

Asset management and long-term planning

Learning from local government
long-term planning 2021-31

2023



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Executive summary

Audit New Zealand reviewed local authorities' approach to long-term planning for key infrastructure covering the period from 2021 to 2031. To support long-term planning, we reviewed local authority infrastructure strategies and asset management plans.

We gathered lots of information and saw many examples of good quality planning. We also identified some areas for improvement, many of which we emphasised in our 2021 audit opinions. We hope this report provides a resource for anyone managing assets and interested in accountability.

We thought it would be helpful to share some reflections on “what good looks like”, alongside some insights on what led us to “modify” our audit opinions. Audit opinions give confidence that readers can rely on the information in key documents. Audit opinions can draw attention to important aspects of documents or indicate areas where there is less confidence.

In the case of long-term planning, opinions covered two issues: whether planning was fit for purpose and the quality of the underlying information and assumptions.

The issues that resulted in audit opinions for 2021-31 consultation documents and/or long-term plans being modified were:

- whether assumptions about external funding were available;
- lack of detail about maintaining and renewing assets;
- concerns about the robustness of estimated costs/ time frames for significant capital upgrades;
- uncertainty about whether resources would be available to progress a major project; and
- ageing assets, unplanned failures, and a lack of condition information to base planning on.

Infrastructure and asset-related issues emphasised to readers of long-term plans by auditors were:

- the possible impact of reforms to the delivery of water supply, wastewater, and stormwater services;
- uncertainty over the ability of a local authority to deliver its full capital programme;
- asset condition and performance information and their use to inform plans to renew assets; and
- unclear asset ownership.

Good quality asset information is the fundamental basis for effective asset management planning. Knowledge of key data should cover physical characteristics, installation date, useful life, asset value, current condition, and performance. The reliability of asset data should be formally assessed and a confidence rating assigned. Data confidence should match the complexity and criticality of the asset network and the significance of the asset management decisions to be made. Strategically important decisions on complex networks supporting critical services need to be informed by reliable data.

To be useful, important decisions must be implemented. Planning is only fit for purpose if it can realistically be put into practice. Capital programme doability refers to the likelihood of being able to deliver the planned capital programme. Effective long-term planning means setting an achievable and realistic capital programme that includes a best estimate of the cost and timing of works. Our audits indicate that delivery could be a challenge. In this report, we discuss the importance of having confidence that capital programmes are achievable.

Peer review can play an important role in a robust asset management planning system. It can give managers an independent view. It can challenge whether asset management plans are reasonable or provide confidence. For local authorities, it can challenge or support key decisions in a consultation document or long-term plan.

Our external audit is not a peer review. It does not replace or duplicate the value that a peer review can provide. Our audit is primarily for stakeholders and is designed to support engagement and accountability by giving them confidence.

This report is based on the results of external audits. It poses 10 questions you could ask about your own approach to accountability in planning:

1. Are we confident that our planning is reliable?
2. Have we clearly emphasised our key issues?
3. Have we assessed the reliability of our asset data?
4. Have we identified our critical assets?
5. Does our data reliability match the significance of the decisions we need to make?
6. What is our track record of delivery?
7. What is the capacity of the local contractor market?
8. Are we confident we can deliver our plans?
9. Could we collaborate with our neighbours to gain efficiencies, attract more contractors, or make sure we are not competing with each other?
10. Do we want independent peer review to challenge our planning and give us confidence that we have got it right?

Background

In 2021, Audit New Zealand reviewed the long-term planning of local government.¹ This was part of the process for long-term plans for 2021 to 2031 being adopted by local authorities across the country. To support the opinions we issued on consultation documents and long-term plans, we reviewed local authority infrastructure strategies and asset management planning.

We gathered lots of information. We thought it would be helpful to share some reflections on “what good looks like”.

We hope this report provides a resource for anyone managing assets and interested in accountability.

Local authority assets, planning, and the law

The Local Government Act 2002 (the Act) is the primary legislation covering long-term planning. Its purpose is “to provide for democratic and effective local government”. It does this by clearly stating the purpose of local government, providing a framework and powers, promoting accountability to communities, and providing “for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach”.

Section 93 of the Act requires local authorities to have a long-term plan (LTP). Section 94 of the Act requires an LTP to contain a report from the Auditor-General on:

- whether the plan gives effect to the purpose of long-term planning; and
- the quality of the information and assumptions underlying the plan.

That is why we audited long-term planning across the country.

Section 14 of the Act sets out key principles for local authorities to follow. These include ensuring “prudent stewardship and the efficient and effective use of its resources in the interests of its district or region, including by planning effectively for the future management of its assets” (section 14(1)(g)).

The Act is not specific about how the future management of assets should be planned but does include specific requirements for an infrastructure strategy (section 101B). The Act tells us that:

...the purpose of the infrastructure strategy is to —

- (a) identify significant infrastructure issues for the local authority over the period covered by the strategy; and
- (b) identify the principal options for managing those issues and the implications of those options.

Other public sector organisations have their own legislation governing what they do and how they do it. Although most legislation is not as specific as the Local Government Act, for organisations that rely on assets to support service delivery, good quality strategic and operational asset management planning is a prudent part of a robust service and financial planning system.

Standards and guidance

Within the context provided by legislation, professional and industry standards and accompanying guidance provide a strong and clear framework for what good asset management planning should comprise.² As a result, it is reasonably clear what good planning might look like in theory. The ISO55000 suite of standards

1 Audit New Zealand was the auditors of 62 local authorities. The remaining local authorities were audited by other audit service providers and are outside the scope of this report.

2 More detail is provided in Appendix 2.

provides an overview of asset management, its principles and terminology, and the expected benefits from adopting asset management.³ The Institute of Public Works Engineering Australasia (IPWEA) provides *NAMS+ A toolkit for asset management planning*.⁴

This report is intended to complement, not replace or duplicate, these definitions of “what good looks like”.

Audit reports

When we audit local authorities’ long-term planning, we issue two audit reports: one on the consultation document required by section 93 of the Act and one on the LTP.

The consultation document and LTP have different purposes. The consultation document facilitates participation in local decision-making. It should provide an effective basis for public participation (section 93B). The LTP provides the basis for that decision-making and accountability to the community (section 93(6)). It provides guidance to staff tasked with implementing the plan and a point of reference that local people can expect to see delivered.

For local authorities, service delivery relies heavily on physical assets – roads, water supply, wastewater, stormwater, buildings, and open spaces. Other parts of the public sector are similarly asset intensive. From ports and airports, schools, and universities to hospitals and state housing, good public services rely on good management of assets.

Planning for asset-intensive services means having accurate, up-to-date information and good quality asset management planning.

About this report

This report summarises our audit opinions and some of the issues we highlighted in them. It covers asset information, which we believe is the foundation for good asset planning.

The report covers whether the long-term capital programme is doable in the context of rising costs and increasing demand for work. Finally, it considers the role that peer review can play and finishes with what we believe are the top 10 questions for governors and senior managers to ask.

³ See www.standards.govt.nz/shop/iso-550002014/.

⁴ See www.ipwea.org/resourcesnew/namsplus.

Accountability and audit opinions

Audit opinions give confidence that readers can rely on the information in key documents. Audit opinions can draw attention to important aspects of documents or indicate areas where there is less confidence.

In the case of long-term planning, opinions covered two issues: whether planning was fit for purpose and the quality of the underlying information and assumptions.

In this chapter, we outline the different audit opinions that we issued and what our audit opinions mean.

Local Government Act 2002

Section 93(6) of the Act sets out the purpose of a LTP, which is to:

- describe the activities of the local authority;
- describe the community outcomes of the local authority's district or region;

- provide integrated decision-making and co-ordination of the resources of the local authority;
- provide a long-term focus for the decisions and activities of the local authority; and
- provide a basis for accountability of the local authority to the community.

Auditors report on the quality and reliability of these LTPs.

Types of audit opinion issued

Auditors can express four types of opinion:

Type of opinion	Explanation
Unmodified (consultation document)	<p>This is the opinion expressed when the Auditor-General concludes the consultation document:</p> <ul style="list-style-type: none"> · provides an effective basis for public participation in the local authority's decisions about the proposed content of its 2021-31 LTP, because it: <ul style="list-style-type: none"> - fairly represents the matters proposed for inclusion in the LTP; and - identifies and explains the main issues and choices facing the local authority and region, and the consequences of those choices; and · the information and assumptions underlying the information in the consultation document are reasonable.
Unmodified (LTP)	<p>This is also the opinion expressed when the Auditor-General concludes the LTP:</p> <ul style="list-style-type: none"> · provides a reasonable basis for: <ul style="list-style-type: none"> - long-term, integrated decisionmaking and co-ordination of the local authority's resources; and - accountability of the local authority to the community; · the information and assumptions underlying the forecast information in the plan are reasonable; and · the disclosures included represent a complete list of the disclosures required by Part 2 of the Local Government (Financial Reporting and Prudence) Regulations 2014 and accurately reflect the information drawn from the plan. <p>This opinion does not provide assurance that the forecasts in the plan will be achieved, because events do not always occur as expected and variations may be material. Nor does it guarantee the accuracy of the information in the plan.</p>
Modified	<p>Modified opinions can be qualified, adverse, or disclaimed. They are used when:</p> <ul style="list-style-type: none"> · based on the audit evidence obtained, the requirements of an unmodified opinion have not been met (opinions can be either qualified or adverse depending on the pervasiveness of issues); or · we have been unable to obtain sufficient appropriate audit evidence to conclude that the basis for the unmodified opinions above have been met (again opinions can be either qualified or disclaimed depending on the pervasiveness of issues).
Emphasis of matter	<p>This is a paragraph included in the auditor's report referring to a matter that, in the Auditor-General's judgement, is of such importance that it is fundamental to users' understanding of the consultation document or LTP. Matters can be emphasised by the Auditor-General even if they are already appropriately presented or disclosed by the local authority in the consultation document or LTP.</p>
Other matter	<p>A paragraph may be included in the auditor's report that refers to a matter other than those presented or disclosed in the consultation document or LTP that, in the Auditor-General's judgement, is relevant to users' understanding of the audit, the auditor's responsibilities, or the auditor's report.</p>

Audit New Zealand issued opinions on the consultation documents and LTPs for 62 of the 78 local authorities across the country.⁵

⁵ Note that the other 16 councils are audited by other audit firms on behalf of the Auditor-General. Their work is not included in this report.

Emphases of matter in 2021

There were several opinions issued with an emphasis of matter that related to asset management.⁶

For the consultation documents:⁷

- 55 opinions included an emphasis of matter relating to the three waters reform;
- 18 opinions included an emphasis of matter relating to uncertainty over delivery of the planned capital programme;
- 11 opinions included an emphasis of matter related to asset condition, performance information, and/or the ability of this information to be used to inform renewals plans; and
- one opinion included an emphasis of matter related to unclear asset ownership.

For the LTPs:⁸

- 55 opinions included an emphasis of matter relating to the three waters reform;
- 25 opinions included an emphasis of matter relating to uncertainty over delivery of the planned capital programme;
- 10 opinions included an emphasis of matter related to asset condition, performance information, and/or the ability of this information to be used to inform renewals plans; and
- one opinion included an emphasis of matter related to unclear asset ownership.

The proposed Water Services Reform Programme could impact the planned renewals and capital expenditure on three water assets.⁹ At the time of writing, the reforms are not finalised, so it is unclear where responsibility for managing water assets will rest in future.

The emphases of matter relating to uncertainty that the capital programmes would be delivered arose because the forecast programmes of work far exceeded the past track record of delivery. This was in the context of constrained supply of labour and materials following the Covid-19 pandemic and a period of high inflation where the cost of planned work is likely to rise. The potential impacts of not delivering against the capital programme are risks of reduced levels of service, asset failures, or greater long-term costs. This is explored further in the chapter on capital programme doability.

A poor understanding of asset condition and performance can adversely impact the accuracy of forecasts to renew existing assets. If the condition and/or performance of assets is not known, especially for critical assets, there is a risk that assets/services fail unexpectedly or are no longer able to reliably deliver the required levels of service.

Although the age of assets can be used as a proxy for condition when generating a renewals programme, this is likely to be less accurate than one based on current asset condition and performance. Depending on the significance of the services provided by the asset and the complexity of the asset network, auditors concluded in some cases that a more accurate forecast based on asset condition and performance would have been more appropriate. This is explored further in the chapter on asset information.

6 A council can have more than one emphasis of matter included in each opinion.

7 For more information on the audit opinions issued on the LTPs for each council, see Part 5 of Office of the Auditor-General, Consulting matters: Observations on the 2021-31 consultation documents, at oag.parliament.nz.

8 For more information on the audit opinions issued on the LTPs for each council, see Appendix 1 of Office of the Auditor-General, Matters arising from our audits of the 2021-31 long-term plans, at oag.parliament.nz.

9 See www.dia.govt.nz/Three-Waters-Reform-Programme.

Modified opinions in 2021

There were also several modified audit opinions relating to asset management. These impacted both consultation documents and LTPs.

Situation	CD opinions	LTP opinions
Opinions were qualified for assumptions relating to external funding for capital projects where it was assumed that external funding or revenue would be available for the works (rather than the local authority incurring debt), but no commitments had yet been received for this.	Five	Four
Opinion modified because the local authority had obtained a road asset from Waka Kotahi (NZ Transport Agency), but the local authority had not recognised its share of the value of Waka Kotahi's improvements to the road when it was under the control of Waka Kotahi because the information was not available to the local authority. This impacted the forecast maintenance, renewals, and depreciation for the local authority.	One	One
Opinion modified because the infrastructure strategy did not explain its approach to maintaining and renewing its three waters assets.	One	None
Opinion modified because the local authority had not included significant estimated costs relating to a full capital upgrade and maintenance of social housing or how this would be funded in the information and assumptions underlying its consultation document.	One	None
Opinion modified because the local authority assumed that it would have the required resources, contracted services, and resource consents in place to complete capital projects relating to flood and erosion protection on time, but the local authority was unable to provide appropriate evidence to support these assumptions.	One	None
Opinion modified because the local authority had challenges with its ageing three waters networks. Many of the assets in the networks are old, and a significant percentage had already passed the end of their expected useful life. The local authority had experienced several high-profile pipe failures that affected levels of service. The local authority did not use information about the condition of its three water assets to inform its investment in the network. Rather, the renewal of assets had been forecast based on the age of the assets, capped by what the local authority considered to be affordable. Given the challenges outlined above, auditors considered this approach to be unreasonable. The approach could result in more asset failures during the 10-year period of the LTP, reduced levels of service, and greater costs than forecast.	None	One
Opinion modified as it was signed after the Government's announcement on 27 October 2021 that legislation would be introduced to establish four publicly owned water services entities to take over responsibility for three waters service delivery and infrastructure from local authorities from 1 July 2024. The local authority had not amended its forecast information after this announcement to reflect these changes in responsibility.	None	One

The modified opinions all related to the accuracy, reliability, and ultimately reasonableness of planning. This is a key question that we believe governors and senior managers need to ask themselves: Are we confident that our planning is reliable?

Asset information

Good quality information about assets is essential for effective asset management planning. Knowledge of key data at component level should cover physical characteristics, installation date, useful life, asset value, current condition, and performance.

The reliability of asset data should be formally assessed and a confidence rating assigned. Data confidence should match the complexity and criticality of the asset network and the significance of the asset management decisions to be made. Strategically important decisions on complex networks supporting critical services need to be informed by reliable data.

In this chapter, we discuss the importance of having reliable asset information to enable effective decision-making to achieve planned levels of service for the community.

A local authority's infrastructure network is made up of the following asset groups:

- water supply;
- wastewater;
- stormwater;
- roading/transportation; and
- flood protection (regional/unitary councils).

In addition to core infrastructure, local authorities own and operate a wide range of other types of assets, including corporate properties, community facilities (such as community halls, libraries, museums), and recreation facilities (such as swimming pools, recreation centres, sports fields).

Local Government Act 2002

Section 101B of the Act sets out the requirements of a local authority's infrastructure strategy. This includes subsection (4), which states:

(4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must —

- (a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets —*

- (i) in each of the first 10 years covered by the strategy; and*
- (ii) in each subsequent period of 5 years covered by the strategy; and*
- (b) identify —*
 - (i) the significant decisions about capital expenditure the local authority expects it will be required to make; and*
 - (ii) when the local authority expects those decisions will be required; and*
 - (iii) for each decision, the principal options the local authority expects to have to consider; and*
 - (iv) the approximate scale or extent of the costs associated with each decision; and*
- (c) include the following assumptions on which the scenario is based:*
 - (i) the assumptions of the local authority about the life cycle of significant infrastructure assets;*
 - (ii) the assumptions of the local authority about growth or decline in the demand for relevant services;*
 - (iii) the assumptions of the local authority about increases or decreases in relevant levels of service; and*
- (d) if assumptions referred to in paragraph (c) involve a high level of uncertainty, —*
 - (i) identify the nature of that uncertainty; and*
 - (ii) include an outline of the potential effects of that uncertainty.*

To meet this requirement, local authorities need a thorough understanding of their assets. The importance of reliable asset information cannot be overstated.

What are auditors looking for?

The quality of asset information was one of the Auditor-General’s focus areas when we were auditing the 2021-31 LTPs. Limited good quality asset information can lead to underfunding, poor renewals forecasts, unplanned costs, increased risk of asset failures, and reduced levels of service – all of which could have a significant impact on local communities.

When auditors assess a local authority’s knowledge of asset condition and performance, and how it is used to support financial forecasts, we are considering how well informed the council is about its asset networks. We need to be sure there is an evidence-based approach to determining the need for asset renewals.

Auditors also consider whether the reliability of asset information to support local decision-making is being clearly communicated to the local community.

At a high level, auditors want to understand the following:

- How reliable is the council’s asset data?
- Have critical assets been identified?
- What is the level of knowledge about the critical and non-critical assets? That is, is there a well-documented record of each of the infrastructure networks covering value, age, materials, condition, and performance of assets?
- Does available data allow evidence-based decisions about a local authority’s operation, maintenance, and renewal of its infrastructure networks?
- Does the sophistication of forecasting match the complexity of the assets and the significance of the decisions being made?

Asset condition and planning for renewal

Plans to renew assets informed by monitoring actual condition and performance are likely to be more accurate than those based simply on asset age. Although all assets have a theoretical design life, in practice their actual life may be significantly longer or shorter. A range of factors, including quality of construction and installation, environmental conditions, level of usage, and effectiveness of maintenance programmes, can impact how quickly an asset deteriorates and when it will be unable to support the required level of service.

We reviewed whether the local authority had reasonable (that is, highly reliable or reliable) condition information about its critical assets. We also considered whether the local authority had a large portion of non-critical assets where asset condition information was reasonably reliable.

If the local authority had reliable information for both critical and non-critical assets, and was using it as a basis for forecasting, we were assured that the proposed renewals spend was reasonable.

If these factors were not in place, auditors considered what alternative information was available to the local authority to inform their renewals forecast and assessed whether this was sufficient. Alternative information and factors considered included:

- the complexity of local authority’s asset portfolio;
- the local authority’s undocumented knowledge of its assets’ condition and performance (for example, visual inspections not part of a structured programme and/or the cumulative knowledge and experience of engineers and those maintaining assets);
- whether undocumented knowledge was consistent with the age profile of the assets or whether it indicated assets would likely last shorter or longer than their theoretical lives;
- whether the local authority had used the undocumented knowledge of condition and performance issues to inform remaining useful life assessments and planning for renewals;
- whether there were any known performance issues or a track record of asset failures (for example, unexpected pipe failures leading to water outages) – known performance issues potentially provide a basis for renewals planning (for example, unplanned asset failures might indicate that asset renewals were being planned too late unless the local authority had a clear “run to fail” strategy or would renew after a certain frequency of failures was reached);
- whether the age profile of the assets meant that performance issues were likely (for example, if a network was of an age where significant renewals would theoretically fall within the 2021-31 period or where there were significant numbers of assets that were close to or beyond the end of their design life);

- whether most maintenance was performed as planned or whether the local authority had historically needed to carry out a lot of reactive maintenance or renewals to address asset failures; and
- whether the local authority had suitable reliable age and remaining useful life information (for example, whether the local authority had accurate information on asset installation dates and was using an appropriate methodology to calculate the age and remaining useful life of the assets, such as those outlined in the International Infrastructure Management Manual, 6th edition (IIMM)).

Once auditors had assessed each of these factors, we considered the consequence of asset failure. For example, if a critical asset with no redundancy, such as a main pipeline or a wastewater treatment plant, were to fail, there was likely to be a significant effect on the community. Furthermore, if a failure would take a long time to rectify, perhaps because of the scale of the required work or because spares were not held in stock, this added to our assessment of significance.

Conversely, failure of a connection to a few houses that could be reactively replaced within a few hours might be a tolerable consequence of failure. It might indicate that the risk of asset failure did not justify the investment in gathering better asset information.

Ultimately, auditors had to reach a judgement about:

- the local authority's approach to identifying and managing the risk of asset failure; and
- the local authority's accountability to its stakeholders about this.

Data reliability and audit opinions

These considerations helped auditors to decide whether an unmodified opinion, an emphasis of matter paragraph, or a modified opinion would be most appropriate for the local authority's consultation document and LTP to ensure that stakeholders understood the local situation.

Setting out a clear, comprehensive schedule of data reliability is good asset management practice in line with the IIMM.¹⁰ Some local authorities were able to evidence independent assurance over their assessment of asset information reliability (for example, from independent asset valuation reports if

the valuers had provided comment on the reliability of the information used to value asset classes).

When auditors assessed the reliability of a local authority's asset information, they considered the confidence grades for asset information, condition, and performance, and the resulting financial forecasts. As part of this, auditors also considered the local authority's methodology for assessing data reliability and the sensitivity of its forecasts if the data provided turned out to be inaccurate. Local authorities that had completed a recent data confidence assessment in line with the grading system set out in section 4.2.7 of the IIMM were able to clearly demonstrate their assessment of data reliability.

If a local authority had not completed an assessment of reliability, it was difficult for auditors to conclude that the local authority had reliable underlying asset information because of the range of information concerned and the multiple ways in which it could be vulnerable to incompleteness and error. In determining the significance of this, auditors assessed whether the uncertainty could lead to a material difference in financial forecasts.

What are the characteristics of quality asset information?

We base our audits on recognised good practice. The IIMM provides lots of useful information and guidance, and section 2.4 of the IIMM is the key source of guidance on asset condition and performance information. We have referred below to the most relevant parts of section 2.4 for the audit of LTPs.

It is important to make a distinction between asset condition and asset performance. Asset condition is the physical state of the asset, and asset performance refers to whether the expected levels of service are being met.

An asset can be in poor condition but still generate the required level of service (for example, stormwater pipes that are damaged but are still able to discharge the water as required) and, conversely, an asset can be in good condition but not delivering the required level of service (for example, wastewater pipes that are in excellent condition but are too small to service the volume of waste from the local population).

¹⁰ International Infrastructure Management Manual, 6th edition.

Section 2.4.1 of the IIMM sets out the use of asset performance information:

- *Understanding the current and future performance of individual assets also provides key inputs into AM [asset management] decision making, enabling further benefits such as:*
- *mitigation of risks associated with asset failure, for example by proactively maintaining or upgrading an asset to reduce the probability of failure;*
- *avoiding unplanned outages; pre-emptive asset remediation can be more cost-effective than allowing the asset to deteriorate to failure;*
- *accurate prediction of future expenditure requirements through understanding remaining asset life and capital investment needs;*
- *enhanced sustainability of the asset base as service life can be optimised and, in some cases, extended through effective, proactive understanding of the asset deterioration processes;*
- *identifying the most economic intervention (maintenance, rehabilitation, renewal) and when the interventions should be carried out, resulting in an understanding of long-term optimised lifecycle costs; and*
- *assessing current and future demand against the available capacity to better plan for demand changes.*

How much information is enough?

Asset information supporting the 2021-31 LTPs ranged from basic age and expected useful life to detailed asset age, location, condition, and performance information that was regularly surveyed and updated.

We recognise it would be prohibitively expensive to record and update information on all aspects of every asset. A significant proportion of assets are underground so are difficult and/or costly to inspect. Extrapolating a sample survey across a whole network can be a cost-effective way to increase data confidence. Asset managers should consider the significance of the decisions they need to make and how much and what data is needed to make sure those decisions are reliable.

The less complex an asset network is (in terms of size, scale, criticality, and number of users), the less sophisticated the information held by the local authority needs to be. Different renewals strategies can apply to non-critical networks.

For example, a local authority may have a simple network that services a limited number of people with few critical users. In this case, it might be appropriate for the local authority to use a “run to fail” renewals strategy, where assets are repaired or replaced as and when required. Detailed deterioration modelling might not be required to support this strategy on this particular asset class.

Different maintenance and renewals strategies will be required for more significant networks and those assets that have been identified as being critical to the ongoing operation of a system. Picking the optimal point in the asset life cycle to move from maintenance to renewal is likely to need more sophisticated information about the network, including its current condition and performance, and likely deterioration. Auditors considered it particularly important for local authorities to have reliable information about critical assets as those assets have a significant impact on the community if and when they fail.

For those assets that are hard to physically inspect, sampling data may be appropriate.¹¹ For example, we saw local authorities adopting this approach to their reticulation networks for water, wastewater, and stormwater. The sample information was then extrapolated across those parts of the network with similar material, diameter, and age of pipe laid in a similar ground type.

Sampling could be used to understand asset condition across the portfolio and help model deterioration. However, auditors mainly saw physical inspections targeted to critical assets that were at highest risk of failure or those approaching the end of their useful lives. Confirming the condition of a sample of assets can be useful to validate the need for a planned renewals programme before it goes ahead.

¹¹ Note that the data needs to be from a representative sample to be suitable for extrapolation. If focusing on assets approaching the end of their lives, the results are not able to be extrapolated across the whole asset class as this is not a representative sample of all assets in this asset class.

What data to collect?

Section 2.4.3 of the IIMM lists the following as considerations when deciding what condition and performance data to collect:

- **Relevance:** every data item must have a direct influence on the output that is required (be that a decision on when to renew the asset, or specific data input into a predictive condition model).
- **Appropriateness:** the volume of data and the frequency of updating should align with the stage in the assets' life and the criticality of the service being provided.
- **Reliability:** the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current.
- **Affordable:** the data should be affordable to collect and maintain.

Sources of condition information that our audits found being used by local authorities to understand their assets and inform their 2021-31 LTP were:

- planned inspection programmes;
- reviews during planned maintenance of assets;
- records of asset failures either from the public or from local authority staff and contractors; and
- sample asset inspections by external valuers as part of the triennial valuation of local authority assets to update the asset register.

Sources of performance information that were used by local authorities to understand their assets and inform their 2021-31 LTP were:

- complaints received from the public;
- records of asset failures either from the public or from local authority staff and contractors;
- monitoring data from telemetry; and
- performance information in the local authority's annual report – for example:
 - customer satisfaction surveys;
 - compliance with Parts 4 and 5 of the Drinking Water Standards for NZ 2005 (revised 2018);
 - water loss from networked reticulation system;
 - complaints received about drinking water clarity, taste, odour, and pressure or flow;

- complaints received about continuity of supply;
- dry weather wastewater overflows;
- wastewater reticulation incidents;
- complaints received about sewage odour, faults, and blockages;
- number of flooding events;
- stormwater pipeline blockages;
- road roughness;
- peak travel times between the CBD and surrounding suburbs; and
- reduction in fatalities and serious injury crashes.

How widespread were issues with asset information in the consultation documents and long-term plans?

A lack of good quality asset condition and performance information was the reason for many of the emphasis of matter paragraphs in audit opinions issued on consultation documents and LTPs.¹²

An emphasis of matter is used by auditors to highlight the significance of specific disclosures to the public and to elected members. Emphasis of matter paragraphs were included in our audit opinions where we concluded that limited understanding of asset condition and performance would likely impact the accuracy of renewals forecasts and the efficiency of planned investment and heighten the risk of service disruptions. In some cases, only age-based information was being used to forecast programmes of work. In some cases, we concluded this was reasonable, but in others, such as work on critical assets, we concluded it was not.

¹² See the chapter of this report on audit opinions for more detail.

Upper Hutt City Council: An example of auditors issuing an emphasis of matter

Upper Hutt City Council received an emphasis of matter paragraph for its consultation document and LTP because the Council’s forecasting for three waters assets was based on their age.

Using age-based information instead of condition and performance information means there is a higher degree of uncertainty about the prioritisation of investment.

The Council provided a clear summary of its asset information maturity in its consultation document and explained that its renewals forecast was built on age-based information. The consultation document acknowledged that using aged-based

asset information to support budgets increases the uncertainty of when and how much investment will actually be needed. The Council told readers of its planning that it intended to invest in better understanding the condition of its assets to help reduce the level of uncertainty in future.

The extract below is from pages 20 to 21 of Upper Hutt City Council’s consultation document:

<p>Our infrastructure</p> <p>The Infrastructure Strategy summarises our strategic investment across all our assets. By identifying the challenges facing our city, we can target our asset investment across the entire portfolio, and make informed decisions irrespective of asset.</p> <p>To build on a broadly sound infrastructure base, we have to focus on continuing to improve our asset knowledge and information to make better decisions. There are significant future challenges, such as the level of renewal required across ageing infrastructure networks—many built around the same</p>	<p>time the city was first developed. Several factors affect how future renewals are prioritised, including age, criticality, operating parameters, and condition of assets. On our behalf, Wellington Water began a programme of work in 2020 – 2021 to understand the condition of three waters assets. Initially, they’ve focused on the most critical assets. For other assets, they have based their prioritisation and advice on what they know about particular types of assets or their age. Our forecasting for three waters is based on information available at this time. Given that the forecasting is ‘age based’ there is a</p>	<p>higher degree of uncertainty involved. Wellington Water will work on better understanding asset conditions which will improve reliability of investment needs in the future.</p> <p>We also need to invest in some community assets that don’t currently meet changing standards or legislative requirements such as seismic strengthening standards.</p>
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Wellington City Council: An example of auditors qualifying their opinion

Wellington City Council received a qualified opinion for its consultation document because the Council had experienced several high-profile pipe failures that had affected levels of service for local communities.

Many of the assets in the three water networks are old, and a significant percentage had already passed the end of their expected useful life. The Council did not use information about the condition of its three water assets to cost and direct its investment in its three waters networks. Rather, the renewal of assets was forecast based on a funding envelope informed by both the age of the assets and what the Council considered to be affordable.

Given the age of the three waters networks and recent asset failures, auditors considered it was unreasonable for the Council to use only age as the basis to support and direct the renewal of its three waters infrastructure. The risk of doing so could result in more asset failures during the 10-year period of the LTP, reduced levels of service, and greater costs than forecast.

Option 1

Maintain current funding level

This would see a continuation of the existing level of funding for three waters renewals. This includes keeping the \$3.2m operational expenditure increase agreed as part of the 2020/21 budget, which is a 2.1 percent opex increase and 14.8 percent capex increase over the 2018 Long-term Plan.

The risk of this option would be compounding year on year decreases in service levels, a lack of investment in improved data for decisions and consequential increases in operating costs of the networks. We do not believe this is what most Wellingtonians want and so is not our preferred option.

The impact of this option on our network is outlined below:

Drinking Water: Under this option, we will complete \$144m of renewals and \$73m of upgrades on our network. Investment will continue at about the current pace, but this will not keep up with our challenges. We anticipate an increasing number of leaks and bursts, and that the percentage of water lost will continue to rise.

We will not get ahead of our deferred replacement of vulnerable asbestos cement pipes. This in turn will mean a requirement to construct more water storage somewhere in the region, at a cost in the hundreds of millions.

Wastewater: In this area we will complete \$121m of renewals and \$55m of upgrade work on our network. We will replace old pipes with pipes constructed from new, more resilient materials. However if this option is progressed, at this level of funding we can expect to see more pipe failures and wastewater continue to escape into streams and the marine environment. We will not be able to comply with the new legal requirements on environmental water quality, and we will need to accept the risk of disruption and reputational damage from significant wastewater failures.

Stormwater: Under Option 1 we will complete \$54m of renewals and \$67m of upgrades on the network. This will see some improvements in parts of the city, but overall, we can expect to see an increase in instances of flooding as a changing climate delivers more intense rainfall, and as the water tables continue to rise. We can also expect to see a continuation of the decline in stormwater quality.

We also expect more failures such as the 'sinkhole' that occurred in Jervois Quay in February 2021.

We think this option means Wellington's three waters network would continue to decline, and we do not believe this is what most Wellingtonians want.

Growth: Option 1 also does not accommodate growth, and we would not be able to develop parts of the city because there is not enough capacity in our drinking water or wastewater networks.

Operational Cost: \$1.4b over 10 years

Rates impact: No impact

Capital cost and debt impact: \$552m over 10 years

Drinking water \$248m,
Wastewater \$180m,
Stormwater \$124m



In the consultation document for Wellington City Council, there was specific reference to the importance of asset information. The Council had identified that the Wellington region's three waters network had historically suffered from low funding and that Wellington Water had recommended to its client councils that an increase in funding was needed over several years. The Council presented three options to the community. Integral to the options presented was the need to improve the Council's knowledge of the condition of three water pipes to improve the timing of planned renewals.

Option 2



Enhanced investment

This option entails a substantial increase in the level of three waters investment, including a 23.2 percent operational expenditure and 41.1 percent capital expenditure increase above what was in the 2018 Long-term Plan.

While there remains a risk with this option that some service levels may continue to decrease and therefore increase operating costs, this option includes additional funding to better understand the condition of the network, and this will improve our ability to renew and invest in the network.

We do not think this option will fix all of our network problems, but we think this will reverse some of the trends and set us on a more favourable path towards higher performance and quality in our network.

We think it is affordable and provides a pragmatic first step towards improving our network.

The impact of this option on our network is outlined below:

Drinking water: This option includes: investigations into our infrastructure so we can better understand what needs replacing; \$127m for renewal and \$62m for up-grade work meaning fewer leaks; and funding to complete Omāroro reservoir.

Wastewater: This option includes the repairs of pipes identified through the investigations into the network, which reduces the risks of leaks. Alongside this, we propose to renew pipes, mainly in Taranaki, Wakefield, Victoria and Dixon streets and Kent Terrace, install a new pump station in Taranaki St and increase wastewater network capacity. Work is also planned in Stebbings Valley and Karori. In total there will be \$154m spent on renewals and \$3.3m on upgrades.

We anticipate that under this option the quality of some of our streams and the marine environment may not worsen, but the problem is decades in the making and it will take some time to reverse.

Stormwater: Based on asset inspections already completed, we propose to focus on the \$52.8m renewals programme and \$22.5m upgrades programme. Included in this is funding to reduce flooding risks in Tawa. We will address stormwater quality issues through our review of the District Plan.

Growth: We have identified \$255m over 10 years for growth investment across all three waters, and will target these upgrades in the central city, and Stebbings Valley. Any additional funding for growth in other areas would be added in time for 2024 Long-term Plan, following Spatial Plan development.

Operational Cost: \$1.7b over 10 years

Drinking water \$687m,
Wastewater \$639m,
Stormwater \$359m

Rates impact: 2.51%
3 year average increase

Capital cost and debt impact:
\$678m over 10 years

Drinking water \$264m,
Wastewater \$330m,
Stormwater \$83m



Option 3

Accelerated investment

This option would mean an increase in investment over Option 2, and is a 32.6 percent operational expenditure and 222 percent capital expenditure increase over the 2018 Long-term Plan.

It aims to accelerate all work programmes across the network.

However, it is not our preferred option because we do not yet have sufficient information to properly cost and direct our investment, and our growth plan is not yet at the stage where we can use it for infrastructure planning.

We think more work is required to gather this data before such a sizeable investment is made.

There is substantial uncertainty regarding the ability to deliver such a large programme of work.

The impact of this option on our network is outlined below:

Drinking Water: This option also includes investigations into our network. This enables us to minimise water leaks through an extensive \$195m pipe renewals programme. Meaning an eventual reduction in maintenance, and leaks and burst pipes would be rare.

We would have a detailed understanding of the carbon footprint of our network and should be able to defer construction of a new storage lake. We would also spend \$26m on network upgrades.

Wastewater: After investigations and a \$391m renewals programme, we would be able to invest to reduce sewage pollution, starting with catchments around the central city, Karori and Owhiro Bay, then widening into other catchments.

We think the waterways and coastal environment would be close to where we would like them to be by the end of the work programme. Pipe breaks would be rare and if there was a discharge it would be swiftly managed. This also includes a \$38m upgrades programme.

Stormwater: Improved pipes and planning regulations would mean better management of stormwater. Where practical, this would include natural green and open spaces that use vegetation, soils, and other elements and practices to help deal with environmental challenges such as stormwater runoff and climate adaptation. This would supplement and, where possible, replace portions of the \$96m hard infrastructure renewals and \$24m upgrades programme.

Growth: Once we fully understand where the city is to grow, and have analysed the network, we would develop a roughly \$776m investment plan to enable this growth investment to occur over 10 years - noting that more funding for growth will be needed to realise our 30 year growth projections. Of this \$776m, the majority is for investment in our wastewater network, which is \$432m of growth funding over this plan.

Operational Cost: \$1.8b over 10 years

Rates impact: 5.85%
3 year average increase

Capital cost and debt impact:
\$1.5b over 10 years

Drinking water \$397m,
Wastewater \$862m,
Stormwater \$288m

Christchurch City Council: An example of an unmodified opinion

Christchurch City Council’s audit opinion contained no reference to its condition and performance information. This was because auditors felt that the Council had a thorough knowledge of its asset networks when considering a range of data sources.

The Council’s asset management plans (AMPs) provided a description of the assets, with a well-documented record of each of the networks covering value, age, materials, and condition. Critical assets were identified in each AMP, and criticality was addressed in the risk section of each AMP. The renewals programme, which was a significant part of the total capital programme, was based on factors that included the condition and performance of the Council’s assets. Auditors found that the Council generally had good quality information on its assets and that the iterative nature of the planning process meant that critical assets were prioritised in forecasts.

In developing the capital programme for the LTP, both staff and councillors tried to minimise the impacts on levels of service and consequence of failure, by using an Asset Assessment Intervention Framework (AAIF) methodology to focus capital work on the areas of highest impact within three waters. The AAIF tool uses

condition and criticality information to inform the programming of asset renewals within available budgets and to understand and reduce risks of asset failure. It considers expected theoretical useful life, actual condition, repair history, rate of deterioration, and consequences of failure to establish a renewal year.

The AMPs identified the Council’s approach to the operation, maintenance, and renewal of its networks and contained the data on which decisions would be made. The renewals strategy was made up of approaches appropriate to each asset group and was evidence based (for example, the AMPs set out the approach and included a rationale as to why it was appropriate). The sophistication of the approach appeared to match the complexity of the assets described.

Capital programme doability

Capital programme doability refers to the likelihood of being able to deliver the planned capital programme. Effective long-term planning means setting an achievable and realistic capital programme that includes a best estimate of the cost and timing of works. Our audit work indicated that delivering all the work forecast in 2021-31 LTPs could be a challenge. In this chapter, we discuss the importance of having confidence that planned capital programmes are achievable.

Local Government Act 2002

Section 101B of the Act sets out the requirements of a local authority's infrastructure strategy. Subsection (4) tells us:

(4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that context, must— [paragraph (a) not quoted as not relevant to capital programme doability]

(b) identify —

- (i) the significant decisions about capital expenditure the local authority expects it will be required to make; and*
- (ii) when the local authority expects those decisions will be required; and*
- (iii) for each decision, the principal options the local authority expects to have to consider; and*

(iv) the approximate scale or extent of the costs associated with each decision; and

(c) include the following assumptions on which the scenario is based:

- (i) the assumptions of the local authority about the life cycle of significant infrastructure assets;*
- (ii) the assumptions of the local authority about growth or decline in the demand for relevant services;*
- (iii) the assumptions of the local authority about increases or decreases in relevant levels of service; and*

(d) if assumptions referred to in paragraph (c) involve a high level of uncertainty, —

- (i) identify the nature of that uncertainty; and*
- (ii) include an outline of the potential effects of that uncertainty.*

To meet this requirement, local authorities need to set an achievable and realistic capital programme that includes a best estimate of costs and timing of works.

There also needs to be clear disclosure to the local community. Schedule 10 of the Act covers LTPs, and clause 17 sets out the significant forecasting assumptions that need to be included:

A long-term plan must clearly identify —

(a) all the significant forecasting assumptions and risks underlying the financial estimates:

(b) without limiting the generality of paragraph (a), the following assumptions on which the financial estimates are based:

(i) the assumptions of the local authority concerning the life cycle of significant assets; and

(ii) the assumptions of the local authority concerning sources of funds for the future replacement of significant assets:

(c) in any case where significant forecasting assumptions involve a high level of uncertainty, —

(i) the fact of that uncertainty; and

(ii) an estimate of the potential effects of that uncertainty on the financial estimates provided.

The ability to deliver the capital programme is a significant assumption. Similarly, the factors that might mean the programme cannot be delivered are the kinds of uncertainty that the Act is referring to.

What are auditors looking for?

Capital programme doability was one of the Auditor-General's main themes for the audit of 2021-31 LTPs. The Auditor-General had previously expressed concern that planned capital programmes were not being fully delivered in practice. In 2019, the Auditor-General reported that local authorities had, on average, only spent 77% of their capital expenditure budgets from 2012/13 to 2018/19, with most spending less than 80% of their capital expenditure budgets in each year.¹³

Local authorities' capital expenditure forecasts were 42% higher overall in the 2021-31 LTPs compared to those for 2018-28.¹⁴ This is in the context of supply chain disruptions and high demand for construction services across Aotearoa New Zealand. Although some of the uplift was due to inflation, there was also an increase in the volume of work being planned. Auditors had to assess whether local authorities and their contractors had the capacity to deliver this increase in work, particularly given the history of underdelivery.

The impact on local communities of local authorities not meeting their capital programme could be significant. Underspending or delaying projects could lead to reduced levels of service, more frequent unplanned failures of assets, excess demand for assets in growth areas, and ratepayers paying for work (through rates set based on forecast works) that the local authority can't complete.

To inform our assessment, auditors:

- reviewed recent financial information for each local authority to understand past performance in delivering the capital programme, which provided context for thinking about future plans;
- assessed the local authority's assumptions (as capital programmes are always an estimate, auditors needed to understand the assumptions to assess whether they were reasonable and clearly communicated to the local community, as required by clause 17(c) of Schedule 10 of the Act); and

- considered enablers put into place by the local authority to help them deliver the proposed programme, such as having sufficient project managers, a clear project management methodology, and scheduling that incorporated realistic time frames and contingency for potential delays (such as obtaining resource consents).

What are some of the indicators of capital programme doability?

Indicators that a local authority has an appropriate framework for successful delivery of its planned capital programme include:

- having a good understanding of the pipeline of work and well-run procurement processes to engage contractors in plenty of time while achieving best public value – for example, allowing adequate time for thorough project planning and design, and to ensure that required capacity and capability is available from staff and the supplier market;
- effectively managing contracts so that individual pieces of contracted work are on time, of expected quality, and within budget;
- effectively managing projects across the portfolio – for example, if a local authority is planning a step change in the volume of its capital programme, there will be an impact on the workload of project managers, engineers, and others that should be considered and planned for;
- realistic budgeting and forecasting to ensure that the capital programme is well costed and affordable, which is also helped by a good understanding of assets (see the chapter on asset information for more on this topic);
- being clear on sources of funding – for example, a local authority may have commitment from central government to fund a significant amount of its capital programme;
- having a track record of delivery against previous capital programmes, giving confidence that appropriate systems are in place, at least for the volumes achieved in the past;

13 See Figure 1 of Office of the Auditor-General, Insights into local government: 2019, at <https://oag.parliament.nz/2020/local-govt/part1.htm>.

14 For more information on the increased capital programmes for councils in the 2021-31 LTPs, see paragraphs 4.2 to 4.8 of Office of the Auditor-General, **Matters arising from our audits of the 2021-31 long-term plans**, at oag.parliament.nz.

- being a customer of choice as a result of good relationships and communication already established with suppliers and the wider market – for example, a local authority could already have framework contracts in place for a programme of work or it could have completed research that indicates that there is sufficient market capacity; and
- collaborating and co-ordinating procurement activity with neighbours – see the case study below.

How widespread were issues with capital doability in the consultation documents and long-term plans?

There are inherent uncertainties in future capital programmes from both the demand and supply perspectives. Disclosure about how the local authority considered these uncertainties and its proposed steps to manage them reduced the likelihood of receiving an emphasis of matter paragraph in the audit opinion.

Audit New Zealand issued audit opinions on the consultation documents and LTPs for 62 of the 78

local authorities around the country.¹⁵ There were a significant number of local authorities receiving emphases of matter relating to delivery of the capital programmes in their opinions.¹⁶

Eighteen (30%) consultation document opinions included an emphasis of matter paragraph highlighting to readers that there was uncertainty as to whether the local authority could actually deliver the planned capital programme. None of those local authorities had specifically consulted with its local community on delivery of the capital programme.

For LTPs, an even higher proportion of opinions (25 or 40%) included a similar emphasis of matter.

This position arose because planned capital programmes of many local authorities around the country far exceeded past delivery in a time of constrained supply of labour and materials. Auditors concluded that this led to significant uncertainty over whether the programme could likely be delivered in full. The potential impacts of not delivering against the capital programme are reduced levels of service, asset failures, or greater long-term costs.

15 The other 16 councils are audited on behalf of the Auditor-General by other audit service providers.


16 A council can have more than one emphasis of matter included in each opinion.

Napier City Council: Collaboration to deliver across the region

Collaboration can enable local authorities to share expertise and capacity of staff and achieve economies of scale. Bundling works can also make contracts more attractive to suppliers.

It could mean longer-term and/or higher-value projects for suppliers, which can give them a level of certainty over their work plans. It can also help attract the bigger contractors into regional New Zealand.

An example of collaboration and co-ordinated working is provided by the Hawke's Bay region.¹⁷ In the infrastructure strategy for Napier City Council, the Council recognised the benefits of collaborating with neighbouring local authorities to procure project works.



Capacity to Deliver and Support Economic Recovery

The government is driving economic recovery through stimulus packages. This will increase the number of projects to be delivered, which results in additional workload and reporting requirements over a condensed time frame, e.g. shovel ready projects and Three Waters reform projects. Council has been delivering capital plans over the last 4 years that range between \$20 and \$50M in total. The projections for the latest Long Term Plan significantly exceed this value (excluding stimulus work) and, given current staffing levels and potential industry constraints, there are hurdles to jump through to ensure that Council can deliver the planned capital programme.

Council's Response: Council has a large amount of work to deliver in a constrained industry with a lot of competition. Council is working with other regional territorial authorities to see how we can work together to deliver these programmes of work. This is already starting with five regional projects being delivered as part of the Three Waters reform. The opportunity for Council is to encourage new players into the Hawke's Bay market by reviewing our procurement methods, bundling work together, and also prioritising the work that is most important to complete. Where Council resources are stretched, we are looking at external assistance where needed, for example, where we need additional technical expertise or project management assistance.

¹⁷ Note that this example predates the impact of Cyclone Gabrielle on the region in February 2023.

Peer review

Peer review is an important part of a robust asset management planning system. It can provide managers with an independent view. It can challenge or provide confidence as to whether AMPs are reasonable and provide support for service and financial planning.

In the local government sector, an independent peer review can challenge or support the justification for key decisions presented in a consultation document and LTP.

Our external audit does not replace the value that a peer review can provide. Our audit is primarily to give external stakeholders' confidence, but it can also challenge or support asset managers.

The importance of peer review

The main aim of peer reviewing AMPs is to provide asset managers with a “second opinion” on their adequacy and to identify or confirm areas where additional work to the asset management system is required.

A peer review can cover a plan or plans, or it can consider the entire planning system.

A peer review can include an independent assessment of the “maturity” of asset management. Different levels of maturity or sophistication are appropriate to different organisations according to:

- the value and complexity of their asset base;
- the extent to which it supports critical services; and
- the significance of asset related decisions on the horizon.

Peer review can include a “gap analysis” between current and ideal practice. This is helpful as it allows desirable improvements in asset management to be identified and prioritised.

Having confidence that asset management planning is at an appropriate level of sophistication is important for auditors. Peer reviews can help us get that confidence.

What we found in 2021 LTPs

Most of the local authorities we audited for the 2021-31 LTP had their AMPs peer reviewed before our visit. However, we found a significant variation in:

- the quality of peer review; and
- its timeliness.

When the peer review was done well, we were able to leverage the assurance provided by the peer review process and reduce the amount of audit work required. In audit terms, this is referred to as relying on the work of an expert – the peer reviewer.

In contrast, where peer review was not able to provide us with adequate audit assurance, we needed to perform a more detailed review of asset management planning ourselves before being able to conclude as to whether the information about infrastructure assets was adequate.

We noted that some peer reviews performed in conjunction with long-term planning for 2021-31 looked back to the finalised versions of AMPs from the previous LTP (2018). Although this was useful for local authorities to identify areas where asset management needed to be improved, this was not a peer review that provided confidence in current (2021) planning. Therefore, we were unable to place reliance on the results of these types of peer review for our audits.

In other instances, peer review was not performed over the AMPs at all or was limited in scope and did not critically challenge the information contained in the 2021 AMPs. In these cases, we noted that some peer reviews were more akin to a grammar and/or sensibility check rather than a critical review of:

- the asset management planning document(s);
- the engineering judgements on which they were based;
- the asset life cycle strategies that the judgements sought to implement; and
- the asset information on which planning was based.

The purpose of peer review needs to be clear

Organisations need to be clear when commissioning a peer review:

- Is this a backward-looking peer review to identify areas for improvement in future plans?
- Is this a document review to help quality assure readability?
- Is this a challenging review of current planning to provide stakeholders (and auditors) with confidence that current planning is robust?

Ways to improve the usefulness of peer review

Scope

- Ensure the scope of your peer review is clearly specified at the outset so that the peer reviewer understands the expected outputs.
- Consider using a structured framework such as that adopted by the New Zealand Treasury and Āpōpō (Infrastructure Asset Management Professionals) in the Asset Management Maturity Assessment.¹⁸ The framework can be used to confirm or challenge your own self-assessment, or it can be used by the peer reviewer to identify strengths and weakness. Use of a structured framework also helps facilitate effective tracking of improvements.

Timeliness

- In local government, it can be beneficial for AMPs for mandatory activities (three waters, transportation, and flood protection) to be peer reviewed regularly, ideally for at least each LTP cycle. Local authorities may elect to have AMPs for other activities peer reviewed less frequently and potentially on a rotational basis.
- Asset management is an ongoing process. One effective approach can be to maintain AMPs as living documents – updated as planning decisions change rather than waiting for a three-yearly rewrite. Either way, peer review should commence early enough in the planning process that it can challenge, help improve, and give confidence in current planning. For local authorities, this means well before preparation of the LTP. This enables the peer reviewer's findings to be actioned or incorporated into asset management improvement plans.
- To provide confidence in current planning, peer reviews should focus on the current AMPs rather than looking back to earlier versions.

Engaging a peer reviewer

- When selecting a peer reviewer, it is important that they are independent and able to provide objective unbiased feedback. An independent peer reviewer cannot also be part of the team responsible for co-ordinating planning for an organisation.
- Peer reviewers should have an appropriate knowledge of the subject matter and the environment in which the local authority is operating.

¹⁸ This assessment tool is based on the 2020 IIMM Asset Management Maturity Framework table. It can be downloaded from <https://apopo.co.nz/product/asset-management-maturity-assessment-tool-xlsx/>.

Using peer review for the long-term plan audit

Although the primary objective of peer reviewing AMPs is to provide independent feedback to asset managers about the appropriateness and adequacy of those documents, effective peer review can help make our audit more efficient by reducing the amount of testing we need to do – for example, on the underlying information used to support a local authority’s LTP.

When deciding whether we can rely on a peer review, we consider:

- the nature, scope, and objectives of the peer reviewer’s work;
- whether the peer reviewer is employed by the organisation or is engaged to provide other relevant services – both would limit the reviewer’s independence and, as a result, the confidence that third parties could take from the review;

- the extent to which management can exercise control or influence over the work of the peer reviewer – to be independent and reliable, reviewers need autonomy to make their own judgements;
- whether the peer reviewer is subject to technical performance standards or other professional or industry requirements;
- the nature and extent of any controls over the peer reviewer’s process and reporting, to ensure it meets expected standards and covers the planned scope;
- our knowledge and experience of the peer reviewer’s field of expertise; and
- our previous experience of the work of that peer reviewer.

Similar considerations might be useful when choosing a peer reviewer to look at your plans.

The top 10 questions you could ask about the accountability of your infrastructure planning

The top 10 questions we believe governors and senior managers could ask to improve accountability on asset management planning and infrastructural issues are:

	Question	Purpose
Audit opinions	1 Are we confident that our planning is reliable?	<ul style="list-style-type: none"> Reliable planning supports prudent stewardship of infrastructural assets and the efficient and effective use of resources. Planning is less useful if it is not reliable. It should be based on good quality data, include reasonable assumptions, and identify the finance required to put plans into practice.
	2 Have we clearly emphasised our key issues?	<ul style="list-style-type: none"> To play an effective part in public accountability, planning needs to emphasise the key issues. Consultation should focus on the key issues and be supported by planning that clearly identifies what these are. The reasons for their significance and the proposals for dealing with them should be covered in the consultation document.
Asset information	3 Have we assessed the reliability of our asset data?	<ul style="list-style-type: none"> Asset information should be reliable. Reliability should be formally assessed so that decision-makers can have confidence or be clear where there is uncertainty.
	4 Have we identified our critical assets?	<ul style="list-style-type: none"> Critical assets are those where there are severe consequences should that asset fail. Naming assets as critical is important so that work to manage and maintain them can be prioritised.
	5 Does our data reliability match the significance of the decisions we need to make?	<ul style="list-style-type: none"> Some uncertainty about data is inevitable. Data needs to be reliable enough to support robust decision-making. Routine decisions on simple non-critical assets where there is capacity to react and change strategy if things change can cope with some unreliable data. Modelling the renewal needs of a complex asset network when finances are tight requires much greater data accuracy.

	Question	Purpose	
Capital programme doability	6	What is our track record of delivery?	<ul style="list-style-type: none"> • Being clear on the track record of delivery can help inform plans. • It might indicate that there is a backlog of existing work to get through before starting a new project. • It might also show that additional staffing is needed to manage a greater workload.
	7	What is the capacity of the local contractor market?	<ul style="list-style-type: none"> • Most public sector organisations are highly reliant on the market to carry out their work and deliver on their plans. • It is important to understand the volume of work that the local market is geared up to deliver.
	8	Are we confident we can deliver our plans?	<ul style="list-style-type: none"> • It is important to set an achievable and realistic capital programme that includes a best estimate of the cost and timing of works. • A reasonable plan must be capable of implementation.
	9	Could we collaborate with our neighbours to gain efficiencies, attract more contractors, or make sure we are not competing with each other?	<ul style="list-style-type: none"> • New Zealand has many local authorities and a small pool of contractors to deliver capital projects and maintain infrastructure. • There may be scope to smooth the flow of work so that contractors can move from one job to another in neighbouring areas, giving contractors and clients greater certainty. It could help attract competition to some of the more remote areas of the country by providing a pipeline of work, not just one-off projects.
Peer review	10	Do we want independent peer review to challenge our planning and give us confidence that we have got it right?	<ul style="list-style-type: none"> • Peer review can be an important part of a robust asset management planning system. It can provide managers with an independent view. It can challenge or provide confidence as to whether AMPs are reasonable. • A good peer review needs to be timely. A good peer review can give auditors confidence but only if is truly independent, comprehensive, and up to date.

Appendix 1: List of case studies

This document includes the following case studies.

Council	Case study
Upper Hutt City Council	An example of auditors issuing an emphasis of matter.
Wellington City Council	An example of auditors qualifying their opinion.
Christchurch City Council	An example of an unmodified opinion.
Napier City Council	An example of collaboration with neighbours to deliver across the region.

Inclusion of local authorities in this document does not imply that every aspect of their planning is perfect or unreliable. They likely face many similar challenges to their peers. Examples are provided to illustrate a point. As noted in the report, there were many local authorities whose audit resulted in a modified opinion or an emphasis of matter. We chose to include a single example of each that we thought others could reflect on and perhaps learn from.

Similarly, the absence of any local authority from this document does not imply anything about its practice.

The examples in this guidance illustrate specific aspects of local government consultation material. The scope of our research did not include website content. However, given that consultation documents can be read online, we recommend that preparers consult the **World Wide Web Consortium (W3C) guidelines** on how to ensure information on their websites meets accessibility requirements.

Appendix 2: Where to find out more

There is a range of information available to help asset managers. Much of the material can also support the governors of asset-intensive organisations to ask the right questions and make well-informed decisions. This section references established good practice as well as resources that share learning from other reviews of asset management planning and practices.

Note: Some of the guidance requires a subscription to the professional bodies and standard setters referenced.

The Auditor-General has published a report outlining *Matters arising from our audits of the 2021-31 long-term plans*. The report covers preparing LTPs, the financial strategies adopted by local authorities and their impact on rates and debt, infrastructure strategies, how local authorities manage their assets, how the Government’s proposed three waters reforms affected the LTPs, and climate change.

<https://oag.parliament.nz/2022/ltps>

The Auditor-General has also published *Consulting matters: Observations on the 2021-31 consultation documents*. This report provides observations on the 2021-31 long-term plan consultation documents. It says that “Effective consultation with communities is critical to ensuring that councils develop the right plan for their community. Councils need to provide their communities with reliable and clear information about the matters proposed for inclusion in the long-term plan so that their community can engage with and provide feedback on this.”

<https://oag.parliament.nz/2021/consultation-documents>

The Auditor-General has also published a range of other reports related to aspects of asset management or the management of specific assets by agencies. Many of these reports have more widely applicable learnings.

<https://oag.parliament.nz/reports/asset-management>

Audit New Zealand has published two previous reports sharing the learning from our audits of asset management planning. *Asset management and long-term planning: Learning from audit findings 2015*

to 2017 is a resource for public sector organisations that manage significant infrastructure networks and other asset categories. *Asset management for public entities: Examples from local government* shared similar learning from our 2009 audit of long-term planning.

www.auditnz.parliament.nz/resources/asset-management

The Institute of Public Works Engineering Australasia (IPWEA) is the peak association for infrastructure asset management and professionals who deliver public works and engineering services. IPWEA has developed the Asset Management Pathway, a structured training programme designed to build capability through practical learning. It is supported by IPWEA best practice publications such as the *International Infrastructure Management Manual* and the *International Infrastructure Financial Management Manual*. IPWEA also offers *NAMS+ A toolkit* for asset management planning.

www.ipwea.org/home

www.ipwea.org/educationandevents/ampathway

www.ipwea.org/resourcesnew/namsplus

Infrastructure asset management professionals: Āpōpō (formerly IPWEA NZ) is the lead association for infrastructure asset management professionals. It provides tools and resources, professional development, and networking and connections. It offers Āpōpō Digital Badges covering aspects of asset management.

It has recently published the *The Āpōpō Guide*, designed to be a living resource to reflect the unique challenges faced by asset management professionals practicing in Aotearoa New Zealand.

ISO 55000 is the applicable international standard and is available from **Standards New Zealand: Te Mana Tautikanga o Aotearoa**.

ISO 55000 provides an overview of asset management, its principles and terminology, and the expected benefits from adopting asset management. ISO 55000 can be applied to all types of assets and by all types and sizes of organizations. ISO 55000 is supported by the further detail available in ISO 55001 and ISO 55002. ISO 55001 specifies requirements for an asset management system within the context of the organization. ISO 55002 gives guidelines for the application of an asset management system, in accordance with the requirements of ISO 55001.

www.standards.govt.nz/shop/iso-550002014/

www.standards.govt.nz/shop/iso-550012014/

www.standards.govt.nz/shop/iso-550022018/

Te Tari Taiwhenua: Internal Affairs provides a range of resources to support local authorities.

www.localcouncils.govt.nz/

Taituarā — Local Government Professionals Aotearoa is the national membership organisation for local government professionals. Its purpose is to promote and support professional management in local government. It provides the LGSectorGoodToolkit®, an online resource for the local government sector.

<https://taituara.org.nz/>

www.solgm.co.nz/welcome-to-the-lgsectorgoodtoolkit/

The Chartered Institute of Public Finance and Accountancy (CIPFA) provides the Asset Management Information Stream. This is a guide to implementing effective asset management and capital investment planning in the public sector. It is aimed at practitioners involved in asset management across local authorities. Although developed in the UK, it is broadly applicable to the New Zealand context.

www.cipfa.org/tisonline/streams/financial-management/asset-management

The Royal Institution of Chartered Surveyors (RICS) is the leading professional body for the built and natural environment. It has published *Strategic public sector property asset management*. This guide is aimed at those engaged in strategic property asset management in the public sector globally. It considers the changing nature of the role and expectation real estate plays and indicates how an organisation should use data to support organisational objectives and inform the strategic management of assets.

www.rics.org/oceania/

www.rics.org/oceania/upholding-professional-standards/sector-standards/real-estate/strategic-public-sector-property-asset-management-3rd-edition/