also not always straightforward, particularly for underground assets that are difficult and costly to access, such as the pipes that supply drinking water.

2.29 The five local authorities were trying to get information confidence by using a combination of different approaches to obtain information about the condition of their assets. This involved a combination of evidence-based information through physical inspections, making estimations about assets based on existing information on comparable assets, and making theoretical estimations about an asset's condition.

2.30 The five local authorities were all able to identify particular areas of asset information that they needed more confidence in, particularly where that information was older. Two local authorities had provided evidence of some independent reviews of the accuracy and reliability of their asset information.

2.31 Waimakariri District Council had acknowledged the need to increase information confidence in some of its asset types, having previously used a largely theory-based approach, and worked to improve the quality of its asset information. Improvements in that quality enabled it to more confidently extend forecasts in its long-term plan and infrastructure strategy out to 100 years, aligning these better to the expected life of water asset networks. The improvement in information confidence also helped the Council have more meaningful conversations with its community about how it faces future challenges.

2.32 Local authorities with older asset infrastructure and stable or declining community demographics face different challenges. The water infrastructure of one local authority that we looked at is older, with some of it being in advanced stages of deterioration, with high rates of failing assets. The local authority has set up a project to help it shift from using a balance of evidence and theoretical-based asset information towards a more evidence-based approach. The Council may find it difficult to balance pressing and urgent needs with preparing for future demands.

Using a combination of methods to gather asset information of the accuracy needed is a pragmatic way to use limited resources. How best to determine this combination, and effectively targeting it, is not easy – skilled local authority staff need to make a professional judgement based on their knowledge of which assets are the most important, including those of highest criticality to ongoing service delivery. This will help local authorities to obtain high-quality information that they can have confidence in where they need it, including in planning for asset renewals and replacements.

# 3 Gathering and managing asset information

3.1 In this Part, we discuss how local authorities ensure that high-quality asset information is gathered, recorded, and retained.

### Summary of our findings

3.2 The five local authorities were investing in ways to ensure that high-quality asset information is gathered correctly in the first instance. Local authority staff value information quality and, by challenging and testing the information's continued fitness and readiness for use, work to maintain the information to a high quality.

3.3 The five local authorities were improving their systems and processes for gathering, recording, and retaining asset information. Once local authorities have more comprehensively defined what the right asset information is for them and gathered it, these systems and processes will help the local authorities to more effectively manage and plan for their assets.

3.4 Local authorities can learn from their peers and other asset-intensive organisations about good practices and approaches to common challenges. In our view, local authorities should be looking for opportunities to form mutually beneficial relationships with such organisations. Relationships like these can ultimately lead to improved asset information in individual local authorities and more broadly throughout the local government sector.

## People who gather asset information need to understand their roles

3.5 There are different arrangements local authorities can make to ensure that task of gathering the asset information they need is fulfilled. Some local authorities use separate organisations, either through a formalised partnership or by contracting a workforce, to gather asset information alongside asset management activities. Other local authorities use their own staff. There are various combinations of these methods across the five local authorities.

3.6 The five local authorities provide written requirements and directly communicate their requirements to asset information gatherers to help them understand their role. Asset information gatherers are more likely to fully understand their role when there are also efforts to establish continued and open communication within strong working relationships. We found these methods of communication effective in helping asset information gatherers understand what was expected of them.

3.7 Asset information gatherers better understood what the five local authorities needed them to do when they had constructive relationships with the people who used the information. Relationships developed in a variety of ways, including during formal workshops where the people who use asset information could discuss what they needed.

3.8 Tararua District Council set up team meetings for its asset information gatherers and asset information users to discuss their requirements. It also recognised that it does not need to have formal meetings about asset information all the time. Asset information gatherers and asset information users were able to talk freely to each other as and when they needed to.

3.9 When a local authority uses another organisation to gather asset information, local authority staff acted in a liaison role with the organisation. We interviewed staff from Dunedin City Council and Tauranga City Council who acted in this role. One part of their role was to connect those who gather asset information with those who use it.

3.10 Tauranga City Council staff told us, "We engage at all levels of the contract, we go to [our asset information gatherer's] tool-box meetings, and we make sure we are connected". We heard similar comments from other local authority staff we spoke to.

3.11 Overall, we saw healthy professional relationships between asset information gatherers and the people who use the information in all of the five local authorities. Everyone appeared to know each other well and speak openly and with mutual respect. We spoke to asset information gatherers who confirmed that they could ask questions and receive clarity in what they were expected to do and knew where to go to get questions answered.

Investing in sound and respectful relationships with asset information gatherers pays dividends in helping users of asset information and the asset information gatherers understand each other's needs and what each can do to help the other succeed. Interactions such as those we saw help give asset information gatherers a practical understanding of the documented requirements.

## Local authority staff who manage asset information understand their roles

3.12 The five local authorities had support from information teams that look after asset information and maintain the systems and processes that ensure that asset information flows effectively to and within their organisation.

3.13 Information support team members we spoke to understood their role and the value of their relationship with the people who use asset information. In particular, they felt that this relationship gave the people who use asset information a new appreciation of other kinds of information that might be useful for their role and objectives.

3.14 An information support team from one local authority felt that it was expected to lead and drive defining asset information needs, rather than supporting the people who use asset information to define their needs. They felt that greater engagement between them and the people who use asset information, including providing education about how asset information could be accessed, would help the information users take the lead in defining their needs.

3.15 Most of the people we spoke to who use asset information had a good understanding of their local authority's systems and processes for recording and retaining asset information. In some cases, this helped them extract information for their own use and supported discussions with information support teams about what information was available and how the people who used asset information could get the information they need.

People who use asset information need to have a good understanding of the systems and processes that record and retain asset information. In our view, local authorities could consider identifying ways to improve how they inform their information users about their systems and processes. This would allow information support teams to support and facilitate the flow of information to people who use asset information who would have better visibility of what information might be available.

## Caring about the quality of asset information is encouraged

3.16 We expected the five local authorities to have effective practices that provide assurance that asset information gatherers were gathering high-quality asset information. We also expected the five local authorities to be able to assess the quality of asset information gathered, to preserve this quality, and keep working to improve it.

### Helping asset information gatherers see the value of asset information

3.17 Some local authorities we spoke to made concerted efforts to ensure that the people who gather asset information are aware of how that information is used in important decision-making, and how that decision-making would affect them

as members of a community. Local authority staff said that this helped asset information gatherers appreciate the value of the information.

3.18 Waimakariri District Council staff said that asset information gatherers found their roles more meaningful when they were made aware of how the asset information they gathered is used to make important decisions.

3.19 Staff of local authorities told us that educating asset information gatherers on the need for high-quality information was also likely to lead to getting the right information in the first instance, resulting in less rework, and less lost time and money. The focus on getting the right information first time was important to local authorities because some assets were difficult to regain access to – perhaps because of distance to the asset or because some assets, such as underground pipes, had been reburied.

Local authorities need to ensure that asset information gatherers understand the value of their work so they can be effective in gathering high-quality information the first time they do so. The relationship with asset information gatherers is built on trust that they will fulfil their role effectively. Efforts to help asset information gatherers understand the value of high-quality asset information supports asset information gatherers in feeling a sense of ownership of the standards they need to meet.

## Challenging the quality and fitness for use of asset information

3.20 Most local authorities we talked to encouraged their staff to continually challenge and question the quality and fitness for use of asset information, from its receipt to its time of use. Local authority staff said that challenging and questioning was part of how they work day to day.

3.21 Challenging the quality and veracity of asset information is important because the state of the assets, and the level of their use, is likely to change. We spoke to local authority staff who said that continually questioning the quality of asset information, instead of accepting it at face value, helped ensure that the information remains current.

3.22 Waimakariri District Council's information support team members are encouraged to challenge the quality of information as an important part of their role. The team challenges requests to allocate resources to gather new asset information. It asks fundamental questions such as why the new information needs to gathered, the purpose of the information, and how the information will be used.

3.23 The local authority staff who were encouraged to challenge and question asset information felt these behaviours helped them put resources towards gathering the most important asset information instead of information described as "nice

to have" and "might be handy one day". Staff felt most encouraged to challenge and question when senior leaders were open in their support of, and commitment to, improving asset information practices.

Making informed decisions about assets requires local authorities' having information that has been appropriately challenged and tested. We urge local authorities to consider how they encourage their people to challenge and question information. This can lead to useful conversations and a commitment to improve the quality of asset information.

## Using technology to improve the quality of asset information

3.24 Most of the five local authorities are moving towards using technology-based tools, including hand-held mobile devices, for gathering asset information. These devices are similar to smartphones or mobile devices, and staff found them easy to adopt and use. Staff of local authorities who we spoke to felt that these devices helped improve the quality of the asset information that was gathered.

3.25 Asset information gatherers we spoke to liked using technology-based tools because they were more efficient than paper. Local authorities and asset information gatherers said that these devices were most effective when screen options, visibility, and input options were configured to the task at hand.

3.26 Napier City Council staff told us that getting people to adopt these devices had its challenges but asset information gatherers who were using the devices, and saw the benefits of them, often became catalysts for adoption of devices by their colleagues.

3.27 New and developing technology options enable new approaches. For example, Tararua District Council is experimenting with using drones to inspect bridges. Council staff told us that drones can gather high-quality asset information more quickly while also being a safer option than having people scale the bridges. Not having to close the bridge could also lead to less traffic disruption. In another example, Tararua District Council used specialised vehicles with on-board technology to gather information for its assessment of the condition of roads.

## Other ways of improving the gathering of high-quality asset information

3.28 The five local authorities used different methods to improve the quality of information being gathered. The local authorities that had made good progress in defining their needs had attended, and sometimes designed and led, training to help asset information gatherers better understand the requirements. Local authorities also gave asset information gatherers written guidance and reference documents to use during their time on the job. We saw some examples that

showed asset information gatherers how to use their judgement about the condition of the assets.

3.29 Where a local authority had contracted another organisation to gather asset information, we saw evidence of contractual requirements for that organisation to provide training to their own staff and ensure that they had the necessary qualification and capability.

3.30 Other actions that can be taken by local authorities to improve the quality of asset information gathered include quality assurance and independent re-inspection programmes.

3.31 All five local authorities had well-established formal checking processes for identifying issues with the asset information, including comparing the asset information received to previous expectations and high-level reviews. We also heard about "logic checking" within technology systems. These checking processes had been helpful in uncovering individual issues with information quality as well as more systemic issues.

Formalised asset information requirements and checking processes are most effective in influencing high-quality asset information when they complement productive relationships, discussions, and co-operation between asset information gatherers and people who use the information. This gives wider assurance over the quality of the asset information gathered. The different ways to improve the quality of asset information are important and necessary in their own right, but should not be relied on in isolation.

## There are efforts to improve how asset information is recorded and retained

3.32 We expected local authorities to record and retain asset information in ways that supported how that information was intended to be used.

3.33 The five local authorities recognised the need to keep their asset information in formats that support the needs of its asset information users. By doing so, asset information users did not have to manipulate the information or data to suit their needs, which could potentially introduce errors. It also allowed the information to be more consistently interpreted, understood, and used.

3.34 Each of the five local authorities had chosen, or were adapting systems that helped to support, how they wanted to structure their data and information. Some local authorities were well advanced in defining and populating those structures. Asset information users we spoke to were enthusiastic about the structures because these supported a more seamless use of information into their

work. Other local authorities were still working on defining and implementing their structures, but appeared to understand how to do this and the likely benefits.

3.35 Most of the local authorities had developed or were developing information structures and were involving asset information users in this process. Having information users take a large role in this process meant that the asset information was more likely to be accessible and reliable.

3.36 Some of the local authorities that had made more progress in their information structures had configured tools to allow asset information gatherers to directly input asset information into the information structures. This can be an efficient way to ensure information completeness, but care is needed when allowing asset information gatherers to enter information directly into local authorities' systems. In our view, this would be justifiable only when the local authorities had proven confidence in the quality of asset information gathered and those who gather it.

## There are opportunities to learn from others to help improve asset information

3.37 We expected all five local authorities to look for opportunities to develop relationships internally and externally so that they could share knowledge and improve approaches to gathering, recording, and retaining asset information.

### Internal relationships

3.38 In all five local authorities, we found that the users of asset information worked openly and collaboratively with asset information gatherers and were supported to do so.

3.39 Staff at Tauranga City Council told us that when everyone understands the needs of those around them, it promotes trust and commitment in working together. Council staff told us that simple steps, such as having information user and information support teams regularly sitting together, can be very effective.

3.40 Tararua District Council had people dealing mainly with water infrastructure and other people dealing mainly with roading assets. We saw people in both of these roles working closely together to improve asset information across both types of assets. They were sharing successes, discussing and resolving issues, and learning from each other's approaches. For example, people from both roles are looking at ways they can get the features and benefits of their existing roading information gathering tool potentially incorporated into a similar tool for gathering water asset information.

3.41 The managers of information support teams and information users from Napier City Council met regularly with the managers of asset information gathering teams. These meetings discussed work commitments and changing work priorities, which included aspects of information gathering and retention. The meetings allowed the teams to understand and meet each other's needs.

Sharing with and learning from work colleagues is valuable and does not have to be complex. It could range from informal "water cooler" discussions to more formal co-ordination meetings and catch-ups.

## External relationships

3.42 We expected the five local authorities to have productive relationships with outside organisations, particularly other local authorities, so they can share and learn different approaches to gathering, recording, and retaining asset information.

3.43 Waimakariri District Council had regular co-ordination meetings with neighbouring authorities and organisations that provided services and infrastructure, including some from the private sector. The meetings included discussing approaches to gathering, recording, and retaining asset information, including new technology options. These meetings also discussed what had not worked well and what pitfalls to avoid.

3.44 Tauranga City Council also had regular meetings with neighbouring authorities as well as discussions arranged as and when opportunities or issues arose. Staff used these meetings, and the relationships that formed, to keep up to date with industry innovations, including what technology options were emerging.

3.45 Tararua District Council's arrangements for asset information gathering and retention provided it with access to the experience, skills, and tools available from its gathering partner's national network. The Council shared experiences with another North Island organisation that had similarly structured arrangements to gathering, recording, and retaining asset information.

3.46 One person told us that the community does not see the distinction between different entities providing infrastructure and services. The same person also told us the community sees those organisations as one large group and are right to expect them to work collaboratively with each other.

There is further potential for local authorities to build mutually beneficial relationships. This can position them well to inform, drive, and reap the benefits of improvements in their own asset information approaches.

# 4 Getting asset information to the people who need it

4.1 In this Part, we discuss how the five local authorities ensure that their asset information is made available and accessible to those directly involved in managing assets and those who operate in the wider business.

### Summary of our findings

4.2 The five local authorities were making improvements to how they ensured that asset information was available and accessible to those who need it, including those that make decisions and direct the management of assets, and those who have other uses for that information. They all saw benefit in, and were moving towards, a more automated integration of asset information.

4.3 Although the five local authorities ensured their asset information was made available to inform their asset planning, most had identified opportunities to improve the quality of asset information to better inform decision-making, including when best to replace their assets.

## Local authorities need to ensure that asset information is available to inform decision-making

4.4 We expected the five local authorities to have appropriate ways of ensuring that asset information feeds effectively into the systems and processes that support the management of their assets and wider business activities.

### Transferring information between asset management systems and processes

4.5 The five local authorities use technology solutions to ensure that asset information is transferred into systems and processes people use. All five local authorities are also using, or moving towards using, technology systems and processes that will better support the integration of asset information between systems, or parts of a system, that support the management of assets.

4.6 We were told that people in other parts of the organisation, who did not directly manage assets, use different technology systems, or parts of a system, to access and use asset information. Transferring asset information between or within different technology systems, with its integrity retained helps support effective information to be integrated throughout the organisation. Local authority staff felt that having asset information that was well integrated within their organisation helped them operate with different systems, or parts of a system, while still using what was described as “one source of asset truth”. This enabled the organisation to “speak the same asset language”.

4.7 Some of the five local authorities were doing "manual workarounds" to extract and transfer asset information between systems. Staff were aware of the risks and issues that could arise when data is extracted manually, such as errors that could cause inconsistent information to feed into different processes that use asset information.

4.8 Tararua District Council is confident that its current asset information system has strong technical integration capability. It considers its system to be well positioned to ensure that its estimations of the remaining useful life of assets can feed effectively into the different processes that use this information. However, the Council is working towards having better quality information about the condition of its assets before it fully uses this functionality.

Technology can support asset information to be better integrated within an organisation with different business processes only when the asset information is consistently understood within the organisation. People from Dunedin City Council and Tauranga City Council told us effective information integration means ensuring that people who follow processes relevant to assets have a consistent understanding of asset information. We agree. This helps ensure that asset information is applied consistently, day to day and in more far-reaching decisions.

## Local authority staff can access the information they need

4.9 The five local authorities were at different stages of having consistent integrated information accessible for people to use in the wider business, such as those involved in financial reporting, valuations, and insurance. This largely reflected what stage each local authority was at in its implementation of new technology systems or structures.

4.10 Most of the people in the wider business used different systems, or parts of systems, from those who directly managed assets. Where technical integration of asset information between systems and processes was not as strong as local authorities required, asset information could be manually extracted as an interim measure. Each of the five local authorities saw the need to improve the integration of asset information throughout the different teams and processes that needed that information, and was working to do this.

4.11 Investing to ensure that high-quality asset information is integrated effectively into the wider organisation also helps provide decision-makers with an organisation-wide view. This wider view can support making different individual decisions that are consistent with the overall strategic direction and objectives of the organisation.

Strongly integrated asset information can support having meaningful discussions with the community. Consistently informed service delivery, infrastructure, and financial strategies help local authorities to have informed conversations with their community about the options and choices they have to address future challenges and continue to deliver essential services.

## Making information available to inform asset management planning decisions

4.12 We expected the five local authorities to be making asset information available to inform planning for asset management and, in particular, for asset renewal and replacement.

4.13 By and large, the five local authorities were making their asset information available to inform long-term decision-making, though some were providing more and better information than others. Local authorities that were further progressed in making this information available used it in their predictive modelling and other software that gave them recommendations for asset planning.

4.14 At Napier City Council, we were told how better knowledge of the actual condition of its assets helps it make well-informed decisions. As a result of physical inspections and knowing the local soil conditions, Napier City Council learnt that some of its water assets were in better condition than originally thought and it was able to extend its estimate of these assets' remaining useful lives. Fact-based information such as this has provided higher confidence and will help the Council plan and budget more accurately.

4.15 In one local authority, issues with the quality of asset information resulted in the Council not using some of its information in longer-term planning. Dunedin City Council had identified issues with information gathered by its contracted asset information gatherers and decided to use theoretical and traditional information until the asset information gatherers improved the quality of information they collected. Dunedin City Council balanced the known risks of its existing and theoretical information with the more uncertain risks of using information of poorer quality. It is currently working with its contractor to improve the quality of this information to the point where it has the confidence to use it to inform longer-term planning decisions.

It is essential that local authorities have high-quality and reliable asset information to inform longer-term decisions. High quality asset information can have a direct and positive impact on the effectiveness of longer-term planning.

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