Approaches to Infrastructure Pricing Study: Part 4 - Information assessment

A report for the New Zealand Infrastructure Commission - Te Waihanga

January 2024

Context for this report

Context for this report

Te Waihanga - the New Zealand Infrastructure Commission (Te Waihanga) has commenced a programme of work to develop an economic framework for pricing infrastructure to provide a principled, sector-agnostic baseline for future policy analysis. The economic framework for pricing infrastructure is intended to be applied across the four key infrastructure sectors (the four sectors) - land transport, water, telecommunications (telco) and energy.

To support the development of the economic framework for pricing infrastructure, Te Waihanga commissioned the Approaches to Infrastructure Pricing Study (the Pricing Study), which comprises four components:

1. **Economic framework design.** Developing the economic framework for pricing infrastructure - focused on proposed Pricing Goals and Principles.
2. **Current pricing analysis.** Undertaking analysis of the current system settings of the four sectors, to build understanding of current pricing performance against the proposed Pricing Goals and Principles.
3. **Equity exploration.** Considering the equity implications of the proposed Pricing Goals and Principles.
4. **Information assessment.** Identifying the data sources available for information on infrastructure pricing and pricing practices in New Zealand.

Each component of the Pricing Study contributes to the development of the final economic framework for pricing infrastructure. **This report focuses on Part 4: Information assessment**

Contents of this report

This report consists of two sections, as described below. Each section contains one sub-section for each sector.

1 Relevant sources and gap analysis

Relevant sources and gap analysis

This section presents an analysis of the weaknesses in data sources available for monitoring the economic principles grouped under three goals that form our economic framework for the assessment of infrastructure pricing. The version of the Pricing Goals and Principles used for the data assessment and gap analysis here aligns with that assessed in Part 2, the Current Pricing Analysis.

This gap analysis is organised by sector, and for each sector we present commentary on data available for monitoring each principle. In the process of compiling and assessing the selection of data sources included here, we have made the following general observations that apply across sectors:

- Many of the sources relevant to monitoring performance against principles are only readily available in pdf document formats requiring significant effort to compile and use for this purpose. The lack of accessible datasets on key metrics in longitudinal form is a gap in all sectors except Energy, where the Commerce Commission has made such datasets available.
- This points to a general shortcoming of data and information on infrastructure pricing in New Zealand. There is no lack of reporting, but a general lack of standards and standardisation in reporting. Even the same annual report across different years will often vary in the scope and quality of analysis and disclosure. Inconsistencies across reporting bodies within a single sector, such as local governments, are more profound.
- Often the information available in reports implies the existence of data that is held within private or public organisations but not made available to the public. In some cases it may be available to researchers on request but in other cases more difficult barriers exist.

Energy

Goal 1: Pricing mechanisms should guide investment decisions

Principle 1 - Quality of service: Pricing should create incentives to improve the quality of service in ways that users want to pay for

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: While network prices signal price-quality trade-offs, these may not be passed through to users in retail prices, but the degree of alignment is not transparent.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Grid output incentives Transpower	Revenue incentives for grid performance reflected in prices	Data for monitoring incentives to improve quality
Tariffs for continuous and interruptible load Electricity distributors	Discounted tariffs for lower service levels	Data which reveals price-quality trade-offs and user signals
Quality incentives Electricity Distributors	Quality incentive payments included in prices	Data for monitoring incentives to improve quality
Value of lost load Electricity Distributors	Customer willingness to pay for reliability	Data for monitoring incentives to improve quality and price-quality tradeoffs

Tariffs for interruptible load Electricity retailers	Discounted tariffs for lower service levels	Data which reveals price-quality trade-offs and user signals, including the extent that network price signals are passed through to end users

Principle 2 - Network configuration options: Pricing should reflect differences in whole of life costs between network configuration options

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Some analysis is needed to establish the connection between evolving pricing approaches and past choices about network configuration. The data and information to assess this is held by ComCom, the Electricity Authority and the providers, with much of it publicly available in the regulatory information disclosures.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Nodal wholesale electricity prices EMI - Electricity Authority	Electricity market prices	A pricing dataset that demonstrates signals which reflect network configuration at a granular level including location and time, also signalling network constraints
Wholesale gas prices Gas Industry Company	Gas wholesale prices	A pricing dataset that demonstrates signals which reflect network configuration at a granular level including location and time, also signalling network constraints
Transmission pricing methodology Electrical Authority	Regulated pricing methodology for electricity transmission services	Fundamental description of the approach to transmission pricing relevant to Goals 1 and 2
Applying the transmission pricing methodology Transpower	Transpower's application of the Transmission Pricing Methodology	Fundamental description of the application of the approach to transmission pricing
Transmission connection charges Transpower	Method for determining grid connection charges	Description of the approach to new connection charges relevant to Goals 1 and 2
Grid connection charge policy First Gas	Charging method for new/upgraded grid connections	Description of the approach to new connection charges relevant to Goals 1 and 2
Pricing methodologies Electricity and Gas Distributors	Methodology statements supporting current prices, target revenues and customer groupings	Fundamental description of the application of the approach to distribution pricing
Congestion pricing Electricity distributors	Time of use or peak period pricing	Data which reveals price-quality trade-offs and user signals, including peak demand
Geographic pricing Electricity and gas distributors	Regional pricing reflecting different service levels and network configurations	Data which supports monitoring of regional cost recovery through user charges

Congestion prices Energy retailers	Tariffs which signal network or energy system congestion	Data which reveals price-quality trade-offs and user signals, including peak demand including the extent that network price signals are passed through to end users
Geographic pricing Electricity and Gas Distributors	Regional pricing reflecting different service levels and network configurations	Data which supports monitoring of regional cost recovery through user charges

Principle 3 - Level of investment: Pricing should incentivise a level of investment which balances the associated benefits and costs

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: A wide range of relevant sources exist, with substantial evidence of price signals for investment across infrastructure options, including regulated revenue allowances and pricing methodologies, roadmaps and scorecards. Some analysis is needed to monitor incentive mechanisms for network growth, likely focused on the regulated information disclosures and network asset plans. Levels of investment in resilience and redundancy can be monitored with analysis of providers' AMP publications as well as disclosures and regulatory applications for expenditure approval.

Additional comments: Wholesale market prices reflect the cost of the incremental generation source for electricity, which is consistent with this principle.

Sources of primary relevance

Source	Description	Primary relevance
Nodal wholesale electricity prices EMI - Electricity Authority	Electricity market prices	A pricing dataset that demonstrates signals which reflect network configuration at a granular level including location and time, also signalling network constraints
Wholesale gas prices Gas Industry Company	Gas wholesale prices	A pricing dataset that demonstrates signals which reflect network configuration at a granular level including location and time, also signalling network constraints
Transmission pricing methodology Electricity Authority	Regulated pricing methodology for electricity transmission services	Fundamental description of the approach to transmission pricing relevant to Goals 1 and 2
Applying the transmission pricing methodology Transpower	Transpower's application of the Transmission Pricing Methodology	Fundamental description of the application of the approach to transmission pricing
Transmission connection charges Transpower	Method for determining grid connection charges	Description of the approach to new connection charges relevant to Goals 1 and 2
Grid connection charge policy First Gas	Charging method for new/upgraded grid connections	Description of the approach to new connection charges relevant to Goals 1 and 2

Maximum allowable revenue - electricity transmission Commerce Commission	Regulated revenue cap for electricity transmission services	Revenue components reflect risk allocation and whole of life costs
Maximum allowable revenue (MAR) - gas transmission Commerce Commission	MAR is a regulated revenue cap that is determined for each of the pricing years within the upcoming regulatory period in nominal $m. The MAR reflects allowable building blocks	Revenue components reflect risk allocation and whole of life costs
Congestion pricing Non-exempt Electricity distributors	Time of use or peak period pricing	Data which reveals price-quality trade-offs and user signals, including peak demand
Maximum allowable revenue - distribution electricity and gas	Regulated revenue caps set by Commerce Commission	Revenue components reflect risk allocation and whole of life costs
Congestion prices Energy retailers	Tariffs which signal network or energy system congestion	Data which reveals price-quality trade-offs and user signals, including peak demand including the extent that network price signals are passed through to end users
Geographic pricing Electricity and gas distributors	Regional pricing reflecting different service levels and network configurations	Data which supports monitoring of regional cost recovery through user charges

Principle 4 - Risk allocation: Pricing should allocate risks to those who are most capable of managing them or stand to benefit from higher rewards by bearing them

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: For long-term investment risk, the risk allocations can be assessed using regulatory information disclosures for the monopoly part of the sector, along with the methodologies describing the regulatory asset base, such as disposals and depreciation. For quality of service risk, regulatory data comparing performance across providers and network types potentially prevents providers from inappropriately passing risk on to consumers, supported by the regulatory monitoring regime and minimum regulatory service standards. . For all forms of risk, some analysis is required to compile evidence that risks are borne by the most appropriate parties. The economic regulatory framework also determined how risk is shared between users and suppliers through the cost of capital, and other design features such as managing inflationary risk - which ultimately are reflected in user prices.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Transmission connection charges Transpower	Method for determining grid connection charges	Description of the approach to new connection charges relevant to Goals 1 and 2
Grid connection charge policy First Gas	Charging method for new/upgraded grid connections	Description of the approach to new connection charges relevant to Goals 1 and 2

Maximum allowable revenue - electricity transmission Commerce Commission	Regulated revenue cap for electricity transmission services	Revenue components reflect risk allocation and whole of life costs
Maximum allowable revenue (MAR) - gas transmission Commerce Commission	MAR is a regulated revenue cap that is determined for each of the pricing years within the upcoming regulatory period in nominal $m. The MAR reflects allowable building blocks	Revenue components reflect risk allocation and whole of life costs
Capital contribution policies Electricity and gas distributors	Customer charges for new or upgraded connections	Description of the approach to new connection charges relevant to Goals 1 and 2
Distributed generation connection policies Electricity distributors	Customer charges for connection of embedded generation	Description of the approach to new connection charges relevant to Goals 1 and 2
Maximum allowable revenue - distribution Non-exempt electricity and gas distributors	Regulated revenue caps set by Commerce Commission	Revenue components reflect risk allocation and whole of life costs

Goal 2: Pricing should incentivise efficient and socially beneficial network interactions

Principle 5 - Usage behaviour: Pricing should encourage efficient and appropriate use of the network

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: N/A

Additional comments: Network pricing methodologies set out the basis of pricing structures and the extent to which these are aligned with this principle - which is consistent with the regulated pricing principles.

Sources of primary relevance

Source	Description	Primary relevance
Gas transmission pricing methodology First Gas	Application of the regulated pricing principles	Fundamental description of the application of the approach to transmission pricing
Customer charges Transpower	Customer charges for electricity transmission services	Data which supports monitoring of the transition to more benefits based charges
Customer charges First Gas	Customer charges for gas transmission services	Data which supports monitoring of the impact of the energy transition on user charges
Pricing methodologies Electricity and Gas distributors	Methodology statements supporting current prices, target revenues and customer groupings	Fundamental description of the application of the approach to distribution pricing

Customer charges Electricity and Gas distributors	Schedules of tariffs showing tariff structures, options, unit prices and customer groups	Fundamental dataset which reveals user prices and options
Tariffs for continuous and interruptible load Electricity distributors	Discounted tariffs for lower service levels	Data which reveals price-quality trade-offs and user signals
Congestion pricing Electricity distributors	Time of use or peak period pricing	Data which reveals price-quality trade-offs and user signals, including peak demand
Low user pricing Electricity and Gas distributors	Price differentials for low user customer categories	Data which reveals user cross subsidies
Geographic pricing Electricity and Gas distributors	Regional pricing reflecting different service levels and network configurations	Data which supports monitoring of regional cost recovery through user charges
Retail tariff schedules for electricity and gas services Energy retailers	Fixed and variable tariffs for residential and commercial customers	Fundamental dataset which reflects retail tariff structures, options and prices for electricity and gas customers on standard contracts
Congestion prices Energy retailers	Tariffs which signal network or energy system congestion	Data which reveals price-quality trade-offs and user signals, including peak demand including the extent that network price signals are passed through to end users
Geographic pricing Electricity and Gas distributors	Regional pricing reflecting different service levels and network configurations	Data which supports monitoring of regional cost recovery through user charges
Smart meters Electricity Authority	Availability of smart meters	Data which supports monitoring of the transition to more cost reflective pricing, which is reliant on smart metering data

Principle 6 - Whole of life costs by type of use: Prices should reflect the whole of life costs of the network, including initial investment costs, connection costs, and costs driven by usage behaviour

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: N/A

Additional comments: Pricing methodologies and capital contribution policies provide insights into whole of life cost recovery. The regulatory regime reinforces this principle.

Sources of primary relevance

Source	Description	Primary relevance
Transmission connection charges Transpower	Method for determining grid connection charges	Description of the approach to new connection charges relevant to Goals 1 and 2

Customer charges Transpower	Customer charges for electricity transmission services	Data which supports monitoring of the transition to more benefits based charges
Customer charges First Gas	Customer charges for gas transmission services	Data which supports monitoring of the impact of the energy transition on user charges
Annual revenue sources First Gas	Revenue components, sources and quantities	Data which supports monitoring of cost recovery through user charges
Annual revenue sources Transpower	Revenue components, sources and quantities	Data which supports monitoring of cost recovery through user charges
Maximum allowable revenue - electricity transmission Commerce Commission	Regulated revenue cap for electricity transmission services	Revenue components reflect risk allocation and whole of life costs
Maximum allowable revenue (MAR) - gas transmission Commerce Commission	MAR is a regulated revenue cap that is determined for each of the pricing years within the upcoming regulatory period in nominal $m. The MAR reflects allowable building blocks	Revenue components reflect risk allocation and whole of life costs
Pricing methodologies Electricity and Gas distributors	Methodology statements supporting current prices, target revenues and customer groupings	Fundamental description of the application of the approach to distribution pricing
Customer charges Electricity and Gas distributors	Schedules of tariffs showing tariff structures, options, unit prices and customer groups	Fundamental dataset which reveals user prices and options
Report on billed quantities and line charge revenues Electricity and Gas distributors	Revenue and billed quantities for standard and non-standard customer groups	Fundamental dataset which reveals average user prices and options across consumer groups, and over time for distribution and transmission services

Principle 7 - Signalling externalities: Prices should signal both positive and negative externalities generated by the network and its use

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Carbon prices are reflected in energy prices and good data is available. Other externalities are more opaque in delivered prices, but may not be material.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Carbon Prices Ministry for the Environment	Application of carbon prices to the energy system	Data which reveals the cost of externalities which are reflected in energy prices

Principle 8 - Appropriate user-funded subsidies: Pricing may allow appropriate user-funded cross-subsidies, or recovery of revenue shortfall for suppliers, with minimum distortions in how the subsidising users behave.

Gap analysis

Information gaps: There is little public data on user funded cross subsidies, for example between rural and urban network connections, other than relatively high level commentary in pricing methodology disclosures.

Data exists, but additional analysis is required: N/A

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Annual revenue sources First Gas	Revenue components, sources and quantities	Data which supports monitoring of cost recovery through user charges
Annual revenue sources Transpower	Revenue components, sources and quantities	Data which supports monitoring of cost recovery through user charges
Low user pricing Electricity and gas distributors	Price differentials for low user customer categories	Data which reveals user cross subsidies
Geographic pricing Electricity and gas distributors	Regional pricing reflecting different service levels and network configurations	Data which supports monitoring of regional cost recovery through user charges
Maximum allowable revenue - distribution Non-exempt electricity and gas distributors	Regulated revenue caps set by Commerce Commission	Revenue components reflect risk allocation and whole of life costs
Retail tariff schedules for electricity and gas services Energy retailers	Fixed and variable tariffs for residential and commercial customers	Fundamental dataset which reflects retail tariff structures, options and prices for electricity and gas customers on standard contracts
Low user pricing Electricity and gas distributors	Price differentials for low user customer categories	Data which reveals user cross subsidies

Principle 9 - Transparent and reasonable implementation: Pricing should be developed and implemented in a transparent and reasonable manner

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Sources of data exist that compare plans, providers, and options in terms of price. Tariff schedules are an important source of information, advertised by providers.

These sources combined provide enough evidence to assess progress in pricing transparency, but with some judgement and analysis required.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Pricing methodologies Electricity and gas distributors	Methodology statements supporting current prices, target revenues and customer groupings	Fundamental description of the application of the approach to distribution pricing
Capital contribution policies Electricity and gas distributors	Customer charges for new or upgraded connections	Description of the approach to new connection charges relevant to Goals 1 and 2
Distributed generation connection policies Electricity distributors	Customer charges for connection of embedded generation	Description of the approach to new connection charges relevant to Goals 1 and 2
Customer charges Electricity and gas distributors	Schedules of tariffs showing tariff structures, options, unit prices and customer groups	Fundamental dataset which reveals user prices and options
Report on billed quantities and line charge revenues Electricity and gas distributors	Revenue and billed quantities for standard and non-standard customer groups	Fundamental dataset which reveals average user prices and options across consumer groups, and over time for distribution and transmission services
Industry levies in network prices Electricity and gas distributors	Regulated components of prices not energy or network related	Data which reveals the user cost of the regulated market system for network services
Retail tariff schedules for electricity and gas services Energy retailers	Fixed and variable tariffs for residential and commercial customers	Fundamental dataset which reflects retail tariff structures, options and prices for electricity and gas customers on standard contracts
Industry levies in retail prices Energy retailers	Regulated components of prices	Data which reveals the user cost of the regulated market system reflected in retail prices

Goal 3: Pricing should incentivise broadly distributed benefits

Principle 10 - Benefits of efficiency gains: Pricing should provide incentives for suppliers to lower prices as they become more efficient

Gap analysis

Information gaps: There is no direct source which monitors the relationship between efficiency and prices.

Data exists, but additional analysis is required: For the regulated providers, regulated expenditure allowances reflect efficiency expectations, which flow through to customer prices. Explicit financial efficiency incentives also exist for some regulated providers, which are reflected in prices, but some analysis is required.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Expenditure incentives Transpower	Regulated incentives and penalties passed through into prices	Data which reveals the sharing of expenditure incentives
Expenditure incentives Non-exempt electricity distributors	Regulated incentives and penalties passed through into prices	Data which reveals the sharing of expenditure incentives

Principle 11 - Price-quality trade-offs: Prices should allow users to make price-quality trade-offs

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Analysis of capital contribution policies and pricing methodologies may provide additional insights into customer price options for alternative service quality. Comparison of network and retail pricing plans can reveal the extent to which network price-quality options are made available to users.

Additional comments: Retail pricing plans reveal information about price-quality trade-offs reflected in user charges.

Sources of primary relevance

Source	Description	Primary relevance
Customer charges Electricity and gas distributors	Schedules of tariffs showing tariff structures, options, unit prices and customer groups	Fundamental dataset which reveals user prices and options
Tariffs for continuous and interruptible load Electricity distributors	Discounted tariffs for lower service levels	Data which reveals price-quality trade-offs and user signals
Tariffs for interruptible load Energy retailers	Discounted tariffs for lower service levels	Data which reveals price-quality trade-offs and user signals, including the extent that network price signals are passed through to end users
Congestion prices Energy retailers	Tariffs which signal network or energy system congestion	Data which reveals price-quality trade-offs and user signals, including peak demand including the extent that network price signals are passed through to end users

Principle 12 - Appropriate publicly-funded subsidies: Publicly-funded subsidies are warranted where broad net benefits to the public would arise from greater use of the network or investment in it, and where these benefits would exist even when pricing already aligns with principles 1-11.

Gap analysis

Information gaps: The impact of subsidies on user energy prices is not readily available

Data exists, but additional analysis is required: N/A

Additional comments: While the total value of subsidies may be disclosed, the impact of them from the user perspective is more difficult to assess.

Sources of primary relevance

Source	Description	Primary relevance
Winter energy payment data Work and Income	Payment eligibility and amounts	Data which reveals support available for winter energy use
Decarbonising / energy efficiency funding Energy Efficiency Conservation Authority	Funding provided to support decarbonisation and improved energy efficiency	Data which reveals the recipients, value and impact of subsidies to users toi support policy objectives
Clean car discount rebates and fees Waka Kotahi	Rebates and fees supporting transition to low emissions vehicles	Data which reveals the financial support available for purchasing low emissions vehicles and additional fees for high emissions vehicles

Telco

Goal 1: Pricing mechanisms should guide investment decisions

Principle 1 - Quality of service: Pricing should create incentives to improve the quality of service in ways that users want to pay for

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: N/A

Additional comments: The monitoring activities and publications provided by the Commerce Commission contain enough evidence to monitor this principle. The annual report and MBNZ performance testing reports show competition between alternatives for telco services, and improvements in service quality for a given price over time. Several additional sources allow deep dives into quality trends for both fixed-line and mobile. One concern is that the quality of analysis in the ComCom annual report appears to be weakening in recent years, even as data quality improves.

Sources of primary relevance

Source	Description	Primary relevance
Annual Telecommunications Monitoring Report Commerce Commission	Urban, rural and mobile connectivity, Market structure and outcomes for each of: infrastructure, wholesale, retail and consumer. Analysis of pricing and usage transparency for users. Reports price inflation in time-series compared to CPI.	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.
Retail competition Commerce Commission	Retail competition is measured in many ways including through changing market share and offerings throughout time.	As above
Switching rates Commerce Commission	Porting rates (the process of transferring a phone number from one network to another) are measured. Porting numbers is important for promoting competition	As above
Time series of broadband pricing Commerce Commission	ComCom annual TC Monitoring report (below) has CPI and telco comparisons in time series	As above
Information about pricing for different telco services Commerce Commission	Explanation on how prices are built up, including the flow-through of wholesale prices and examples of price differentials for different services.	As above
Quarterly Measuring Broadband NZ Report Measuring Broadband New Zealand (MBNZ) programme (Commerce Commission)	Published results of independent in-home broadband performance testing done by ComCom.	Helps overcome asymmetric information between RSPs and users on service quality. Relevant to pricing transparency and ensuring that performance risk at each price point falls appropriately on the provider.

Telecommunications snapshot statistics Commerce Commission	Ten-year annual time series for high-level revenue, investment, connection, and usage statistics by fixed-line/mobile networks.	Clearly shows increase in service level per $ over time for the average user. Evidence of incentives for providers to share benefits of investments and improvement with users.
FFLAS asset registers Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	This schedule requires a summary of the quantity of FFLAS assets that make up the network, by asset category and asset class, the estimated condition of the assets, a forecast of the percentage of assets to be replaced and the age profile of assets.	Critical to understanding the link between pricing and whole of life costs.
Financial loss asset Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	The financial loss asset compensates regulated providers of fibre fixed line access services for the financial losses incurred during the initial period of operating Ultra-Fast Broadband networks before demand met supply.	Key to understanding the role of Government assistance in enabling the Fibre rollout. Relevant to risk allocation, subsidies, quality, and level of investment.
Faults and performance Fibre Networks' Regulatory Information Disclosures, Schedule 19A	19A Transitional Measures. This schedule looks at faults, traffic performance and port performance - categories include service provisioning, availability ie. transitional unplanned downtime, customer service	Allows assessment of the link between investment, revenue, quality, and resilience.
Report on pricing for PQ Fibre Networks' Regulatory Information Disclosures, Schedule 24	Schedule 24 Pricing for PQ: For layers 1&2 and other: Revenue broken down into total connection charges, total monthly charges and other charges	Allows assessment of the link between investment, revenue, quality, and resilience.
Price-quality paths for Chorus Commerce Commission	Chorus' Price-Quality Path set a three-year price-quality path for Chorus, as the largest of those regulated fibre wholesalers. Chapter 3 discusses allowable revenue.	Demonstrates progress toward regulatory incentives for quality.
Fibre Fixed Line Access Services Assets Register Retail providers	This report covers Fibre Fixed Line Access Services (FFLAS) in areas where the provider is subject to price-quality regulation. Document describing assets, investment planning and operations.	Relevant to monitoring quality incentives.
Fibre Fixed Line Access Services Assets Plan Retail providers	Chorus' "Our Fibre Plans" report is Chorus' first proposal under new regulatory arrangements. It describes its fibre plans for the regulatory period.	Relevant to monitoring transition toward new regime arrangements.
Pricing plans Telco Retail providers	Different prices and average prices for different tech and services, Information about pricing structures. E.g. congestion pricing, different pricing, paying a premium for extra.	Evidence of price-quality trade-offs
User friendly data Chorus	Online tools which are user friendly and enable transparency and understanding for the customer. E.g. speed tests, broadband availability checker.	Helps overcome asymmetric information between RSPs and users on service quality. Relevant to pricing transparency and ensuring that performance risk at each price point falls appropriately on the provider.

Principle 2 - Network configuration options: Pricing should reflect differences in whole of life costs between network configuration options

Gap analysis

Information gaps: N/A.

Data exists, but additional analysis is required: Some analysis is needed to establish the connection between evolving pricing approaches, past choices about fibre network configuration, and the financial loss asset that enabled the fibre network to be built out well ahead of demand and willingness to pay. The data and information to assess this is held by ComCom and the providers, with much of it publicly available in the regulatory information disclosures.

Additional comments: The evolution of network configuration choices is well-documented. Links to pricing and demand are best observed for fibre in the Chorus "Our fibre plans" report (plan proposals under the new regulatory arrangements). The section on demand includes specific commentary on the links between demand and the economics of extending the fibre network, which also has implications for the economics of alternative telco networks.

Sources of primary relevance

Source	Description	Primary relevance
Broadband map nz Internet New Zealand Inc	Shows broadband availability, connection types and internet speeds for every address in New Zealand. Will soon show broadband performance	Public, spatial data on coverage for all broadband and wireless networks. Used by CIP and ComCom in analysis of service quality and connectivity
Fibre Fixed Line Access Services Assets Plan Retail Providers	Chorus' "Our Fibre Plans" report is Chorus' first proposal under new regulatory arrangements. It describes its fibre plans for the regulatory period.	Relevant to monitoring transition toward new regime arrangements.

Principle 3 - Level of investment: Pricing should incentivise a level of investment which balances the associated benefits and costs

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: A wide range of relevant sources exist, with substantial evidence of price signals for investment across the different service types and levels. Some analysis is needed to monitor incentive mechanisms for network growth, likely focused on the regulated information disclosures and network asset plans. Levels of investment in resilience and redundancy can be monitored with analysis of providers' price-quality path publications as well as IDs.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Network coverage Commerce Commission	Network coverage is displayed using maps and commentary which summarises findings regarding coverage/availability of both rural and urban areas	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.
Mobile coverage Commerce Commission	Network coverage is displayed using maps and commentary which summarises findings regarding coverage/availability of both rural and urban areas	As above
Broadband map nz Internet New Zealand Inc	Shows broadband availability, connection types and internet speeds for every address in New Zealand. Will soon show broadband performance	Public, spatial data on coverage for all broadband and wireless networks. Used by CIP and ComCom in analysis of service quality and connectivity
Price-quality paths for Chorus Commerce Commission	Chorus' Price-Quality Path set a three-year price-quality path for Chorus, as the largest of those regulated fibre wholesalers	Revenue regulations reflect risk allocation and help understand the link between pricing and cost recovery.
Mobile Black Spots Crown infrastructure partners	Details around the Mobile Black Spots Fund (MBSF), which will improve the availability of mobile services to support safety on state highways and enhance visitor experience at key tourist destinations, which do not currently have coverage from any mobile operator.	Relevant to capturing externalities (via positive tourist experiences), level of investment in remote areas, and price-quality tradeoffs.
FFLAS asset registers Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	This schedule requires a summary of the quantity of FFLAS assets that make up the network, by asset category and asset class, the estimated condition of the assets, a forecast of the percentage of assets to be replaced and the age profile of assets.	Critical to understanding the link between pricing and whole of life costs.
Expenditure forecasts Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Operating and capital expenditure are forecast for the current and next three years, in nominal and constant dollars. Broken bown into subgroups e.g. network, customer	Relevant to monitoring risk allocation, levels of investment, and links to network configuration.
Forecast network demand Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Demand is forecast for the current and next five years: Number of active forecast connections by service description System Traffic (gigabits per second) by area Average demand by area (gigabits per second) Average to peak ratio by area (%)	Relevant to monitoring risk allocation, levels of investment, and links to network configuration.
Financial loss asset Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	The financial loss asset compensates regulated providers of fibre fixed line access services for the financial losses incurred during the initial period of operating Ultra-Fast Broadband networks before demand met supply.	Key to understanding the role of Government assistance in enabling the Fibre rollout. Relevant to risk allocation, subsidies, quality, and level of investment.

Faults and performance Fibre Networks' Regulatory Information Disclosures, Schedule 19A	19A Transitional Measures. This schedule looks at faults, traffic performance and port performance - categories include service provisioning, availability ie. transitional unplanned downtime, customer service	Allows assessment of the link between investment, revenue, quality, and resilience.
Report on pricing for PQ Fibre Networks' Regulatory Information Disclosures, Schedule 24	Schedule 24 Pricing for PQ: For layers 1&2 and other: Revenue broken down into total connection charges, total monthly charges and other charges	Allows assessment of the link between investment, revenue, quality, and resilience.
Price-quality paths for Chorus Commerce Commission	Chorus' Price-Quality Path set a three-year price-quality path for Chorus, as the largest of those regulated fibre wholesalers. Chapter 3 discusses allowable revenue.	Demonstrates progress toward regulatory incentives for quality.
Fibre Fixed Line Access Services Assets Register Retail providers	This report covers Fibre Fixed Line Access Services (FFLAS) in areas where the provider is subject to price-quality regulation. Document describing assets, investment planning and operations.	Relevant to monitoring quality incentives.
Fibre Fixed Line Access Services Assets Plan Retail providers	Chorus' "Our Fibre Plans" report is Chorus' first proposal under new regulatory arrangements. It describes its fibre plans for the regulatory period.	Relevant to monitoring transition toward new regime arrangements.

Principle 4 - Risk allocation: Pricing should allocate risks to those who are most capable of managing them or stand to benefit from higher rewards by bearing them

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: For long-term demand risk related to obsolescence of stranded assets, as well as uptime performance risk, the risk allocations can be assessed using regulatory information disclosures for the monopoly part of the sector, along with the methodologies describing the financial loss asset determinations. For quality performance risk (speed and latency), public data comparing performance across providers and network types potentially prevents providers from inappropriately passing risk on to consumers. How well this is working can be monitored with analysis of consumer switching vs performance. For all forms of risk, some analysis is required to compile evidence that risks are borne by the most appropriate parties.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Quarterly Measuring Broadband NZ Report Measuring Broadband New Zealand (MBNZ) programme (Commerce Commission)	Published results of independent in-home broadband performance testing done by ComCom.	Helps overcome asymmetric information between RSPs and users on service quality. Relevant to pricing transparency and ensuring that performance risk at each price point falls appropriately on the provider.
Price-quality paths for Chorus Commerce Commission	Chorus' Price-Quality Path set a three-year price-quality path for Chorus, as the largest of those regulated fibre wholesalers	Revenue regulations reflect risk allocation and help understand the link between pricing and cost recovery.
FFLAS return on investment Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Return on investment - comparable to post-tax WACC and vanilla WACC, Regulatory asset base calculations	Critical to understanding the link between pricing and whole of life costs.
Expenditure forecasts Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Operating and capital expenditure are forecast for the current and next three years, in nominal and constant dollars. Broken bown into subgroups e.g. network, customer	Relevant to monitoring risk allocation, levels of investment, and links to network configuration.
Forecast network demand Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Demand is forecast for the current and next five years: Number of active forecast connections by service description System Traffic (gigabits per second) by area Average demand by area (gigabits per second) Average to peak ratio by area (%)	Relevant to monitoring risk allocation, levels of investment, and links to network configuration.
Financial loss asset Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	The financial loss asset compensates regulated providers of fibre fixed line access services for the financial losses incurred during the initial period of operating Ultra-Fast Broadband networks before demand met supply.	Key to understanding the role of Government assistance in enabling the Fibre rollout. Relevant to risk allocation, subsidies, quality, and level of investment.
Fibre Fixed Line Access Services Assets Plan Retail providers	Chorus' "Our Fibre Plans" report is Chorus' first proposal under new regulatory arrangements. It describes its fibre plans for the regulatory period.	Relevant to monitoring transition toward new regime arrangements.
User friendly data Chorus	Online tools which are user friendly and enable transparency and understanding for the customer. E.g. speed tests, broadband availability checker.	Helps overcome asymmetric information between RSPs and users on service quality. Relevant to pricing transparency and ensuring that performance risk at each price point falls appropriately on the provider.

Cost of capital for regulated fibre telecommunication services in New Zealand: Asset beta, leverage, and credit rating – Response to submissions Commerce Commission, CEPA	Cost of capital for regulated fibre telecommunication services in New Zealand: Asset beta, leverage, and credit rating – Response to submissions	Informed view of appropriate risk allocation and link to pricing.

Goal 2: Pricing should incentivise efficient and socially beneficial network interactions

Principle 5 - Usage behaviour: Pricing should encourage efficient and appropriate use of the network

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: N/A

Additional comments: Pricing plans and fair-use policies signal the costs of total usage levels to users, particularly the differences in cost between rural and urban areas. Time of use and peak-hour congestion may become a concern as demand growth outpaces investment in network capacity, but no pricing plans currently charge by time of use. The potential need for this can be monitored by metrics already published in the MBNZ quarterly reports.

Sources of primary relevance

Source	Description	Primary relevance
Pricing plans Telco retail providers	Different prices and average prices for different tech and services, Information about pricing structures. E.g. congestion pricing, different pricing, paying a premium for extra.	Evidence of price-quality trade-offs
Fair use policies Telco retail providers	Fair use policies apply to some telco services, and set limits on how much of a service they can use and consequences of exceeding this, to ensure the ability to provide a quality service to all users.	Signals to users on appropriate use

Principle 6 - Whole of life costs by type of use: Prices should reflect the whole of life costs of the network, including initial investment costs, connection costs, and costs driven by usage behaviour

Gap analysis

Information gaps: Much less data is available on cost recovery for the mobile network than for regulated fixed-line providers. However, this may be less of a concern given that mobile providers operate competitively both against each other and against fibre providers.

Data exists, but additional analysis is required: N/A

Additional comments: The regulated disclosures provide substantial data for monitoring of whole of life cost recovery (and a reasonable return) for fixed-line providers.

Sources of primary relevance

Source	Description	Primary relevance
Network coverage Commerce Commission	Network coverage is displayed using maps and commentary which summarises findings regarding coverage/availability of both rural and urban areas	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.
Mobile coverage Commerce Commission	Network coverage is displayed using maps and commentary which summarises findings regarding coverage/availability of both rural and urban areas	As above
Annual Telecommunications Industry Questionnaire Commerce Commission	Questionnaire given to telecommunications providers, contains statistics for things like subscribers, traffic, revenue, capex and connection characteristics. Collated version available but not by provider	Gives an indication of overall network capex expenditure, service levels, connections, and revenues that is trackable over time. Relevant for monitoring cost recovery, sunk cost risk, willingness-to-pay, and quality improvements at a high level.
Price-quality paths for Chorus Commerce Commission	Chorus' Price-Quality Path set a three-year price-quality path for Chorus, as the largest of those regulated fibre wholesalers	Revenue regulations reflect risk allocation and help understand the link between pricing and cost recovery.
FFLAS asset registers Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	This schedule requires a summary of the quantity of FFLAS assets that make up the network, by asset category and asset class, the estimated condition of the assets, a forecast of the percentage of assets to be replaced and the age profile of assets.	Critical to understanding the link between pricing and whole of life costs.
FFLAS return on investment Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Return on investment - comparable to post-tax WACC and vanilla WACC, Regulatory asset base calculations	Critical to understanding the link between pricing and whole of life costs.
ID FFLAS Regulatory Asset Base Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Schedule 4b contains: (i) ID FFLAS Regulatory Asset Base (Rolled Forward) (ii) Unallocated Regulatory Asset Base	Link between pricing and whole of life costs.
Fibre Fixed Line Access Services Assets Plan Retail providers	Chorus' "Our Fibre Plans" report is Chorus' first proposal under new regulatory arrangements. It describes its fibre plans for the regulatory period.	Relevant to monitoring transition toward new regime arrangements.
Cost of capital for regulated fibre telecommunication services in New Zealand: Asset beta, leverage, and credit rating – Response to submissions Commerce Commission, CEPA	Cost of capital for regulated fibre telecommunication services in New Zealand: Asset beta, leverage, and credit rating – Response to submissions	Informed view of appropriate risk allocation and link to pricing.

Principle 7 - Signalling externalities: Prices should signal both positive and negative externalities generated by the network and its use

Gap analysis

Information gaps: There is little New Zealand-specific information on the positive and negative externalities of telco network usage.

Data exists, but additional analysis is required: The financial loss asset mechanism can be interpreted as an incorporation of future positive externalities into a discounted price for early fibre users. A loss-inducing price level encourages uptake, which cumulatively creates positive network effects over time. Assessing the magnitude of externalities created would require significant work.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Mobile Black Spots Crown infrastructure partners	Details around the Mobile Black Spots Fund (MBSF), which will improve the availability of mobile services to support safety on state highways and enhance visitor experience at key tourist destinations, which do not currently have coverage from any mobile operator.	Relevant to capturing externalities (via positive tourist experiences), level of investment in remote areas, and price-quality tradeoffs.

Principle 8 - Appropriate user-funded subsidies: Pricing may allow appropriate user-funded cross-subsidies, or recovery of revenue shortfall for suppliers, with minimum distortions in how the subsidising users behave.

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Several forms of cross-subsidy may take place to varying extents. The clearest case is that light users under unlimited or capped access plans subsidise heavy users under those plans. Another form of cross-subsidy may arise from price discrimination between telco service levels and types as compared to the costs to provide those service levels and types. It may be possible to determine the quantitative level of these cross-subsidies, and by extension to assess any resulting distortions in usage, but this is not clearly monitored by the Commission and would likely require analysis of proprietary data held by providers.

Additional comments: The presence of price-searching behaviour and competition among providers makes this principle less relevant to the telco sector.

Sources of primary relevance

Source	Description	Primary relevance
Rural accessibility Commerce Commission	Rural accessibility can be compared with urban accessibility using the Annual Telecommunications Monitoring Report	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.

Subsidised plans for low-income consumers Commerce Commission	Subsidised plans which are offered for people facing financial or other hardship	As above
Forecast capacity and utilisation Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	Breakdown of current and forecast capacity and utilisation for each POI (point of interconnection) area.	Provides insight for user cross-subsidies and network configuration.

Principle 9 - Transparent and reasonable implementation: Pricing should be developed and implemented in a transparent and reasonable manner

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Many sources of data exist that compare plans, providers, and technologies in terms of price, coverage, and performance. However, comparison on equal terms is not straightforward and delivered quality sometimes deviates from what is advertised. Regulatory action and accompanying studies and information releases is an important source for monitoring, as are the pricing plans advertised by providers. These sources combined provide enough evidence to assess progress in pricing transparency, but with some judgement and analysis required.

Additional comments: This is an evolving issue in the telco sector. At the time of writing, the Commerce Commission is seeking consultation on draft guidelines for transparency on pricing and coverage for telco companies.

Sources of primary relevance

Source	Description	Primary relevance
Information about pricing for different telco services Commerce Commission	Explanation on how prices are built up, including the flow-through of wholesale prices and examples of price differentials for different services.	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.
Quarterly Measuring Broadband NZ Report Measuring Broadband New Zealand (MBNZ) programme (Commerce Commission)	Published results of independent in-home broadband performance testing done by ComCom.	Helps overcome asymmetric information between RSPs and users on service quality. Relevant to pricing transparency and ensuring that performance risk at each price point falls appropriately on the provider.
Fibre Fixed Line Access Services Assets Plan Retail providers	Chorus' "Our Fibre Plans" report is Chorus' first proposal under new regulatory arrangements. It describes its fibre plans for the regulatory period.	Relevant to monitoring transition toward new regime arrangements.

User friendly data Chorus	Online tools which are user friendly and enable transparency and understanding for the customer. E.g. speed tests, broadband availability checker.	Helps overcome asymmetric information between RSPs and users on service quality. Relevant to pricing transparency and ensuring that performance risk at each price point falls appropriately on the provider.

Goal 3: Pricing should incentivise broadly distributed benefits

Principle 10 - Benefits of efficiency gains: Pricing should provide incentives for suppliers to lower prices as they become more efficient

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: N/A

Additional comments: The snapshot statistics that accompany the annual monitoring report provide a single source that demonstrates consistent improvements in service quality relative to price over time. The annual monitoring report itself also demonstrates evidence of competition in the sector, which provides direct market incentives to share value with users.

Sources of primary relevance

Source	Description	Primary relevance
Annual Telecommunications Monitoring Report Commerce Commission	Urban, rural and mobile connectivity, Market structure and outcomes for each of: infrastructure, wholesale, retail and consumer. Analysis of pricing and usage transparency for users. Reports price inflation in time-series compared to CPI.	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.
Retail competition Commerce Commission	Retail competition is measured in many ways including through changing market share and offerings throughout time.	As above
Switching rates Commerce Commission	Porting rates (the process of transferring a phone number from one network to another) are measured. Porting numbers is important for promoting competition	As above
Time series of broadband pricing Commerce Commission	ComCom annual TC Monitoring report (below) has CPI and telco comparisons in time series	As above
Telecommunications snapshot statistics Commerce Commission	Ten-year annual time series for high-level revenue, investment, connection, and usage statistics by fixed-line/mobile networks.	Clearly shows increase in service level per $ over time for the average user. Evidence of incentives for providers to share benefits of investments and improvement with users.

Principle 11 - Price-quality trade-offs: Prices should allow users to make price-quality trade-offs

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: N/A

Additional comments: Comparison of retail pricing plans alone demonstrates strong performance against this principle in telco. Additional nuance can be monitored using the MBNZ quarterly report on performance and quality, or the annual monitoring report.

Sources of primary relevance

Source	Description	Primary relevance
Retail competition Commerce Commission	Retail competition is measured in many ways including through changing market share and offerings throughout time.	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.
Switching rates Commerce Commission	Porting rates (the process of transferring a phone number from one network to another) are measured. Porting numbers is important for promoting competition	As above
Pricing plans Telco retail providers	Different prices and average prices for different tech and services, Information about pricing structures. E.g. congestion pricing, different pricing, paying a premium for extra.	Evidence of price-quality trade-offs
User friendly data Chorus	Online tools which are user friendly and enable transparency and understanding for the customer. E.g. speed tests, broadband availability checker.	Helps overcome asymmetric information between RSPs and users on service quality. Relevant to pricing transparency and ensuring that performance risk at each price point falls appropriately on the provider.

Principle 12 - Appropriate publicly-funded subsidies: Publicly-funded subsidies are warranted where broad net benefits to the public would arise from greater use of the network or investment in it, and where these benefits would exist even when pricing already aligns with principles 1-11.

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Information on individual subsidy programmes can be assessed against this principle based on sources from Crown Infrastructure Partners, ComCom, and MBIE. This would require an understanding of both externalities and sector performance against the other principles.

Additional comments: The government statement of intent, "Lifting connectivity for Aotearoa", issued by MBIE, aligns well with principle 12 and demonstrates that at least in intent, public subsidies will not be considered for infrastructure that the private sector could viably provide. The principles put forward also consider broad and long-term public benefit. The financial loss asset might be considered a subsidy but is more accurately a pricing mechanism that responds well to principles 3, 4, 6, and 7.

Sources of primary relevance

Source	Description	Primary relevance
Rural accessibility Commerce Commission	Rural accessibility can be compared with urban accessibility using the Annual Telecommunications Monitoring Report	Analysis of competitiveness including of pricing trends, market concentration, and differentiation of service offerings between providers in urban, rural, and mobile markets allows assessment of how price-quality tradeoffs are enabled, incentives to improve services and to lower prices.
Subsidised plans for low-income consumers Commerce Commission	Subsidised plans which are offered for people facing financial or other hardship	As above
Digital connectivity programmes Ministry of Business Innovation and Enterprise	Summary of Significant government-led subsidies/ programmes in the telco sector that are working to improve broadband and mobile connectivity for New Zealanders.	Assessment of appropriate subsidies.
Rural broadband Crown infrastructure partners	Details the plan for Rural Broadband Initiative phase two (RBI2), Rural capacity upgrades and Remote user schemes	Assessment of appropriate subsidies.
Mobile Black Spots Crown infrastructure partners	Details around the Mobile Black Spots Fund (MBSF), which will improve the availability of mobile services to support safety on state highways and enhance visitor experience at key tourist destinations, which do not currently have coverage from any mobile operator.	Relevant to capturing externalities (via positive tourist experiences), level of investment in remote areas, and price-quality tradeoffs.
Financial loss asset Fibre Networks' Regulatory Information Disclosures, Schedules 1-13	The financial loss asset compensates regulated providers of fibre fixed line access services for the financial losses incurred during the initial period of operating Ultra-Fast Broadband networks before demand met supply.	Key to understanding the role of Government assistance in enabling the Fibre rollout. Relevant to risk allocation, subsidies, quality, and level of investment.

Water

Goal 1: Pricing mechanisms should guide investment decisions

Principle 1 - Quality of service: Pricing should create incentives to improve the quality of service in ways that users want to pay for

Gap analysis

Information gaps: We have not found a quality source covering willingness to pay for reliably potable water, lower stormwater-wastewater cross-flow, or lower leakage.

Data exists, but additional analysis is required: Targeted research across the sources available on pricing mechanisms and asset conditions and management could provide enough evidence to conclude that signals of the costs of providing better quality are not reaching users in most cases. Also, there is likely to be substantial evidence available from utilities and environmental research on the missing connection between the full social cost (including future costs) of raw water supply and levels of leakage, but a clear view for monitoring would require significant analysis. Similarly for wastewater discharge, there is public evidence that with some analysis could show the weak connections between willingness to pay for better quality network performance and investment and maintenance levels.

Additional comments: The quality of the water network is a challenging factor to signal in pricing, partly because the true costs of poor performance are either uncertain in terms of timing and location (as for wastewater and stormwater), or broadly dispersed across time and locations and mostly borne by future generations (as for drinking water leakage). When they are felt acutely, as in times of drought, the connection to long-term asset management practices is easily lost once the crises resolves.

Sources of primary relevance

Source	Description	Primary relevance
Asset management plans Watercare / local authorities	Asset Management Plans outline investment plans required to meet regional demand for water and wastewater. These plans also usually contain indications of the coverage and quality of asset and usage data held by the utility, the approach to network growth and configuration planning, and estimations of future demand and the drivers affecting it.	For any specific service area, AMPs are likely the best single source for at-a-glance monitoring of the principles under goal 1, and the best indication of non-public data held by the utility. Coverage and quality vary by territory. Can include rationale and approaches to risk and resilience, network configuration, service quality, and demand management. Occasionally changes to pricing approaches are explicitly considered as an input into network growth planning.
Drinking Water Regulation Report Taumata Arowai - Water services regulator	Data on the state of drinking water across councils. Includes records of location-specific water safety advisories, their duration, and number of people affected for long-term advisories. Implies that more data is held unpublished.	Data for monitoring quality of service and related investment needs. Reveals that supplies serving small populations more often provide sub-par quality. An important piece of the story on network configuration, levels of investment, and quality.
Wastewater sector report 20/21 Ministry for the Environment	The report describes the wastewater sector including current and emerging issues for wastewater management.	Data for monitoring quality of service and related investment needs
National Performance Review Water New Zealand	Voluntary performance reporting for drinking water, wastewater, and stormwater services, intended to inform investment planning and service delivery improvements	Data for monitoring quality of service and related investment needs. Not comprehensive, but possibly the best available aggregate source on nationwide pipe asset quality, costs, prices, and performance. Provides some evidence demonstrating weak links between quality and price.

Principle 2 - Network configuration options: Pricing should reflect differences in whole of life costs between network configuration options

Gap analysis

Information gaps: Coverage of price inputs into network configuration (or evidence of the absence of price inputs) is inconsistent across territories.

Data exists, but additional analysis is required: Asset management plans, development contribution policies, and ratings policies together provide an understanding of how network configuration decisions are made. The level of relevant detail for monitoring is inconsistent. Mechanisms for funding new network growth or intensification of use, and their rationale and implementation details, are the most relevant. Published descriptions of these are often high-level only.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Information on infrastructure Growth Charges Local authorities	Guide on what infrastructure growth charges are for and how much they are.	Approach to new connection charges, for those territories that use this approach. Shows the relationship between investment levels and user charges, including cross-subsidies.
Development contributions Local authorities	Policy/guidelines to determine when a development contribution charge will apply and how it will be calculated including for water services.	Approach to new connection charges, where this approach is used. Methods for cost allocation are accessible, and are usually either a causer-pays or beneficiary-pays approach. More often used for stormwater than water supply or wastewater. Where used, information on this mechanism is important for understanding signals on network configuration.
Asset management plans Watercare / local authorities	Asset Management Plans outline investment plans required to meet regional demand for water and wastewater. These plans also usually contain indications of the coverage and quality of asset and usage data held by the utility, the approach to network growth and configuration planning, and estimations of future demand and the drivers affecting it.	For any specific service area, AMPs are likely the best single source for at-a-glance monitoring of the principles under goal 1, and the best indication of non-public data held by the utility. Coverage and quality vary by territory. Can include rationale and approaches to risk and resilience, network configuration, service quality, and demand management. Occasionally changes to pricing approaches are explicitly considered as an input into network growth planning.

Principle 3 - Level of investment: Pricing should incentivise a level of investment which balances the associated benefits and costs

Gap analysis

Information gaps: Data on raw water pricing (between supply and distribution), or any information on consideration of this as a way to manage leakage incentives. It appears that raw water is allocated to utilities by consents alone without pricing.

Data exists, but additional analysis is required: The quality of asset conditions and accuracy of estimates of investment funding needed, particularly for renewals, has come into question during the Three Waters reform debates. Utilities have data on pipe bursts and pipe age and materials, but this is not always publicly available and requires analysis to verify the investment estimates put forward in Asset Management Plans.

Additional comments: Asset management plans are the critical resource. They consistently outline the general approach to determining investment levels, often with enough data or methodological description to demonstrate the absence of pricing as an input.

Sources of primary relevance

Source	Description	Primary relevance
Asset management plans Watercare / local authorities	Asset Management Plans outline investment plans required to meet regional demand for water and wastewater. These plans also usually contain indications of the coverage and quality of asset and usage data held by the utility, the approach to network growth and configuration planning, and estimations of future demand and the drivers affecting it.	For any specific service area, AMPs are likely the best single source for at-a-glance monitoring of the principles under goal 1, and the best indication of non-public data held by the utility. Coverage and quality vary by territory. Can include rationale and approaches to risk and resilience, network configuration, service quality, and demand management. Occasionally changes to pricing approaches are explicitly considered as an input into network growth planning.

Principle 4 - Risk allocation: Pricing should allocate risks to those who are most capable of managing them or stand to benefit from higher rewards by bearing them

Gap analysis

Information gaps: For most territories, the water utility is organisationally part of the local authority, which often borrows funds for general budget purposes against the value of water assets. Clear data on allocation of funds borrowed to the asset types they are borrowed against is generally not available.

Data exists, but additional analysis is required: Risk allocations can be understood with significant analysis of local authority and utility budgets, asset management plans, and development contribution and infrastructure growth charge policies. In some cases cooperation and data sharing from the utility would be needed. Investment risk in general sits with ratepayers, though it is not well understood when or in what forms poor risk management can lead to unexpected costs, apart from immediate damages from asset failures. Allocation of risk between new growth and existing ratepayers is also difficult but possible to determine from existing information.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Information on infrastructure Growth Charges Local authorities	Guide on what infrastructure growth charges are for and how much they are.	Approach to new connection charges, for those territories that use this approach. Shows the relationship between investment levels and user charges, including cross-subsidies.
Developer contributions Local authorities	Policy/guidelines to determine when a development contribution charge will apply and how it will be calculated including for water services.	Approach to new connection charges, where this approach is used. Methods for cost allocation are accessible, and are usually either a causer-pays or beneficiary-pays approach. More often used for stormwater than water supply or wastewater. Where used, information on this mechanism is important for understanding signals on network configuration.

Asset management plans Watercare / local authorities	Asset Management Plans outline investment plans required to meet regional demand for water and wastewater. These plans also usually contain indications of the coverage and quality of asset and usage data held by the utility, the approach to network growth and configuration planning, and estimations of future demand and the drivers affecting it.	For any specific service area, AMPs are likely the best single source for at-a-glance monitoring of the principles under goal 1, and the best indication of non-public data held by the utility. Coverage and quality vary by territory. Can include rationale and approaches to risk and resilience, network configuration, service quality, and demand management. Occasionally changes to pricing approaches are explicitly considered as an input into network growth planning.

Goal 2: Pricing should incentivise efficient and socially beneficial network interactions

Principle 5 - Usage behaviour: Pricing should encourage efficient and appropriate use of the network

Gap analysis

Information gaps: There is enough evidence in pricing methodologies and tariff structures to show that usage patterns have little to no links to pricing for most users.

Data exists, but additional analysis is required: N/A

Additional comments: Time of use pricing would help water networks run more efficiently. As more connections become metered, this will become more feasible. Te Waihanga keeps a dashboard monitoring the proportion of households with water meters installed, with information sourced from utilities and local authorities.

Sources of primary relevance

Source	Description	Primary relevance
Residential water tariffs in New Zealand BRANZ Study Report 2018	This report analyses tariff structures which vary across territorial authorities.	Data which reveals pricing practices across NZ. Demonstrates the absence of signals to users on efficient use of the network in most territories.
Domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for domestic users.	Fundamental data which reveals current user prices and charges. Most providers include a description of the method or rationale behind price structures and examples of how the final charges are calculated. Relevant to transparency, cost-recovery, and user signals.
Non- domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for non-domestic or commercial users.	Fundamental data which reveals current user prices and charges. Describes pricing approaches similarly to domestic charges. Shows differentiation between customer types and pricing relationships between water supply and wastewater.
Proportion of households with water meters New Zealand Infrastructure Commission - Te Waihanga.	A dashboard which includes water meter data	Supports monitoring of the transition to more cost reflective pricing, which relies on meters. Important source for understanding the potential for incorporation of user signals into pricing regimes.

Principle 6 - Whole of life costs by type of use: Prices should reflect the whole of life costs of the network, including initial investment costs, connection costs, and costs driven by usage behaviour

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Most water and wastewater charge methodologies and descriptions provided by utilities and local authorities describe the link between charges and covering the costs of the network at a high level. Analysis is needed to understand how well user prices actually cover whole of life costs including maintenance and depreciation over the long asset life of pipe networks. This is complicated by inconsistent levels of transparency among providers, frequent deferral of maintenance, different approaches to maintenance, and wide geographic variation in asset performance.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Residential water tariffs in New Zealand BRANZ Study Report 2018	This report analyses tariff structures which vary across territorial authorities.	Data which reveals pricing practices across NZ. Demonstrates the absence of signals to users on efficient use of the network in most territories.
Domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for domestic users.	Fundamental data which reveals current user prices and charges. Most providers include a description of the method or rationale behind price structures and examples of how the final charges are calculated. Relevant to transparency, cost-recovery, and user signals.
Non- domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for non-domestic or commercial users.	Fundamental data which reveals current user prices and charges. Describes pricing approaches similarly to domestic charges. Shows differentiation between customer types and pricing relationships between water supply and wastewater.
Council budget setting to determine water funding Local authorities	Long Term Plans which explain how council water budgets are set.	Data which reveals revenue components and approaches to whole of life cost recovery. For pricing mechanisms that rely on future users, these plans are relevant to risk-allocation.

Principle 7 - Signalling externalities: Prices should signal both positive and negative externalities generated by the network and its use

Gap analysis

Information gaps: There is little data or analysis available examining the magnitude of positive externalities created by the three water networks. These would include health, amenity, and economic benefits, which are likely to be substantial. The Ministry for the Environment and Stats NZ monitor the levels and environmental effects of ground and surface water extraction, but no connection to water pricing exists.

Data exists, but additional analysis is required: Some evidence of the lack of pricing links to environmental externalities could be compiled by analysis of tariff approaches and resource consent conditions.

Additional comments: The more detailed technical version of this principle includes a caveat that externalities should be signalled by prices to the extent that they create positive effects on user behaviour. This prevents the conclusion that water prices should fully reflect the positive externalities of water networks.

Sources of primary relevance

Source	Description	Primary relevance
National Performance Review Water New Zealand	Voluntary performance reporting for drinking water, wastewater, and stormwater services, intended to inform investment planning and service delivery improvements	Data for monitoring quality of service and related investment needs. Not comprehensive, but possibly the best available aggregate source on nationwide pipe asset quality, costs, prices, and performance. Provides some evidence demonstrating weak links between quality and price.

Principle 8 - Appropriate user-funded subsidies: Pricing may allow appropriate user-funded cross-subsidies, or recovery of revenue shortfall for suppliers, with minimum distortions in how the subsidising users behave.

Gap analysis

Information gaps: Most territories are missing quality information on differences across space in cost of provision within urban areas. Information on costs paid vs benefits received over asset lifetimes is also incomplete.

Data exists, but additional analysis is required: With the data available to utilities and some analysis, spatial cross-subsidies could be monitored in at least the major urban areas. Monitoring distortions would be more difficult due to a lack of counterfactual evidence.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Asset management plans Watercare / local authorities	Asset Management Plans outline investment plans required to meet regional demand for water and wastewater. These plans also usually contain indications of the coverage and quality of asset and usage data held by the utility, the approach to network growth and configuration planning, and estimations of future demand and the drivers affecting it.	For any specific service area, AMPs are likely the best single source for at-a-glance monitoring of the principles under goal 1, and the best indication of non-public data held by the utility. Coverage and quality vary by territory. Can include rationale and approaches to risk and resilience, network configuration, service quality, and demand management. Occasionally changes to pricing approaches are explicitly considered as an input into network growth planning.

Principle 9 - Transparent and reasonable implementation: Pricing should be developed and implemented in a transparent and reasonable manner

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: N/A

Additional comments: Pricing policies and methodologies provide enough evidence to show that pricing approaches are generally transparent and reasonable. Given the political sensitivity involved, future policy shifts toward volumetric pricing are likely to be accompanied by clear documentation and communication from utilities.

Sources of primary relevance

Source	Description	Primary relevance
Domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for domestic users.	Fundamental data which reveals current user prices and charges. Most providers include a description of the method or rationale behind price structures and examples of how the final charges are calculated. Relevant to transparency, cost-recovery, and user signals.
Non-domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for non-domestic or commercial users.	Fundamental data which reveals current user prices and charges. Describes pricing approaches similarly to domestic charges. Shows differentiation between customer types and pricing relationships between water supply and wastewater.
Information on infrastructure Growth Charges Local authorities	Guide on what infrastructure growth charges are for and how much they are.	Approach to new connection charges, for those territories that use this approach. Shows the relationship between investment levels and user charges, including cross-subsidies.
Developer contributions Local authorities	Policy/guidelines to determine when a development contribution charge will apply and how it will be calculated including for water services.	Approach to new connection charges, where this approach is used. Methods for cost allocation are accessible, and are usually either a causer-pays or beneficiary-pays approach. More often used for stormwater than water supply or wastewater. Where used, information on this mechanism is important for understanding signals on network configuration.

Goal 3: Pricing should incentivise broadly distributed benefits

Principle 10 - Benefits of efficiency gains: Pricing should provide incentives for suppliers to lower prices as they become more efficient

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: The national performance review reports examine quality, costs, performance, and prices each year, with evolving approaches to assessment and communication of the results. Longitudinal analysis of the information in these reports (and if possible, the working materials that support them) would yield a quality source for monitoring this principle and possibly others.

Additional comments: There are legal mandates to keep prices close to costs in the water sector, arising from the Local Government Act and local authority implementations of it. These vary in terms of the strength of links between price limits and costs. Where these links are weak, there is political and social pressure providing some incentive to keep prices close to costs. Pricing policies and methodologies, along with long term plans, budgets, and asset management plans demonstrate this. This is not currently a concern as the general problem is pricing below whole of life costs rather than too high above costs (see e.g. the Regulatory Impact Statement on the Addendum to Decision on the reform of water services delivery arrangements). However it might become an issue if prices rise steeply enough in response to urgent investment needs, then remain high after the investments are paid for.

Sources of primary relevance

Source	Description	Primary relevance
National Performance Review Water New Zealand	Voluntary performance reporting for drinking water, wastewater, and stormwater services, intended to inform investment planning and service delivery improvements	Data for monitoring quality of service and related investment needs. Not comprehensive, but possibly the best available aggregate source on nationwide pipe asset quality, costs, prices, and performance. Provides some evidence demonstrating weak links between quality and price.

Principle 11 - Price-quality trade-offs: Prices should allow users to make price-quality trade-offs

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Little public data exists on the prevalence of non-network alternatives for water and wastewater, though Councils hold this information in the form of consents for rainwater tanks and septic systems. Utilities also keep spatial data on connections to the network. Reports on drinking water quality show that many households in smaller and rural communities accept lower quality of water supply than their urban counterparts. This is not a choice enabled by differentiated price offerings from the utility. Locations under volumetric charging can make tradeoffs based on consumption volume. Local authorities hold data on the extent of volumetric charging.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Residential water tariffs in New Zealand BRANZ Study Report 2018	This report analyses tariff structures which vary across territorial authorities.	Data which reveals pricing practices across NZ. Demonstrates the absence of signals to users on efficient use of the network in most territories.
Domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for domestic users.	Fundamental data which reveals current user prices and charges. Most providers include a description of the method or rationale behind price structures and examples of how the final charges are calculated. Relevant to transparency, cost-recovery, and user signals.

Non-domestic water and wastewater charges Local authorities	Water service providers release documents outlining the charges for water and wastewater services, for non-domestic or commercial users.	Fundamental data which reveals current user prices and charges. Describes pricing approaches similarly to domestic charges. Shows differentiation between customer types and pricing relationships between water supply and wastewater.
Rainwater tank size calculator Auckland Council	Councils may provide user friendly information to encourage different options for consumers or better outcomes, such as this rainwater tank size calculator.	Evidence of council investment in enabling efficient bypass of the network. Relevant to investment levels, configuration, and price-quality trade-offs.
Drinking Water Regulation Report Taumata Arowai - Water services regulator	Data on the state of drinking water across councils. Includes records of location-specific water safety advisories, their duration, and number of people affected for long-term advisories. Implies that more data is held unpublished.	Data for monitoring quality of service and related investment needs. Reveals that supplies serving small populations more often provide sub-par quality. An important piece of the story on network configuration, levels of investment, and quality.

Principle 12 - Appropriate publicly-funded subsidies: Publicly-funded subsidies are warranted where broad net benefits to the public would arise from greater use of the network or investment in it, and where these benefits would exist even when pricing already aligns with principles 1-11.

Gap analysis

Information gaps: Further sources needed to examine the extent to which the second condition in principle 12 is satisfied.

Data exists, but additional analysis is required: Monitoring of disbursement and use exists for specific public funding sources such as the Provincial Growth Fund or the Freshwater Improvement Fund. Aggregated monitoring of public subsidy would require further analysis.

Additional comments: The argument for positive net benefits of greater investment in the network is not contentious, but the degree to which public subsidy is warranted under principle 12 is not clear given the sector's poor performance against several other principles.

Sources of primary relevance

Source	Description	Primary relevance
Quarterly Three Waters Funding Update 2022 Crown Infrastructure Partners	Report on the 3 Waters stimulus infrastructure programme (Government-funded investment support for local authorities). Detailed report on investment, funding and upgrades to water infrastructure by local authority.	Data for monitoring investment and improvements to water infrastructure and central government funding. Shows a significant source of public subsidy.
Water Storage and the Provincial Growth Fund Provincial growth fund (PGF)	Government funding of investment in water storage and distribution infrastructure.	Data which indicates public subsidy of water infrastructure and services. Includes statements on principles for approval of funding, including the requirement for broad public benefit.

Transport

Goal 1: Pricing mechanisms should guide investment decisions

Principle 1 - Quality of service: Pricing should create incentives to improve the quality of service in ways that users want to pay for

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: There is enough information to monitor this principle given current sector performance. The major pricing mechanisms are fuel excise duty, road-user charges, development contributions, vehicle registry fees, and local property-based rates. Information on all of these is available and shows that signals rewarding suppliers for higher quality are missing. Some analysis across multiple sources is required to compile the evidence for this conclusion.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Fuel Excise Duty Rates MBIE	Compiled levies and taxes per litre of fuel	Demonstrates the primary current pricing mechanism for use of the road network for the largest subset of vehicles. Particularly relevant for assessing what transport pricing currently does not do.
Regulatory Impact Statements for increases to PED and RUC Ministry of Transport	Description of rationale and some analysis on effects of increases to FED and RUC. Most recent available RIS is from 2018.	Demonstrates the lack of consideration of externalities in FED decisions, and the weak links between willingness to pay, investment levels, network configuration, and network quality.
Council LTPs Local authorities	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Regional Land Transport Plans Regional land transport committees	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Regional Public Transport Plans Public Transport Authorities	Sets out the service levels (performance), fares and farebox recovery rates	Demonstrates the weak indirect signals from users to suppliers for willingness to pay for quality of service and levels of investment. Should be understood in the context of effective subsidies for competing modes.
Asset condition information Waka Kotahi, Local Authorities, Public Transport Authorities	Asset condition information provides an overview of the condition of structural assets, criticality of those assets to the network and an update on the progress and outcomes of inspections undertaken	Relevant to assessing signals for quality of service, level of investment, whole of life costs, and the presence or absence of price-quality tradeoffs.
Road Asset Activity Management Plans Local authorities	Local authority research and consultation to prioritise transport asset maintenance expenditures and minor capital investments.	Provides documentation of the feedback process from users to local authority providers that substitutes for pricing signals for investment and quality levels. Key to understanding how tradeoffs are made in practice by substituting quality level adjustments for pricing.

Principle 2 - Network configuration options: Pricing should reflect differences in whole of life costs between network configuration options

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: Between the National Land Transport Programme, the published regulatory impact statements on PED and RUC, the Monetised Benefits and Costs Manual, and local council long-term plans, there is enough public information to monitor the sector's performance against this principle. Configuration options are weakly influenced by price signals if at all, with political signals and benefit estimates acting as a substitute for demand signals. Similarly, evaluation of option costs act as a substitute for supply signals. Some analysis is required to compile evidence for this conclusion and ongoing analysis would be needed to monitor progress or change.

Additional comments: Options analysis of whole of life costs for alternative network configurations are considered in the business case process for transport investment projects. These appraisals also estimate benefits for each option. It is difficult to assess how effective these mechanisms are as a substitute for direct price signals from the market.

Sources of primary relevance

Source	Description	Primary relevance
Regulatory Impact Statements for increases to PED and RUC Ministry of Transport	Description of rationale and some analysis on effects of increases to FED and RUC. Most recent available RIS is from 2018.	Demonstrates the lack of consideration of externalities in FED decisions, and the weak links between willingness to pay, investment levels, network configuration, and network quality.
Toll Road Rates Waka Kotahi	Charge information by toll road and vehicle type	Serves as a market benchmark for costs of provision and willingness to pay (where toll roads exist), demonstrates creation of price-quality tradeoffs.
Monetised benefits and costs manual Waka Kotahi	Monetised benefits and costs manual, methodologies for assessing economics of investments	Critical in establishing the Government's (not the market's) willingness to pay for transport infrastructure. Relevant for understanding approaches to levels of investment, externalities, risk allocation, and network configuration decisions.
National Land Transport Programme Waka Kotahi	National view including Waka Kotahi's three year plan. Describes allocation of funding to road and rail at the national level.	Reveals investment priorities and the absence of price signals as an input. Relevant to cost recovery, network configuration, level of investment, public subsidies, transparency.
Council budget setting to determine transport funding Local authorities	Explains how council transport budgets are set	Most relevant in demonstrating the absence of pricing signals in investment decisions, quality of service levels, and efficiency.
Council LTPs Local authorities	Sets out investment plans for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Developer contributions Local authorities	Policies and methods for calculating Developer contributions (incl. transport portions)	Particularly relevant to cost-recovery, risk allocation, and network configuration.

Parking pricing policies Local authorities	How publicly operated parking (off-street and on-street) is priced	Allows assessment of implicit subsidies vs highest and best use of land, and of signals to users on the location-sensitive cost of space for vehicle storage. Relevant to externalities, level of investment, network configuration, usage behaviour.
Regional Land Transport Plans Regional land transport committees	Sets out investment plans for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Funding Assistance Rate (FAR) Policy Waka Kotahi	Potentially in the NLTP, setting the default funding assistance rate for local transport investment. Alternative FARs are Waka Kotahi board decisions.	As above. Also important for understanding what substitutes for price signals in determining network configuration options.

Principle 3 - Level of investment: Pricing should incentivise a level of investment which balances the associated benefits and costs

Gap analysis

Information gaps: There is little compiled data available on the full extent of external costs and benefits attributable to transport network and system design choices. These externalities are known to exist and to be significant, but are difficult to measure. Some types of externalities have more data available than others.

Data exists, but additional analysis is required: Significant analysis is required to make the case for how the transport sector fails against this principle. There is substantial data and information available, but the fragmented nature of funding and investment mechanisms makes monitoring a challenge. The critical failure is in the unpriced externalities and implicit subsidies for road transport, which distort willingness to pay for alternatives. This causes over-investment in one network and under-investment in others. Monitoring of this principle would benefit from further research establishing reliable measurements of externalities and land and planning-based subsidies to road transport.

Additional comments: The MBCM provides a set of monetised estimates for external costs and benefits, and guidance on methods for estimating a broader range of effects. Effects covered include the value of travel time, air pollution, health effects, greenhouse gas emissions, noise, value of reliability, productivity effects, employment and other economic effects, etc. These methods are applied to varying extents in practice, especially the methods concerning wider economic benefits and dynamic land use effects. Establishing the extent to which their application effectively prices externalities would be a substantial research project.

Sources of primary relevance

Source	Description	Primary relevance
Fuel Excise Duty Rates MBIE	Compiled levies and taxes per litre of fuel	Demonstrates the primary current pricing mechanism for use of the road network for the largest subset of vehicles. Particularly relevant for assessing what transport pricing currently does not do.
Regulatory Impact Statements for increases to PED and RUC Ministry of Transport	Description of rationale and some analysis on effects of increases to FED and RUC. Most recent available RIS is from 2018.	Demonstrates the lack of consideration of externalities in FED decisions, and the weak links between willingness to pay, investment levels, network configuration, and network quality.

Costs and Charges Paper Ministry of Transport	The Ministry's flagship study on domestic costs of provision and prices charges in Transport	Particularly relevant for understanding approaches to covering whole of life costs including externalities for road, rail, and urban public transport.
Monetised benefits and costs manual Waka Kotahi	Monetised benefits and costs manual, methodologies for assessing economics of investments	Critical in establishing the Government's (not the market's) willingness to pay for transport infrastructure. Relevant for understanding approaches to levels of investment, externalities, risk allocation, and network configuration decisions.
National Land Transport Programme Waka Kotahi	National view including Waka Kotahi's three year plan. Describes allocation of funding to road and rail at the national level.	Reveals investment priorities and the absence of price signals as an input. Relevant to cost recovery, network configuration, level of investment, public subsidies, transparency.
Government Policy Statement on Land Transport Ministry of Transport	Sets upper and lower bounds for NLTF for next ten years with three year commitment, contains crown funding option	Relevant as insight into the level of investment and level of funding decisions behind the NLTP.
Council budget setting to determine transport funding Local authorities	Explains how council transport budgets are set	Most relevant in demonstrating the absence of pricing signals in investment decisions, quality of service levels, and efficiency.
Council LTPs Local authorities	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Regional Land Transport Plans Regional land transport committees	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Asset condition information Waka Kotah, Local Authorities, Public Transport Authorities	Asset condition information provides an overview of the condition of structural assets, criticality of those assets to the network and an update on the progress and outcomes of inspections undertaken	Relevant to assessing signals for quality of service, level of investment, whole of life costs, and the presence or absence of price-quality tradeoffs.
VKT data Ministry of Transport	Vehicle use, expressed as 'vehicle kilometres travelled' (VKT) is featured in the fleet statistics described above.	Climate and safety externalities. Also important for a broad range of monitoring purposes as a general measure of usage and demand.

Principle 4 - Risk allocation: Pricing should allocate risks to those who are most capable of managing them or stand to benefit from higher rewards by bearing them

Gap analysis

Information gaps: Operations and maintenance costs and activities for both road and rail networks are difficult to monitor. These costs and the consequences of deferring them are significant factors in overall risk allocation both for past and future investments in these networks. The connections between opex (for a given time and place) and pricing are particularly unclear.

Data exists, but additional analysis is required: Council plans and financial policies and regional land transport plans provide enough information to demonstrate that investment risk is often borne by ratepayers. Significant analytical work is needed to clearly demonstrate the extent to which this is or is not appropriate and to illuminate the implications of risk allocations implied by current funding and pricing mechanisms.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Toll Road Rates Waka Kotahi	Charge information by toll road and vehicle type	Serves as a market benchmark for costs of provision and willingness to pay (where toll roads exist), demonstrates creation of price-quality tradeoffs.
Monetised benefits and costs manual Waka Kotahi	Monetised benefits and costs manual, methodologies for assessing economics of investments	Critical in establishing the Government's (not the market's) willingness to pay for transport infrastructure. Relevant for understanding approaches to levels of investment, externalities, risk allocation, and network configuration decisions.
Council financial policies Local authorities	What local authorities can finance through debt (capex), or other (opex)	Can provide insight into risk allocation arising from the funding and financing regime.
Developer contributions Local authorities	Policies and methods for calculating Developer contributions (incl. transport portions)	Particularly relevant to cost-recovery, risk allocation, and network configuration.
Public Transport patronage Public Transport Authorities	Auckland Transport releases several patronage reports which are used to monitor current public transport use, trends and measure growth.	Important for an understanding of demand for competing modes as relates to investment risk, willingness to pay, and price quality trade-offs.
VKT data Ministry of Transport	Vehicle use, expressed as 'vehicle kilometres travelled' (VKT) is featured in the fleet statistics described above.	Climate and safety externalities. Also important for a broad range of monitoring purposes as a general measure of usage and demand.

Goal 2: Pricing should incentivise efficient and socially beneficial network interactions

Principle 5 - Usage behaviour: Pricing should encourage efficient and appropriate use of the network

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: There is enough information to monitor performance against this principle. The critical missing signal is for the time and location of use for the road network, which has a large effect on network efficiency in urban areas at peak times. Traffic counts and travel time on key routes provided by Waka Kotahi are important sources. If and where congestion pricing schemes are implemented, scheme design information as well as quality data on prices and trip volumes by time and location will become critical to monitoring this principle. There is potentially a place for peak pricing in public transport networks as well as for road networks, which would be monitored using similar data sources.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Published Road User Charges Rates **Waka Kotahi**	Heavy and light diesel vehicle charge information by axle weights	Shows pricing design driven by the effects of usage behaviour on whole of life costs of the network. Provides transparency for this specific charge.

Fuel Excise Duty Rates MBIE	Compiled levies and taxes per litre of fuel	Demonstrates the primary current pricing mechanism for use of the road network for the largest subset of vehicles. Particularly relevant for assessing what transport pricing currently does not do.
Parking pricing policies Local authorities	How publicly operated parking (off-street and on-street) is priced	Allows assessment of implicit subsidies vs highest and best use of land, and of signals to users on the location-sensitive cost of space for vehicle storage. Relevant to externalities, level of investment, network configuration, usage behaviour.
Regional Public Transport Plans Public Transport Authorities	Sets out the service levels (performance), fares and farebox recovery rates	Demonstrates the weak indirect signals from users to suppliers for willingness to pay for quality of service and levels of investment. Should be understood in the context of effective subsidies for competing modes.
Public transport fare subsidy RLTP, RPTP, NLTP	Comes through a combination of the RLTP and RPTP and NLTP, expected revenue and cost of services and the difference between them.	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
EV subsidies Ministry of Transport	Cashback policy for the purchase of new EVs	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
Funding Assistance Rate (FAR) Policy Waka Kotahi	Potentially in the NLTP, setting the default funding assistance rate for local transport investment. Alternative FARs are Waka Kotahi board decisions.	As above. Also important for understanding what substitutes for price signals in determining network configuration options.
Travel time on key routes Waka Kotahi, Local Authorities, Public Transport Authorities	Traffic dashboards which provide information on the travel time on key routes. These include motorways and transport to and from popular destinations.	Relevant to understanding system constraints, how time of use affects service quality and external costs, and the presence or absence of price-quality tradeoffs.
VKT data Ministry of Transport	Vehicle use, expressed as 'vehicle kilometres travelled' (VKT) is featured in the fleet statistics described above.	Climate and safety externalities. Also important for a broad range of monitoring purposes as a general measure of usage and demand.

Principle 6 - Whole of life costs by type of use: Prices should reflect the whole of life costs of the network, including initial investment costs, connection costs, and costs driven by usage behaviour

Gap analysis

Information gaps: There is a gap in data sources for monitoring external costs and benefits of transport networks and usage. These include environmental, aesthetic, safety, barrier effect, and time cost externalities.

Data exists, but additional analysis is required: Our relevance matrix shows 23 sources relevant to this principle, reflecting the fragmented nature of funding, provision, and pricing in the sector. It would require significant analysis to provide a nuanced view of how various parts of the network or its services may under- or over-recover costs in terms of the revenue generated by the demand they serve. To a great extent, the necessary data and information exists to do this, and is accessible.

Additional comments: The NTLP documentation provided by Waka Kotahi shows the overall proportions of user-funded and crown-provided sources of funds for land transport investment. This is enough data for a high-level conclusion on this principle.

Sources of primary relevance

Source	Description	Primary relevance
Published Road User Charges Rates Waka Kotahi	Heavy and light diesel vehicle charge information by axle weights	Shows pricing design driven by the effects of usage behaviour on whole of life costs of the network. Provides transparency for this specific charge.
Fuel Excise Duty Rates MBIE	Compiled levies and taxes per litre of fuel	Demonstrates the primary current pricing mechanism for use of the road network for the largest subset of vehicles. Particularly relevant for assessing what transport pricing currently does not do.
Background to the road user charges system (RUC methodology) Ministry of Transport	Brief report published on how the RUC rates are set, as well as a summary of its origin and past reviews. Last published in January 2022.	Describes the engineering principles and cost allocation logic behind RUC rates. Relevant to cost-recovery and user signal concepts. Allows assessment of user-funded cross subsidies.
Costs and Charges Paper Ministry of Transport	The Ministry's flagship study on domestic costs of provision and prices charges in Transport	Particularly relevant for understanding approaches to covering whole of life costs including externalities for road, rail, and urban public transport.
National Land Transport Programme Waka Kotahi	National view including Waka Kotahi's three year plan. Describes allocation of funding to road and rail at the national level.	Reveals investment priorities and the absence of price signals as an input. Relevant to cost recovery, network configuration, level of investment, public subsidies, transparency.
Government Policy Statement on Land Transport Ministry of Transport	Sets upper and lower bounds for NLTF for next ten years with three year commitment, contains crown funding option	Relevant as insight into the level of investment and level of funding decisions behind the NLTP.
Council LTPs Local authorities	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Rating Policies Local authorities	How the various rates are set for properties	Establishes approach and methods for calculating rates, usually based on causer-pays or beneficiary pays concepts. Relevant for cost recovery, user cross-subsidies, general subsidies, and network configuration options.
Developer contributions Local authorities	Policies and methods for calculating Developer contributions (incl. transport portions)	Particularly relevant to cost-recovery, risk allocation, and network configuration.
Regional Land Transport Plans Regional land transport committees	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Regional Public Transport Plans Public Transport Authorities	Sets out the service levels (performance), fares and farebox recovery rates	Demonstrates the weak indirect signals from users to suppliers for willingness to pay for quality of service and levels of investment. Should be understood in the context of effective subsidies for competing modes.
Asset condition information Waka Kotahi, Local Authorities, Public Transport Authorities	Asset condition information provides an overview of the condition of structural assets, criticality of those assets to the network and an update on the progress and outcomes of inspections undertaken	Relevant to assessing signals for quality of service, level of investment, whole of life costs, and the presence or absence of price-quality tradeoffs.

Road Asset Activity Management Plans Local authorities	Local authority research and consultation to prioritise transport asset maintenance expenditures and minor capital investments.	Provides documentation of the feedback process from users to local authority providers that substitutes for pricing signals for investment and quality levels. Key to understanding how tradeoffs are made in practice by substituting quality level adjustments for pricing.

Principle 7 - Signalling externalities: Prices should signal both positive and negative externalities generated by the network and its use

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: There is enough information to monitor performance against this principle, but it is dispersed and requires analysis. The regulatory impact statements and methodologies for PED and RUC are relevant for their conspicuous lack of consideration of externalities. Note these two are the primary user charges for the land transport network. Externalities are explicitly considered in a range of sources relevant to investment decisions. Most important are the MBCM and the recent MoT study on costs and charges. WK also provides reporting on GhG emissions, air quality effects, congestion levels, and safety outcomes, but these are disconnected from pricing. Parking pricing policies and residential road network data could be analysed to show the extent of subsidy for private vehicles via the unpriced opportunity cost of free or sub-market usage of public land.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Regulatory Impact Statements for increases to PED and RUC Ministry of Transport	Description of rationale and some analysis on effects of increases to FED and RUC. Most recent available RIS is from 2018.	Demonstrates the lack of consideration of externalities in FED decisions, and the weak links between willingness to pay, investment levels, network configuration, and network quality.
Costs and Charges Paper Ministry of Transport	The Ministry's flagship study on domestic costs of provision and prices charges in Transport	Particularly relevant for understanding approaches to covering whole of life costs including externalities for road, rail, and urban public transport.
Monetised benefits and costs manual Waka Kotahi	Monetised benefits and costs manual, methodologies for assessing economics of investments	Critical in establishing the Government's (not the market's) willingness to pay for transport infrastructure. Relevant for understanding approaches to levels of investment, externalities, risk allocation, and network configuration decisions.
Public transport fare subsidy RLTP, RPTP, NLTP	Comes through a combination of the RLTP and RPTP and NLTP, expected revenue and cost of services and the difference between them.	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
EV subsidies Ministry of Transport	Cashback policy for the purchase of new EVs	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
Funding Assistance Rate (FAR) Policy Waka Kotahi	Potentially in the NLTP, setting the default funding assistance rate for local transport investment. Alternative FARs are Waka Kotahi board decisions.	As above. Also important for understanding what substitutes for price signals in determining network configuration options.

Travel time on key routes Waka Kotahi, Local Authorities, Public Transport Authorities	Traffic dashboards which provide information on the travel time on key routes. These include motorways and transport to and from popular destinations.	Relevant to understanding system constraints, how time of use affects service quality and external costs, and the presence or absence of price-quality tradeoffs.
Traffic counts Waka Kotahi, Local Authorities	Daily-updated traffic volumes from state highway count sites, by vehicle type.	Relevant for understanding system constraints, trip demand, and externalities.
Air quality Waka Kotahi, Local Authorities, MoT, Climate Change Commission, Ministry for the Environment	Gives figures for daily average concentration of PM2.5 and PM10 from air quality monitoring sites around New Zealand from 2016-2022.	Climate externalities.
GHG emissions Waka Kotahi, Local Authorities, MoT, Climate Change Commission, Ministry for the Environment	This report gives an overview of New Zealand's Greenhouse Gas Inventory in five sectors, showing the trends in sector and total greenhouse gas emissions from 1990-2021.	Climate externalities.
Fleet composition statistics Ministry of Transport	Offers a variety of reports on the New Zealand vehicle fleet, from 2000 to 2021.	Climate and safety externalities.
VKT data Ministry of Transport	Vehicle use, expressed as 'vehicle kilometres travelled' (VKT) is featured in the fleet statistics described above.	Climate and safety externalities. Also important for a broad range of monitoring purposes as a general measure of usage and demand.
Vehicle emissions predictions model Waka Kotahi & Ministry of Transport	Forecast information on fleet composition and emission rates	Climate and safety externalities. Also provides insight into current thinking on how pricing and investment decisions can influence user behaviour, via analysis of model inputs and methods.

Principle 8 - Appropriate user-funded subsidies: Pricing may allow appropriate user-funded cross-subsidies, or recovery of revenue shortfall for suppliers, with minimum distortions in how the subsidising users behave.

Gap analysis

Information gaps: There is little information available on the extent to which the dominance of automobile-based design in urban planning acts as a cross-subsidy from non-users of private vehicles to users of private vehicles, or on the level of distortion in user behaviour this creates. The severe limits on user trip choice created across most of the network by this dominance badly weakens assessments of value based on revealed preference methods. In other words, we cannot know how distorted user behaviour is because most users have no practical choice other than to own and heavily use a car.

Another gap is in sources measuring the extent to which RUC under-prices the maintenance cost effects of heavy vehicle use. In effect this would be a subsidy from light vehicles to heavy vehicles, which may in turn favour road freight compared to other freight modes.

Data exists, but additional analysis is required: Several information sources on transport-related policies are relevant and with analysis can provide a limited view of cross-subsidy and cost-recovery adjustments to pricing and the distortions these create. The Funding Assistance Rate policy is a notable one, as this determines the allocation of costs between local and national user-bases. This could be combined with spatial analysis of network usage to understand levels of cross-subsidy.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Public Transport Fare Policies Public Transport Authorities	Detailed descriptions of complex fare schemes, usually aimed at providing discounts for price-sensitive subgroups such as students, seniors, etc.	Demonstrates current approaches to addressing equity and access concerns. Relevant to understanding subsidies (both user-funded and tax-funded), but also cost recovery and user signals. Rationale or methods behind price setting is not usually available.
National Land Transport Programme Waka Kotahi	National view including Waka Kotahi's three year plan. Describes allocation of funding to road and rail at the national level.	Reveals investment priorities and the absence of price signals as an input. Relevant to cost recovery, network configuration, level of investment, public subsidies, transparency.
Council financial policies Local authorities	What local authorities can finance through debt (capex), or other (opex)	Can provide insight into risk allocation arising from the funding and financing regime.
Rating Policies Local authorities	How the various rates are set for properties	Establishes approach and methods for calculating rates, usually based on causer-pays or beneficiary pays concepts. Relevant for cost recovery, user cross-subsidies, general subsidies, and network configuration options.
Developer contributions Local authorities	Policies and methods for calculating Developer contributions (incl. transport portions)	Particularly relevant to cost-recovery, risk allocation, and network configuration.
Total mobility public transport fare subsidy Waka Kotahi and regional councils or transport providers	The scheme provides subsidised door to door transport services (in addition to discounted public transport fares) to assist eligible people, with long-term impairments, to access appropriate transport to meet their daily needs and enhance their community participation.	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
EV subsidies Ministry of Transport	Cashback policy for the purchase of new EVs	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
Funding Assistance Rate (FAR) Policy Waka Kotahi	Potentially in the NLTP, setting the default funding assistance rate for local transport investment. Alternative FARs are Waka Kotahi board decisions.	As above. Also important for understanding what substitutes for price signals in determining network configuration options.

Principle 9 - Transparent and reasonable implementation: Pricing should be developed and implemented in a transparent and reasonable manner

Gap analysis

Information gaps: Information on the methodology and economic rationale for setting petrol excise duty charges is limited. There is some explanation in the most recent regulatory impact statements. Within the NLTP documents, only high-level figures are provided for specific spending categories without reference to how funding sources and spending categories align. Ultimate liability for servicing the debt portion of the NTLF is also not clearly shown. High-level figures are provided for the estimated value of the state highway network, but the basis for the estimate is not explained. The recent costs and charges study shows

estimates of local road asset values based on book value at time of acquisition, which would greatly understate the current value (and opportunity cost) of land held for roads.

Data exists, but additional analysis is required: The overall funding and investment system is publicly documented and explained. Road User Charges have a clear methodology available. Rates-based and development contribution charges require research and analysis to be useful for monitoring.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Road User Charges Methodology Waka Kotahi	Explanation of how the cost/km is set	Demonstrates the link between vehicle types and damage to roads as expressed in the price tiers. Provides transparency for how price signals to users are developed based on cost effects.
Regulatory Impact Statements for increases to PED and RUC Ministry of Transport	Description of rationale and some analysis on effects of increases to FED and RUC. Most recent available RIS is from 2018.	Demonstrates the lack of consideration of externalities in FED decisions, and the weak links between willingness to pay, investment levels, network configuration, and network quality.
Background to the road user charges system (RUC methodology) Ministry of Transport	Brief report published on how the RUC rates are set, as well as a summary of its origin and past reviews. Last published in January 2022.	Describes the engineering principles and cost allocation logic behind RUC rates. Relevant to cost-recovery and user signal concepts. Allows assessment of user-funded cross subsidies.
National Land Transport Programme Waka Kotahi	National view including Waka Kotahi's three year plan. Describes allocation of funding to road and rail at the national level.	Reveals investment priorities and the absence of price signals as an input. Relevant to cost recovery, network configuration, level of investment, public subsidies, transparency.

Goal 3: Pricing should incentivise broadly distributed benefits

Principle 10 - Benefits of efficiency gains: Pricing should provide incentives for suppliers to lower prices as they become more efficient

Gap analysis

Information gaps: N/A

Data exists, but additional analysis is required: There is enough information available to demonstrate the absence of price signals among existing incentives for network provision and performance. However, a reader must know what to look for. The road asset activity management plans published by local authorities are the clearest demonstration of signals passing from users to suppliers, and these demonstrate that pricing plays no role. Documentation of budget setting by local authorities is also relevant and similarly shows no link to pricing.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Costs and Charges Paper Ministry of Transport	The Ministry's flagship study on domestic costs of provision and prices charges in Transport	Particularly relevant for understanding approaches to covering whole of life costs including externalities for road, rail, and urban public transport.
Road Asset Activity Management Plans Local authorities	Local authority research and consultation to prioritise transport asset maintenance expenditures and minor capital investments.	Provides documentation of the feedback process from users to local authority providers that substitutes for pricing signals for investment and quality levels. Key to understanding how tradeoffs are made in practice by substituting quality level adjustments for pricing.

Principle 11 - Price-quality trade-offs: Prices should allow users to make price-quality trade-offs

Gap analysis

Information gaps: A public database showing aggregated usage statistics for rideshare, carshare, and micro-mobility services would be a significant step toward understanding the rapid evolution in transport choices and price-quality trade-offs happening in urban areas. This data exists but is held by private providers.

Data exists, but additional analysis is required: Data and information is available on toll road usage, public transport patronage, network asset condition, and investment and maintenance plans. A comprehensive view of price-quality trade-offs available would need to cover the spatial dimension, meaning the publishers of several of these data sources would need to provide more granular versions of the same data for analysis.

Additional comments: In most instances concerning quality of long-lived network assets, users have little choice. Price quality tradeoffs for how these assets are experienced can take place via vehicle, service, and mode choices.

Sources of primary relevance

Source	Description	Primary relevance
Toll Road Rates Waka Kotahi	Charge information by toll road and vehicle type	Serves as a market benchmark for costs of provision and willingness to pay (where toll roads exist), demonstrates creation of price-quality tradeoffs.
Council LTPs Local authorities	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Regional Land Transport Plans Regional land transport committees	Will set out investment plan for next ten years	Relevant insight into rationale for investment levels, cost recovery, network configuration, quality. Demonstrates some transparency on investment plans.
Regional Public Transport Plans Public Transport Authorities	Sets out the service levels (performance), fares and farebox recovery rates	Demonstrates the weak indirect signals from users to suppliers for willingness to pay for quality of service and levels of investment. Should be understood in the context of effective subsidies for competing modes.

Travel time on key routes Waka Kotahi, Local Authorities, Public Transport Authorities	Traffic dashboards which provide information on the travel time on key routes. These include motorways and transport to and from popular destinations.	Relevant to understanding system constraints, how time of use affects service quality and external costs, and the presence or absence of price-quality tradeoffs.
Public Transport patronage Public Transport Authorities	Auckland Transport releases several patronage reports which are used to monitor current public transport use, trends and measure growth.	Important for an understanding of demand for competing modes as relates to investment risk, willingness to pay, and price quality trade-offs.
Road Asset Activity Management Plans Local authorities	Local authority research and consultation to prioritise transport asset maintenance expenditures and minor capital investments.	Provides documentation of the feedback process from users to local authority providers that substitutes for pricing signals for investment and quality levels. Key to understanding how tradeoffs are made in practice by substituting quality level adjustments for pricing.

Principle 12 - Appropriate publicly-funded subsidies: Publicly-funded subsidies are warranted where broad net benefits to the public would arise from greater use of the network or investment in it, and where these benefits would exist even when pricing already aligns with principles 1-11.

Gap analysis

Information gaps: Given the generally poor performance of the sector against principles 1-11 and the unknown levels of distortion in user behaviour created by the current road-dominant network configuration, it is difficult to know which subsidies would be both beneficial and necessary if the pricing regime were to align with those principles.

Data exists, but additional analysis is required: If the existing system and path-dependency is taken as given, the current public subsidies are well documented and generally show a rationale that aligns with the first part of this principle (broad net benefits to the public from greater use of the network or investment in it). This is especially the case for subsidies for public transport. For other subsidies, such as the EV subsidy, it is not as clear whether net benefits would be positive if all costs and benefits (including external) were accounted for. The data is available to examine this, but would require significant analysis. Note the argument for public transport subsidies also depends on the strength of data showing net external benefits of less private vehicle travel.

Additional comments: N/A

Sources of primary relevance

Source	Description	Primary relevance
Monetised benefits and costs manual Waka Kotahi	Monetised benefits and costs manual, methodologies for assessing economics of investments	Critical in establishing the Government's (not the market's) willingness to pay for transport infrastructure. Relevant for understanding approaches to levels of investment, externalities, risk allocation, and network configuration decisions.
Public Transport Fare Policies Public Transport Authorities	Detailed descriptions of complex fare schemes, usually aimed at providing discounts for price-sensitive subgroups such as students, seniors, etc.	Demonstrates current approaches to addressing equity and access concerns. Relevant to understanding subsidies (both user-funded and tax-funded), but also cost recovery and user signals. Rationale or methods behind price setting is not usually available.
National Land Transport Programme Waka Kotahi	National view including Waka Kotahi's three year plan. Describes allocation of funding to road and rail at the national level.	Reveals investment priorities and the absence of price signals as an input. Relevant to cost recovery, network configuration, level of investment, public subsidies, transparency.

Government Policy Statement on Land Transport Ministry of Transport	Sets upper and lower bounds for NLTF for next ten years with three year commitment, contains crown funding option	Relevant as insight into the level of investment and level of funding decisions behind the NLTP.
Council financial policies Local authorities	What local authorities can finance through debt (capex), or other (opex)	Can provide insight into risk allocation arising from the funding and financing regime.
Rating Policies Local authorities	How the various rates are set for properties	Establishes approach and methods for calculating rates, usually based on causer-pays or beneficiary pays concepts. Relevant for cost recovery, user cross-subsidies, general subsidies, and network configuration options.
Regional Public Transport Plans Public Transport Authorities	Sets out the service levels (performance), fares and farebox recovery rates	Demonstrates the weak indirect signals from users to suppliers for willingness to pay for quality of service and levels of investment. Should be understood in the context of effective subsidies for competing modes.
Public transport fare subsidy RLTP, RPTP, NLTP	Comes through a combination of the RLTP and RPTP and NLTP, expected revenue and cost of services and the difference between them.	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
Total mobility public transport fare subsidy Waka Kotahi and regional councils or transport providers	The scheme provides subsidised door to door transport services (in addition to discounted public transport fares) to assist eligible people, with long-term impairments, to access appropriate transport to meet their daily needs and enhance their community participation.	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
EV subsidies Ministry of Transport	Cashback policy for the purchase of new EVs	Relevant for appraisal of subsidies as they relate to externalities, usage behaviour, and other subsidies for competing modes.
Funding Assistance Rate (FAR) Policy Waka Kotahi	Potentially in the NLTP, setting the default funding assistance rate for local transport investment. Alternative FARs are Waka Kotahi board decisions.	As above. Also important for understanding what substitutes for price signals in determining network configuration options.

2

Data Source Catalogue

Data Source Catalogue

Energy

Dataset	Owner/provider	Contents
Wholesale		
Nodal wholesale electricity prices - Wholesale Electricity Price Trends dataset	EMI - Electricity Authority	**Coverage:** Wholesale electricity prices in New Zealand, since 1996 **Formats:** Data: CSV. Charts: PNG, JPG, SVG **Granularity:** ● Temporally: date, time ● Locationally: country, island, zone, node ● Available metrics: simple, demand-weighted or generation- weighted average **Periodicity:** Updated several times daily. Maintained and downloadable on an ongoing basis **Access:** Free public access at https://www.emi.ea.govt.nz/Wholesale/Reports/W_P_C
Wholesale gas prices - Gas market price dataset	Gas Industry Company	**Coverage:** Wholesale gas prices in New Zealand, since 1999 **Formats:** Time Series charts and data all presented through Microsoft Power BI **Granularity:** ● Sector: Wholesale, industrial, commercial, residential ● Temporally: quarterly ● Locationally: country ● Metric: $/GJ **Periodicity:** Updated quarterly **Access:** Free public access at https://www.gasindustry.co.nz/data/gas-pricing/
Electricity futures prices	ASX	**Coverage:** The forward electricity market (or electricity futures) allows electricity buyers to purchase a forward contract. This contract protects buyers against volatile spot prices by fixing their electricity price for a specified period. A record of these prices is kept online on the ASX. **Formats:** Tabular form, online. **Granularity:** ● Locationally: Otahuhu and Benmore ● Temporally: by base month (next 8 months), and base/peak quarter (next 17 quarters), and year (next four years). ● Variables available: Bid size, bid, ask, high, low, last, +/-, volume, OpenInt, OpenInt +/-, settle **Periodicity:** Updated multiple times daily **Access:** Available at: https://www.asxenergy.com.au/futures_nz but requires a login.

Dataset	Owner/provider	Contents

Electricity hedge contracts	NZX via the Electricity Authority	**Coverage:** The hedge contract information system is a mechanism for industry participants to view and compare hedge contract details. The system can produce historical contract curves, to enable assessment of the competitiveness of the hedge contract market.
		
		Formats: Information is available through the online tool. The information is in downloadable pdf formats and excel workbooks.
		
		Granularity:
		Information about the system includes:
		● Electricity Industry Participation Code
		● Declaration Certificate
		● Bulk Contract Upload Template
		● Annual Files on Grid Zone Areas and Location Factors.
		  ● By node and zone
		  ● Location factor = average(node price) / average(reference price).
		  ● Percentage of time connected
		There may be further information that is able to be accessed with a login, which can be obtained by industry participants.
		
		Periodicity: Released annually
		
		Access: Electricity Hedge Disclosure System described above is available at: https://www.electricitycontract.co.nz/pfta/f?p=200:1

Interactive Levelised Cost of Electricity Comparison Tool	Ministry of Business, Innovation and Employment	**Coverage:** This tool calculates an estimate of the levelised cost of electricity generation (LCOE) for each potential generation project in MBIE's Generation Stack. The Generation Stack is used by MBIE in energy and climate modelling such as Electricity Demand and Generation Scenarios (EDGS). **Formats:** Online tool. **Granularity:** LCOE ($MWh) of generation projects in a generation stack by generation type and cumulative MW. **Periodicity:** Updated as required **Access:**https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-modelling/interactive-levelised-cost-of-electricity-comparison-tool/
Transmission		
Transmission pricing methodology - Regulated pricing methodology for electricity transmission services	Transpower	**Coverage:** This document specifies how to recover the cost of transmission services provided by Transpower, by allocating costs to customers through transmission charges. **Formats:** pdf document. **Granularity:** Specifies the following price components: a connection charge, a benefit based charge, a residual charge, a prudent discount policy and a transitional cap on certain transmission changes. Provides guidelines for how to interpret each component and its purpose. **Periodicity:** Amendments released as required. **Access:** Free public access at: https://www.transpower.co.nz/our-work/industry/grid-pricing/transmission-pricing-methodology/about-tpm

Dataset	Owner/provider	Contents

Applying the transmission pricing methodology	Transpower	**Coverage:** Several documents explaining different elements of the transmission pricing methodology. Contains explanations of the elements/ mechanisms plus worked examples.
		
		Formats: pdf documents.
		
		Granularity:
		Documents available:
		● Guide to the TPM
		● Overview of the TPM
		● Transitioning to a new TPM
		● Information sheets on:
		  ● prudent discounts
		  ● connection charges (multiple documents)
		  ● residual charges v3
		  ● benefit-based charges (multiple documents)
		  ● transitional price cap
		
		Periodicity: Updates as required.
		
		Access: Free public access at: https://www.transpower.co.nz/our-work/industry/grid-pricing/transmission-pricing-methodology/about-tpm

Transmission connection charges - Method for determining grid connection charges	Transpower	**Coverage**: There are a series of information sheets on how to implement connection charges made available by Transpower, e.g: ● Connection charges under the new TPM ● Funded asset component (FAC) mechanism to address Type 1 first mover disadvantage (FMD) ● Anticipatory investment and Type 2 FMD Contains explanation of the mechanisms plus worked examples. **Formats:** pdf documents. **Granularity:** *Connection charges under the new TPM* provides an overview of: ● Connection assets and connection charges ● The asset, maintenance and operating components of connection charges ● How a customer's allocation of connection charges for shared connection assets is calculated ● The treatment of connection transmission alternatives *FAC mechanism to address Type 1 FMD* provides an overview of: ● What the FAC mechanism is ● What Type 1 FMD is ● How the TPM addresses Type 1 FMD *Anticipatory investment and Type 2 FMD* provides an overview of: ● What anticipatory connection assets are ● What Type 2 FMD is ● How the TPM addresses Type 2 FMD **Periodicity:** Updates as required. **Access:** Free public access at https://www.transpower.co.nz/our-work/industry/grid-pricing/transmission-pricing-methodology/about-tpm
Gas pricing principles - Regulated pricing principles for gas transmission services	Commerce Commission	**Coverage**: The gas pricing principles are outlined in the Gas Transmission Services Input Methodologies Determination 2012. **Formats:** pdf document **Granularity:** Section 2.5.2 contains the regulated gas transmission pricing principles. **Periodicity:** At least once every seven years **Access:** The pricing principles specified in clause 2.5.2 of the Gas Transmission Services Input Methodologies Determination 2012, which can be accessed at https://comcom.govt.nz/regulated-industries/input-methodologies/input-methodologies-for-electricity-gas-and-airports/gas-pipelines-input-methodologies

Dataset	Owner/provider	Contents
Gas transmission pricing methodology - Application of the regulated pricing principles	First Gas	**Coverage:** Pricing Methodology for gas transmission services sets out how First Gas allocates costs and sets prices for the gas transmission network. It covers the methodology to be used for the 12-month pricing year. **Formats:** pdf document **Granularity:** Contains the following sections: ● Overview of Firstgas' transmission system ● Overview of requirements ● Pricing methodology ● Consultation with stakeholders ● Final prices for the pricing year **Periodicity:** Annually as part of the annual pricing review **Access:** Free publicly available access at: https://firstgas.co.nz/about-us/regulatory/transmission/
Gas grid connection charge policy - Charging method for new/upgraded grid connections	First Gas Transmission	**Coverage:** This document is Firstgas' Capital Contribution policy for its gas transmission business. A capital contribution is an upfront, one-off payment for part or all of a new transmission asset. A capital contribution will be paid by a direct user or beneficiary of the new asset. **Formats:** pdf document **Granularity:** Discusses: ● the circumstances under which Firstgas will require a capital contribution ● Customer options available ● Amount of capital contribution ○ Investment options ○ Maximum contribution ○ Notional asset ● Impact of capital contribution Includes Appendices: ● Revenue and pricing ● Asset costs ● Alignment with regulatory requirements **Periodicity:** Reviewed annually. **Access:** Free publicly available access at: https://firstgas.co.nz/about-us/regulatory/transmission/
Transmission customer charges - Customer charges for electricity transmission services	Transpower	**Coverage:** Shows the prices in $m for all electricity transmission customers, for the current and previous year. Indicative prices for the next period are also available. ● Customer prices for the pricing period (total charges per customer) ● TPM indicative prices **Formats:** pdf document. **Granularity:** Charges per transmission customer (in $m) in the current and previous year, including the difference between the two years in absolute and percentage terms. **Periodicity:** Annual updates. **Access:** Free public access at: https://www.transpower.co.nz/our-work/industry/grid-pricing
Gas customer charges - Customer charges for gas transmission services	First Gas	**Coverage:** Standard Transmission Fees under the Gas Transmission Code (GTC) for the year. **Formats:** pdf document **Granularity:** Shows the: ● capacity reservation fee (CRF) in $/GJ of reserved capacity/year ● throughput fee (TPF) in $/GJ delivered for each receipt and delivery point (identified by name and ID number) across the 9 pipelines. **Periodicity:** Updates annually. **Access:** Free public access: https://firstgas.co.nz/wp-content/uploads/Confirmed-Transmission-Fees-2023-24.pdf

Dataset	Owner/provider	Contents
Customer consultation - Consultation on grid/network options	Transpower / First Gas	**Coverage:** Customer consultation provides evidence of how pricing impacts influence network configuration / investment decisions. The following example from Transpower provides an opportunity for customers and consumers to offer views on plans for the next regulatory period. For example: "*The focus of this document is on what we should include or exclude in our planning for this period and beyond, rather than on the specific amounts of money needed to achieve the service levels and outputs we will agree with you, our customer*." **Formats:** pdf document. **Granularity:** The document contains the following sections: ● Introduction ● Our context for RCP4 ● Reliable and safe network ● Resilient network ● Enabling electrification and renewables ● Sustainable network ● Expenditure and revenue **Periodicity:** Once every regulatory control period. **Access:** Free public access at: https://www.transpower.co.nz/our-work/industry/regulation/rcp4/consultation-our-draft-rcp4-proposal
Annual revenue sources - Revenue components, sources and quantities	First Gas	**Coverage:** Revenue components and quantities by customer type can be found in schedule 8 of the regulatory information disclosures: Report on Billed Quantities and Line Charge Revenues. **Formats:** pdf document. **Granularity** Line charge revenues by contract type by: ● standard and non-standard customers ● total revenue, gas throughput revenue, reserved capacity revenue, overrun charges revenue, approved nominations revenue, other line charge revenue. **Periodicity:** Released annually. **Access:** The regulatory information disclosures can be downloaded from First Gas' website: https://firstgas.co.nz/about-us/regulatory/transmission/
Annual revenue sources - Revenue components, sources and quantities	Transpower	**Coverage:** Revenue components, sources and quantities can be found in the financial statements in the Integrated Annual Report. **Formats:** pdf document. **Granularity:** Transmission revenue categories: Interconnection, connection, EV (rebate), other regulated investment contracts, undergrounding and transmission realignment and other transmission. Note these categories will change from 2024 to reflect the new TPM. **Periodicity:** Annually updated. **Access:** Free public access at: https://www.transpower.co.nz/our-work/investors/reports-and-reviews

Dataset	Owner/provider	Contents
Maximum allowable revenue - electricity transmission - Regulated revenue cap for electricity transmission services	Commerce Commission	**Coverage:** Transpower's maximum allowable revenue is determined in its individual Price Quality Path. The forecast maximum allowable revenue is the maximum revenue that Transpower may recover from its customers for electricity transmission services for each pricing year. **Formats:** Table within a pdf. **Granularity:** Maximum allowable revenues (MAR) are determined for each of the five pricing years within the upcoming regulatory period in nominal $m. The MAR reflects allowable building blocks eg: asset values, opex, capex, return of capital (depreciation) and return on capital and tax **Periodicity:** The price quality path is released at the beginning of every regulatory period. **Access:** Transpower's Individual Price Quality Path is able to be downloaded from the Commerce Commission website: https://comcom.govt.nz/regulated-industries/electricity-lines/electricity-transmission/transpowers-price-quality-path/setting-transpowers-price-quality-path-from-2020?target=documents
Expenditure incentives - Regulated incentives and penalties passed through into prices	Transpower	**Coverage:** Transpower's incentives are discussed in its Service Measures Report. **Formats:** pdf download. **Granularity:** ● Discusses performance measures, and whether they are quality standards or revenue-linked targets. ● Discusses results against the grid performance targets. ○ Measures ○ Caps/ targets/ collars ○ Quality standards ○ Incentive rates ○ $ at risk per year ● Shows the performance measures linked to revenue for the previous year and the actual result, in measure and financial terms. **Periodicity:** Annual **Access:** Downloadable from: https://www.transpower.co.nz/our-work/industry/regulation/rcp3/rcp3-updates-and-disclosures
Maximum allowable revenue (gas transmission) - Regulated revenue cap for gas transmission services	Commerce Commission	**Coverage:** Firstgas' forecast net allowable revenue is determined in its Default Price-Quality Path. This is the maximum revenue that Firstgas may recover from its customers for gas transmission services for each pricing year. The Commerce Commission releases a financial model that contains the building blocks allowable revenue (BBAR) of the gas distribution and transmission companies. **Formats:** Table within a pdf. **Granularity:** Maximum allowable revenues (MAR) are determined for each of the pricing years within the upcoming regulatory period in nominal $m. The MAR reflects allowable building blocks eg: asset values, opex, capex, return of capital (depreciation) and return on capital and tax **Periodicity:** The price quality path is released at the beginning of every regulatory period. **Access:** FirstGas Transmission's financial model is able to be downloaded from the Commerce Commission website: https://comcom.govt.nz/regulated-industries/gas-pipelines/gas-pipelines-price-quality-paths/gas-pipelines-default-price-quality-path/2022-2027-gas-default-price-quality-path?query=&target=documents&queries_keywords_query=financial+model&queries_content_sub_type_query=&date-order=0&search_page_1795_submit_button=Search#projecttab

Dataset	Owner/provider	Contents
Grid demand and injection *This is found in the regulatory information disclosures*	Transpower	**Coverage:** This is found in schedule G2: Grid Demand and Injection of Transpower's regulatory information disclosures. This covers energy volume and maximum peak demand - injection and offtake volumes for the previous five years. **Formats:** Excel file. **Granularity:** Demand and injection for each of the past five years, in terms of Energy Volume (GWh) and maximum peak demand (MW). Broken down by: ● Generators (Injection) ● GXP-EDBs (offtake) ● GXP-direct connects (Offtake) ● HVDC flows north ● HVDC flows south ● HVDC Losses ● AC System Losses **Periodicity:** Disclosures are released annually. **Access:** Able to be downloaded from this page, under the second section titled 'annual disclosures' https://www.transpower.co.nz/our-work/industry/regulation/rcp3/rcp3-updates-and-disclosures
GXP capacity and demand *This is found in the regulatory information disclosures*	Transpower	**Coverage:** GXP capacity and forecast demand is found in schedule G3: GXP Capacity and Demand of Transpower's regulatory information disclosures. This compares connection forecasts with capacity, for electricity demand and injection including commentary on constraints that may arise. **Formats:** Excel file. **Granularity:** The two subsections in this schedule are: G3(i): Current Connection Capacity vs Actual and Forecast Demand G3(ii): Current Connection Capacity vs Actual and Forecast Injection They each specify demand or injection respectively for each GXP or Grid Injection Point (GIP) for the current year and next ten years. There is additional commentary on capacity, specifically foreseeable issues. **Periodicity:** Disclosures are released annually. **Access:** Able to be downloaded from this page, under the second section titled 'annual disclosures' https://www.transpower.co.nz/our-work/industry/regulation/rcp3/rcp3-updates-and-disclosures
Transmission planning report **-** Forecast electricity demand and investment requirements	Transpower	**Coverage:** An annual planning report that covers the 'backbone grid and regional development plans' for the New Zealand transmission network. **Formats:** pdf document. **Granularity:** This report: ● Describes how Transpower assess the adequacy of the transmission network to meet future needs of users, and identifies potential investments to address future demand or alleviate expected constraints ● Identifies investment opportunities in the interconnected grid that will improve grid operations, reduce losses, improve reliability at least cost or enhance market operation ● Builds on previous versions, reflecting new information or changes in assumptions **Periodicity:** Annually updated. **Access:** Free public access at: https://www.transpower.co.nz/our-work/industry/regulation/rcp3/rcp3-updates-and-disclosures

Dataset	Owner/provider	Contents
Gas flows and capacity - Forecast gas demand and transmission constraints	First Gas	**Coverage:** Gas demand is forecast over the next 5 years in the Asset Management Plan, in schedules 12b: Report on forecast utilisation and 12b(i): Connections and 12b(ii): Gas conveyed. **Formats:** pdf document. **Granularity:** Utilisation is broken down: ● Locationally: region, network pressure system ● Metrics: Nominal operating pressure, minimum operating pressure, total capacity at minimum operating pressure, and remaining capacity at minimum operating pressure. ● Forecast period: Utilisation for the current and next five years. ● Forecast Units: Utilisation in scmh and kPa ● Commentary: regarding the level of utilisation on the network, concerns and expected changes. Gas conveyed in GJ, forecast for the current and next five years broken down by the following: ● Total entering the system at injection points ● Total gas delivered to consumers ● Total gas used in compressor systems ● Total unaccounted for gas. **Periodicity:** Annually updated. **Access:** The First Gas Asset Management Plan can be accessed through the following link: https://firstgas.co.nz/wp-content/uploads/Firstgas_GasTransmission_AMP_Summary.pdf
Asset management plan - Forecast investment in the gas transmission network	First Gas Transmission	**Coverage:** AMP summary: The asset management plan sets out how First Gas intends to manage the gas transmission network to meet customer gas demands over the next ten years ie. a transmission planning report. AMP schedules: The AMP contains information disclosure schedules 11a-13. **Formats:** pdf documents. **Granularity:** The AMP schedules contains five main reports: ● Report on Forecast Capital Expenditure - expenditure on assets forecast, consumer connection, system growth, asset replacement and renewals, asset relocations, quality of supply, legislative and regulatory, other reliability, safety and environment, non-network assets - in dollar amounts ● Report on Forecast Operational Expenditure - operational expenditure forecast, subcomponents of operational expenditure, difference between nominal and real forecasts - in dollar amounts ● Report on Asset Condition - description of asset category, asset class, and asset condition at start of planning period ● Report on Forecast Demand - details on connections and gas conveyed for the next five years ● Report on Asset Maturity - a set of asset management maturity related questions, answered with a score and justification) **Periodicity:** Annually **Access:** AMP update (schedules) and AMP summary available from: https://firstgas.co.nz/about-us/regulatory/transmission/

Dataset	Owner/provider	Contents
Transmission grid service outcomes - Actual and forecast grid outputs and service measures	Transpower	**Coverage:** The 'Grid Outputs Report' or 'Service Measures Report' defines Transpower's service offering and performance targets, and explains how it uses these in its business. **Formats:** pdf document **Granularity:** The document contains the following sections: ● Introduction ● Transpower's Services Framework ● Regulatory performance and asset health measures ● Annual performance ● Further details for the Grid Performance measures for the regulatory period **Periodicity:** Released annually. **Access:** Public access on: https://www.transpower.co.nz/our-work/industry/regulation/rcp3/rcp3-updates-and-disclosures
Gas transmission service outcomes - Actual and forecast transmission network service outcomes	First Gas Transmission	**Coverage:** Network outcomes are found in First Gas Transmission's AMP summary and regulatory information disclosures schedule 10a: Report on Network Reliability and Interruptions. **Formats:** pdf documents. **Granularity:** AMP summary: Fig 9: Key Performance Indicator Trend Table contains for the disclosure year the result, the trend and the target (forward looking) for the following measures: ● Safety measures ● Response times ● Unplanned interruptions ● Major interruptions ● Environmental measures ● Asset Management and Maturity Assessment ● Public Reported Escapes and Gas Leaks ● Compressor Reliability ● Lloyds annual audit compliance ● Compressor availability Regulatory information disclosures schedule 10a: Report on Network Reliability and Interruptions also contains: ● Interruptions and reliability - planned and unplanned ○ Description and cause ○ Systems affected ○ Date and duration ● Compressor availability ○ Station name and ID ○ Number of hours compressor ran ○ Number of hours compressor was available ○ Number of instances where the compressor failed to start ○ Number of instances where the compressor was required but unavailable **Periodicity:** Released annually. **Access:** Able to be downloaded from: https://firstgas.co.nz/about-us/regulatory/transmission/

Dataset	Owner/provider	Contents
Grid output incentives - Revenue incentives for grid performance reflected in prices	Transpower	**Coverage:** This can be found in the annual 'Grid Outputs Report' or 'Service Measures Report' under the section called 'Revenue-linked performance measures'. There are two tables of relevance, called: ● Grid Performance measures incentive summary ● Asset Performance measures incentive summary **Formats:** Table within a pdf document. **Granularity:** Table contains performance measures, caps, targets, collars, points of service sub category limit, incentive rate and $ at risk per year. **Periodicity:** Released annually **Access:** Public access on: https://www.transpower.co.nz/our-work/industry/regulation/rcp3/rcp3-updates-and-disclosures
Other		
Pricing principles and practice notes - Regulated pricing principles and guidance for electricity distributors and distributed generators	Electricity Authority	**Coverage:** There are regulated pricing principles which apply to the electricity distributors. Practice notes provide further explanation and guidance to assist distributors with applying the 2019 Distribution Pricing Principles. **Formats:** Pricing principles available online at the link below. Practice notes (which also contains the pricing principles) are available for download in pdf format. **Granularity:** Document contains the following sections: ● Expectations on the application of the distribution pricing principles ● Expectations on pricing structures ● What a good pricing evolution will look like ● Expectations on the timing of reform **Periodicity:** Not updated on a regular basis, but as required. Most recent update occurred in 2022. **Access:** Practice notes are downloadable from: https://www.ea.govt.nz/industry/distribution/distribution-pricing/
Gas distribution pricing principles - Regulated pricing principles for gas distributors	Commerce Commission	**Coverage**: The gas distribution pricing principles are outlined in the Gas Distribution Services Input Methodologies Determination 2012 (consolidated as of September 2022), released by the Commerce Commission. **Formats:** pdf document **Granularity:** Section 2.5.2 contains the regulated gas distribution pricing principles. **Periodicity:** At least once every seven years **Access:** The pricing principles specified in clause 2.5.2 of the Gas Distribution Services Input Methodologies Determination 2012, which can be accessed at https://comcom.govt.nz/regulated-industries/input-methodologies/input-methodologies-for-electricity-gas-and-airports/gas-pipelines-input-methodologies

Dataset	Owner/provider	Contents
Pricing methodologies **-** Methodology statements supporting current prices, target revenues and customer groupings	Electricity and gas distributors	**Coverage:** Describes how the business determines the prices that it charges each consumer group. The methodology describes the components of target revenue and analyses the underlying costs that build up that revenue. The methodology describes how costs are allocated among consumer groups and non-standard customers, and how consumer groups are defined for pricing purposes. Each distributor also explains how their methodology aligns with the regulated pricing principles. **Formats:** pdf document **Granularity:** Pricing methodologies typically include: ● How customers are grouped ● How prices are set for each customer group ● Current pricing approach and plans to evolve pricing ● Changes to pricing approach and prices for the year ● Calculating/allocating costs across customer groups ● Assessing customer impacts ● Alignment with Electricity Authority Pricing Principles ● Meeting the regulatory information disclosure requirements **Periodicity:** Annual **Access:** Information is available at the electricity distributors' sites, under the disclosures section e.g. Powerco - https://www.powerco.co.nz/who-we-are/disclosures-and-submissions/electricity-pricing EA networks - https://www.eanetworks.co.nz/disclosures/ GasNet - https://www.gasnet.co.nz/wp-content/uploads/2017/11/GasNet-Pricing-Methodology-1-October-2021-approved.pdf FirstGas distribution- https://firstgas.co.nz/wp-content/uploads/Firstgas_Distribution-Pricing-Methodology-for-FY2023-FINAL.pdf
Capital contribution policies **-** Customer charges for new or upgraded connections	Electricity and gas distributors	**Coverage:** These documents describe distributors' policies for determining capital contributions and meeting the requirements of clause 2.4.6 of the Electricity Distribution Information Disclosure Determination 2012 (consolidated in 2023) and the Gas Distribution Information Disclosure Determination 2012 (consolidated in 2018). **Formats:** pdf document. **Granularity:** Capital contribution policies may include: ● Objectives of the policy ● Circumstances requiring a capital contribution ● Method for determining the amount ● Standard fees if relevant ● Determining costs ● Contributions for different circumstances, connection types ● Adherence to pricing principles **Periodicity:** Annual **Access:** Downloadable from distributor' sites. Electricity examples - Vector & Powerco https://www.vector.co.nz/about-us/regulatory/disclosures-electricity/capital-contributions https://www.powerco.co.nz/who-we-are/disclosures-and-submissions/electricity-disclosures Gas example - Vector: https://www.vector.co.nz/about-us/regulatory/disclosures-gas/capital-contributions

Dataset	Owner/provider	Contents
Distributed generation connection policies - Customer charges for connection of embedded generation	Electricity distributors	**Coverage:** Distributors provide information for entities wanting to connect distributed power generation to the network. Policies can be found on their websites. Policies may differ for different scale generators. **Formats:** Online information and downloadable pdf documents. **Granularity:** These documents show the steps, fees and requirements for connecting distributed power generation to the network. Fees differ by size of connection and include the following categories: ● Upfront application fee ● On-site observation and testing fee Information requirements to apply for a connection include: ● Generating plant data ● Interface agreements ● For large generators: ○ additional technical data ○ capacity and standby agreements. **Periodicity:** Updated as required. **Access:** Information is available at the electricity distributors' sites e.g. Vector - https://www.vector.co.nz/personal/electricity/distributed-generation E.g. Firstlight - https://www.firstlightnetwork.co.nz/i-want-to/get-connected/solardistributed-generation/
Pricing roadmaps - Plans for future changes to pricing	Electricity distributors	**Coverage:** Pricing roadmaps signal future changes that distributors intend to make to their pricing. **Formats:** pdf document. **Granularity:** Key elements of a pricing roadmap include: ● what changes are taking place ● why the changes are necessary ● an implementation timeline. **Periodicity:** Annual **Access:** Roadmaps are available at the electricity distributors' sites, sometimes contained within a distributor's pricing methodology document. e.g. Powerco - https://www.powerco.co.nz/who-we-are/disclosures-and-submissions/electricity-pricing EA Networks - road map is within the pricing methodology at - https://www.eanetworks.co.nz/disclosures/
Pricing scorecards - Assessment of electricity distributor pricing approaches and plans	Electricity Authority	**Coverage:** These are scorecards prepared by the Electricity Authority for each distributor, which assess and evaluate distributor pricing and pricing plans against the regulated distribution pricing principles and practice notes. Scorecards are published for each distributor annually, after they have disclosed their prices, pricing methodologies and roadmaps. **Formats:** pdf document **Granularity:** The scorecards cover three areas: ● Current state: circumstances and principles ● Strategy: strategy, roadmap, roadmap implementation ● Outcomes: efficiency, consumer impact, focus areas For each area, there is a score and commentary. There is also an overall score. **Periodicity:** Annual **Access:** Downloadable from: https://www.ea.govt.nz/industry/distribution/distribution-pricing/ under the Distribution pricing scorecards section.

Dataset	Owner/provider	Contents
Gas flows and capacity *Contained in regulatory information disclosures*	Gas distributors	**Coverage:** Gas demand is forecast over the next 5 years in the Asset Management Plan, in schedules 12b: Report on forecast utilisation and 12b(i): Connections and 12b(ii): Gas conveyed. Commentary on foreseeable constraints to enable monitoring of investment requirements. **Formats:** pdf document. **Granularity:** Utilisation is broken down: ● Locationally: region, network pressure system ● Metrics: Nominal operating pressure, minimum operating pressure, total capacity at minimum operating pressure, and remaining capacity at minimum operating pressure. ● Forecast period: Utilisation for the current and next five years. ● Forecast Units: Utilisation in scmh and kPa Commentary: regarding the level of utilisation on the network, concerns and expected changes. Gas conveyed in GJ, forecast for the current and next five years broken down by the following: ● Total entering the system at injection points ● Total gas delivered to consumers ● Total gas used in compressor systems ● Total unaccounted for gas. **Periodicity:** Annually updated. **Access:** For example, Powerco- https://www.powerco.co.nz/-/media/project/powerco/powerco-documents/who-we-are---pricing-and-disclosures/disclosures/gas-disclosures/2-gas-information-disclosure-financial-and-technical/powerco-gas-information-disclosure-ry21.pdf
Report on billed quantities and line charge revenues **-** Revenue and billed quantities for standard and non-standard customer groups *Contained in regulatory information disclosures*	Electricity and gas distributors	**Coverage:** Report on billed quantities and line charge revenues are found in schedule 8 of the regulatory information disclosures, for both electricity and gas distributors. **Formats:** pdf document or excel spreadsheets. **Granularity:** Billed quantities by: ● Consumer group name and price category code ● Consumer types ● Standard or non-standard consumer group ● Average no. of ICPs ● Quantity of gas or electricity delivered (TJ or MWh) ● Price component (e.g fixed, variable) Line charge revenues by price component ● Consumer group name and price category code ● Consumer types ● Standard or non-standard consumer group ● Total line charge revenue ● Price component (e.g fixed, variable) **Periodicity:** Annual **Access:** Found in schedule 8 of the regulatory information disclosures, which can be found on the distributors websites under the disclosures section e.g. Vector- https://www.vector.co.nz/about-us/regulatory/disclosures-electricity Powerco- https://www.powerco.co.nz/-/media/project/powerco/powerco-documents/who-we-are---pricing-and-disclosures/disclosures/gas-disclosures/2-gas-information-disclosure-financial-and-technical/powerco-gas-information-disclosure-ry21.pdf

Pricing schedules Schedules of tariffs showing tariff structures, options, unit prices and customer groups	Electricity and gas distributors	**Coverage:** Electricity and gas distributors publish pricing policies/schedules that contain: ● explanations and definitions of different user groups, charges and services ● current and prior period unit prices ● number of connections on each price option ● any applicable price discounts ● for electricity, distribution and transmission components of prices. **Formats:** pdf document. **Granularity:** *Electricity* For residential electricity customers Customer type, eg: ● Residential low-user ● Residential standard ● General Price category, eg: ● Time of use (controlled, DER, uncontrolled, general) ● Anytime exception (controlled, uncontrolled, general) ● Unmetered (general) Price type, eg: ● Daily ($/day) ● Daily unmetered ($/day/fitting) ● Volume anytime ($kWh) ● Volume off-peak ($kWh) ● Volume summer peak ($kWh) ● Volume winter peak ($kWh) ● Volume injection ($kWh) For commercial electricity customers Customer type, eg: ● Low voltage ● Transformer ● High voltage Price category, eg: ● Time of use ● Non time of use Price type, eg: ● Daily ($/day) ● Volume anytime ($kWh) ● Capacity ($/kVa/day) ● Demand ($/kVa/day) ● Excess demand ($/kVa/day) ● Power factor ($/kVa/day) ● Volume injection ($kWh) Transmission charges, eg: ● Fixed ● Variable ● Geographic transmission charges (GXP) Other, eg: ● Loss factors ● Peak and off-peak periods ● Price component definitions ***Gas*** Customer type, eg: ● Mass market (e.g. residential or general) ● Commercial (e.g. small or large) ● Industrial (e.g. small or large) Price categories and load sizes Price type, eg: ● Fixed daily ($/day) ● Variable volumetric ($/GJ, c/kWh) Other, eg: ● Geographic ● Loss factors ● Service charges ● Price component definitions

Dataset	Owner/provider	Contents
		Periodicity: Updated annually **Access:** Found in the pricing schedules which are publicly available on distributor websites e.g. Vector https://www.vector.co.nz/about-us/regulatory/disclosures-electricity/price https://www.vector.co.nz/about-us/regulatory/disclosures-gas/pricing
11!1	Electricity distributors	**Coverage:** Tariffs for continuous and interruptible load are a network alternative that will be mentioned in electricity distributors pricing methodologies. These options are likely to be discussed in relation to consistency with the regulated pricing principles, such as: ● reflecting differences in network service provided to (or by) consumers ● encouraging efficient network alternatives ● enabling price/quality trade-offs These prices are also disclosed in pricing schedules**.** **Formats:** pdf document. **Granularity:** N/A. **Periodicity:** Pricing methodologies are reviewed annually. **Access:** Pricing methodologies are available for download from electricity distributors sites, e.g. Wellington Electricity - https://www.welectricity.co.nz/disclosures/pricing/2023-pricing/
Congestion pricing **-** Time of use or peak period pricing *Part of distributors pricing schedules/ policies above.*	Electricity distributors	**Coverage:** Pricing schedules/ policies contain the prices/ charges that customers pay for services, including time of use pricing for electricity (not gas). **Formats /Granularity/ Periodicity/ Access :** See *Pricing Schedules* above.
Low user pricing **-** Price differentials for low user customer categories *Part of distributors pricing schedules/ policies above.*	Electricity and gas distributors	**Coverage:** Pricing schedules/ policies contain the prices/ charges that customers pay for services, including low user pricing, for residential customers with low usage who pay a lower fixed price than standard residential customers. **Formats /Granularity/ Periodicity/ Access :** See *Pricing Schedules* above.

Dataset	Owner/provider	Contents
Geographic pricing - Regional pricing reflecting different service levels and network configurations *Part of distributors pricing schedules/ policies above.*	Electricity and gas distributors	**Coverage:** Pricing schedules/ policies contain the prices/ charges that customers pay for services, including geographic pricing, e.g. the different prices paid for electricity or gas by customers in different locations. **Formats /Granularity/ Periodicity/ Access :** See *Pricing Schedules* above.
Industry levies in network prices - Regulated components of prices not energy or network related	Electricity and gas distributors	**Coverage:** Expenditure incentives are found in schedule 3(ii) Pass-through and Recoverable Costs excluding Financial Incentives and Wash-ups of the distributors' regulatory information disclosures. **Formats:** pdf document or excel spreadsheets. **Granularity:** Pass-through and Recoverable Costs excluding Financial Incentives and Wash-ups includes: ● Pass-through costs ○ Rates ○ Commerce act levies ○ Industry levies ○ CPP specified pass through costs ● In addition to recoverable costs excluding financial incentives and washups **Periodicity:** Annual **Access:** Found in schedule 3 of the regulatory information disclosures, which can be found on the distributors websites under the disclosures section e.g. Vector electricity- https://www.vector.co.nz/about-us/regulatory/disclosures-electricity Powerco Gas- https://www.powerco.co.nz/-/media/project/powerco/powerco-documents/who-we-are---pricing-and-disclosures/disclosures/gas-disclosures/2-gas-information-disclosure-financial-and-technical/powerco-gas-information-disclosure-ry21.pdf
Maximum allowable revenue - distribution - Regulated revenue caps set by Commerce Commission		**Coverage:** Details the maximum average price or total allowable revenue that can be charged. Applies to non-exempt electricity and gas distributors. Maximum allowable revenues (MAR) are determined for each of the pricing years within the upcoming regulatory period in nominal $m. The MAR reflects allowable building blocks eg: asset values, opex, capex, return of capital (depreciation) and return on capital and tax **Formats:** pdf document **Granularity:** Schedule 1.5 shows how to calculate the maximum forecast allowable revenue. Other parts of the pdf document define the terms used in Schedule 1.5 and support it. The supporting financial model has the forecast financial building blocks which make up regulated revenue for each distributor. **Periodicity**: Updated as needed. A new default price-quality path is released every five years. **Access:** The maximum allowable revenue distribution can be found here in Schedule 1.5: https://comcom.govt.nz/__data/assets/pdf_file/0029/191972/2019-NZCC-21-Electricity-distribution-services-default-price-quality-path-determination-2020-27-November-2019.pdf Building blocks allowable revenue and maximum allowable revenue can also be found in the Commerce Commission's financial model downloadable from: https://comcom.govt.nz/regulated-industries/electricity-lines/projects/2020-2025-electricity-default-price-quality-path

Dataset	Owner/provider	Contents
Expenditure incentives - Regulated incentives and penalties passed through into prices	Non-exempt electricity distributors	**Coverage:** Expenditure incentives are found in schedule 2(v): Financial Incentives and Wash-Ups of the distributors' regulatory information disclosures. **Formats:** pdf document or excel spreadsheets. **Granularity:** Calculates: ● Financial incentives e.g. energy efficiency and demand incentive allowance, quality incentive allowance. ● Wash-up costs ● The impact on the return on investment. **Periodicity:** Annual **Access:** Found in schedule 2 of the regulatory information disclosures, which can be found on the distributors websites under the disclosures section e.g. Vector- https://www.vector.co.nz/about-us/regulatory/disclosures-electricity
Quality incentives - Quality incentive payments included in prices *See above.*	Electricity distributors	**Coverage:** Quality incentive adjustment is included under schedule 2(v): Financial Incentives and Wash-Ups of the electricity distributors' regulatory information disclosures. **Formats/ Granularity/ Periodicity/ Access:** See above.
Asset management plans - Future demand and investment plans and options	Electricity and gas distributors	**Coverage:** Asset Management Plans document asset management risks, objectives, processes and plans with specific focus on service targets, and the development, maintenance and replacement plans for assets. **Formats:** pdf document **Granularity:** The content can vary slightly, but can must contain the following in standard template form: ● Report on Forecast Capital Expenditure (expenditure on assets forecast, consumer connection, system growth, asset replacement and renewals, asset relocations, quality of supply, legislative and regulatory, other reliability, safety and environment, non-network assets - in dollar amounts) ● Report on Forecast Operational Expenditure (operational expenditure forecast, subcomponents of operational expenditure, difference between nominal and real forecasts - in dollar amounts) ● Report on Asset Condition (description of asset category, asset class, and asset condition at start of planning period) ● Report on Forecast Capacity (existing zone substations and statistics on their forecasted capacity) ● Report on Forecast Network Demand (consumer connections and system demand statistics) ● Report on Forecast Interruptions and Duration (SAIDI and SAIFI statistics) ● Report on Asset Management Maturity (a set of asset management maturity related questions, answered with a score and justification) **Periodicity:** Annual **Access:** Information is available at the distributor sites, in the regulatory disclosure section e.g. MainPower - https://www.mainpower.co.nz/about-us/disclosures/mainpower-disclosures First Gas (distributor) - https://firstgas.co.nz/wp-content/uploads/Firstgas-2022-Distribution-AMP-UpdateFinal.pdf

Dataset	Owner/provider	Contents
Expenditure forecasts - Future opex and capex by category *Contained in regulatory information disclosures*	Electricity and gas distributors	**Coverage:** Expenditure forecasts by category are contained within distributors Asset Management Plans, in schedules 11a and 11b of the electricity and gas regulatory information disclosures. **Formats:** pdf document **Granularity:** Operating and capital expenditure. Nominal and constant prices. For the next 10 years. The breakdown of operating and capital expenditure is the same in the electricity and gas regulatory information disclosures at the level described below. They differ, however, at the more detailed level e.g. the sub-groups for system growth capex in the electricity disclosures refer to lines and cables, while gas disclosures refer to pipes and valves. Capex categories include: ● Customer connection ● System growth ● Asset replacement and renewal ● Asset relocations ● Reliability, safety and environment ○ Quality of supply ○ Legislative and regulatory ○ Other ● Non-network asset Opex categories could include: ● Service interruptions and emergencies ● Vegetation management (applies for electricity only) ● Routine and corrective maintenance and inspection ● Asset replacement and renewal ● System operations and network support ● Business support **Periodicity:** Annual **Access:** Expenditure forecasts are in schedules 11a and 11b of the regulatory information disclosures, which are contained in the distributors Asset Management Plans, which can be found under the disclosures section e.g. Vector- https://www.vector.co.nz/about-us/regulatory/disclosures-electricity/asset-management-plan First Gas- https://firstgas.co.nz/wp-content/uploads/Firstgas-2022-Distribution-AMP-UpdateFinal.pdf

Dataset	Owner/provider	Contents
Capacity and demand forecast - Future network demand and constraints including the contribution of distributed generation *Contained in regulatory information disclosures*	Electricity and gas distributors	**Coverage** Capacity and demand forecasts by category are contained within distributors Asset Management Plans, in schedules 12b and 12c of the regulatory information disclosures. **Formats:** pdf document. **Granularity** *Electricity* Report on forecast capacity (12b) - shows the following details for all of the existing zone substations (listed, not a timeseries) ● Current peak load ● Installed firm capacity ● Security of supply classification ● Utilisation of installed firm capacity ● Installed capacity + 5 years ● Utilisation of installed capacity + 5 years ● Installed firm capacity constraint + 5 years Report on forecast network demand (12c) - shows a forecast of the following information for the next five years: ● Consumer connections by consumer type ● Distributed generation ● System demand ○ Maximum coincident demand ○ Electricity volumes carries ● Load factor and loss ratio *Gas* Report on forecast utilisation (12b) - shows the following details for all of the existing pressure systems (and what region and network they're in), in a listed format (not a timeseries) ● Metrics: Nominal operating pressure, minimum operating pressure, total capacity at minimum operating pressure, and remaining capacity at minimum operating pressure. ● Forecast period: Utilisation for the current and next five years. ● Forecast Units: Utilisation in scmh and kPa ● Commentary: regarding the level of utilisation on the network, concerns and expected changes. Report on forecast demand (12d) shows consumer connections (number of ICPs) and gas delivered (GJ), forecast for the current and next five years broken down by the following: ● Connections by consumer type ● Gas delivered by: ○ Number of ICPs at year end ○ Maximum daily load (GJ/day) ○ Maximum monthly load (GJ/month) ○ Total gas conveyed (GJ/annum) ○ Average daily delivered (GJ/day) **Periodicity:** Annual **Access:** Capacity and demand forecasts are in schedules 12b and 12c of the regulatory information disclosures, which are contained in the distributors Asset Management Plans, which can be found in the disclosure section e.g. Vector- https://www.vector.co.nz/about-us/regulatory/disclosures-electricity/asset-management-plan Powerco - https://www.powerco.co.nz/-/media/project/powerco/powerco-documents/who-we-are---pricing-and-disclosures/disclosures/gas-disclosures/1-gas-asset-management-plans/2021-gas-asset-management-plan-update.pdf

Dataset	Owner/provider	Contents
Heatmaps - Location of network projects and constraints	Electricity distributors	**Coverage:** Heat map of showing the location of significant planned opex and capex projects and network constraints **Formats:** pdf documents consisting of the heat maps made as part of annual disclosures of related party arrangements for distributors **Granularity:** ● 10 forecast opex projects within AMP planning period ● 10 forecast capex projects in the AMP planning period ● timing, value and location of the projects ● possible future network or equipment constraints, including location **Periodicity:** annually **Access:** Downloadable from: https://www.wel.co.nz/about-us/regulatory-disclosures/maps-of-network-expenditure-and-constraints/
Value of lost load - Customer willingness to pay for reliability	Transpower	**Coverage:** VoLL represents the economic value, in dollars per MWh, that a consumer places on electricity they plan to consume but do not receive because of a power interruption. VoLL reflects consumers' demand to avoid power interruptions and its consequences, and signals how much should be spent to ensure there is an acceptable level of reliability for electricity consumers. This study aims to check the validity of the formerly used VoLL, calculated in 2004. **Formats:** pdf document **Granularity:** This source discusses: ● what VoLL is and the role it plays ● the three part approach to determining VoLL, and the methodologies for each of the parts ○ Determine VoLL of consumer groups ○ Determine VoLL of large industrial customers ○ Determine the makeup of the market ● findings, in terms of distribution of VoLL by point of service ● how to use VoLL ● summary of point of service (PoS) VoLL rates, which can be found at the end of the document. ○ Demand composition of a PoS- residential, agricultural, commercial and industrial ○ VoLL for the PoS ($/MWh) **Periodicity:** Updated when a review of the previous rate is required. **Access:** Downloadable from: https://www.transpower.co.nz/resources?keywords=VOLL

Dataset	Owner/provider	Contents
Network reliability disclosures - Network reliability performance and forecast targets	Electricity and gas distributors	**Coverage:** Network reliability is captured in the regulatory information disclosures. For electricity this is found under Schedule 10: report on network reliability. For gas this is found and Schedule 10a: report on network reliability and interruptions and 10b: report on network integrity and consumer service. **Formats:** pdf document **Granularity:** Electricity example (EA networks) - this schedule is a summary of the key measures of network reliability (interruptions, SAIDI, SAIFI) for the disclosure year. Additional information is required regarding: ● Class of interruption - planned/unplanned, by Transpower / on the network etc. ● Duration of interruption ● Cause e.g. lightning, vegetation, adverse weather ● Main equipment involved e.g. lines, cables Gas example (First Gas) - this schedule is a summary of the key measures of network reliability for the disclosure year, including: ● Reliability measures - Interruptions, SAIDI, SAIFI and CAIDI by class of interruption - planned/unplanned, by gas transmission business / on the network etc. (10a) ● System condition and integrity e.g. number of reported gas leaks (10b) ● Consumer service e.g. response times, number of emergencies (10b) **Periodicity:** Annually **Access:** Gas example: Free access on First Gas website: https://firstgas.co.nz/wp-content/uploads/GDB_FY2021-disclosures-for-internet.pdf Electricity example: Free access on EA Networks website: https://www.eanetworks.co.nz/assets/pdfs/Disclosures/Regulatory/EA-Networks-ID-Schedules-2020-1-10-Readable-Copy.pdf
Non standard contracts - Contract terms for non standard customers	Electricity and gas distributors	**Coverage:** Disclosure of details of non-standard contracts entered into or modified during each year. **Formats:** pdf document **Granularity:** Gas example (First Gas): For new network service agreements entered during the disclosure year ● Nominal annual quantity (GJ) ● Maximum flow (SCMH)[3] ● Network pressure (kPa) Electricity example (Vector) Modified non-standard agreement terms - Prescribed terms **Periodicity:** Annually **Access:** Gas example: Public access at: https://firstgas.co.nz/wp-content/uploads/2020-21-Transmission-Non-Standard-Contract-Disclosure.pdf Electricity example: Public access at: https://www.vector.co.nz/about-us/regulatory/disclosures-electricity/prescribed-terms-and-conditions-of-contracts

Dataset	Owner/provider	Contents
Retail		
Residential electricity charges - Energy and network charges for residential customers in each network region	Ministry of Business Innovation and Enterprise	**Coverage**: Monitors national residential electricity costs using information about national electricity sales (total electricity sales and quantity of electricity supplied). **Formats**: Time-series in an Excel document. **Granularity:** Temporally: quarterly or yearly Locationally: average across the country, no further breakdown. Information: ● average residential expenditure ($ per household per quarter/annum) ● consumption per household (kWh per household per quarter/annum) ● nominal and real residential cost of electricity, including GST ● Other component - lines component, energy and other components (c/kWh and percentages) **Periodicity:** Updated quarterly. **Access:** Household sales-based electricity cost data is available for download from: https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/energy-prices/electricity-cost-and-price-monitoring/
Gas prices by sector - Time series gas prices for residential, commercial, industrial and wholesale	Gas industry company	**Coverage:** Nationwide, since 1999 **Formats:** Time Series charts and data all presented through Microsoft Power BI (cannot download) **Granularity:** Temporally: quarterly Locationally: country Sectors: Wholesale, Industrial, Commercial and Residential Metric: $/GJ **Periodicity:** Updated quarterly. **Access:** Free public access at https://www.gasindustry.co.nz/data/gas-pricing/
Retail price comparison - Retail electricity and gas tariff options for residential customers	Powerswitch by consumer.nz	**Coverage:** Powerswitch is a free and independent service or tool that enables consumers to see which power (electricity and gas) company and pricing plan is the cheapest at their address from participating retailers. The tool uses a comprehensive database of electricity and gas prices. **Formats:** Online tool. **Granularity:** Property details required ● Address or ICP number ● Power bill (if possible) ● Household size ● Insulation ● Home heating method used ● Water heating method used Results: ● Estimated yearly cost by provider incl GST. ● Plan details ● Plan conditions/ requirements (e.g. smart meter) ● Terms and conditions ● Last price update ● Billing options ● Green initiatives of that provider ● Links to retailers to facilitate switching There are also options to filter results e.g. fixed term, spot price etc. **Periodicity:** Updated as prices change. **Access:** Tool is accessible at: https://www.powerswitch.org.nz/

Dataset	Owner/provider	Contents
Retail competition assessment	Electricity Authority	**Coverage:** The EMI Retail Reports page on the EA's website contains rich datasets, several of which show retail competition, such as the Herfindahl-Hirschman Index (HHI) trends and market share trends and switching trends. **Formats:** Charts and data able to be viewed online. Charts downloaded in PNG, JPG, SVG. Data downloadable in csv. format. **Granularity:** Locationally: whole of country, island, zone, main centres, regional council, network reporting region, root NSP. Date range: 2004 - present Herfindahl-Hirschman Index (HHI) trends (All ICPs) Market share trends ● By retail entity: retailer or trader ● Residential, small-medium enterprises, commercial, industrial. ● Retail grouping e.g. incumbent four largest vs other Switching trends (All ICPs) ● Switch type - combined, trader switch, move in switch, half hour switch ● Monthly count or rate, rolling 12-year count or rate. **Periodicity:** Updated monthly. **Access:** The EMI Retail Reports page - https://www.emi.ea.govt.nz/Retail/Reports HHI trends - https://www.emi.ea.govt.nz/Retail/Reports/R_HHI_C?_si=v|3 Market share trends- https://www.emi.ea.govt.nz/Retail/Reports/R_MST_C?_si=v|3
Retail competition - Consumer switches	Gas Industry Company	**Coverage:** Switching data reflects user choices about prices, pricing plans and service options. It is an indicator of the strength of gas retail market competition. There are also rules about how switching should occur. **Formats:** Gas Registry Statistics Dashboard: Power BI charts Underlying data: excel workbook Switching Rules: pdf document **Granularity:** Dashboard: ● Network snapshot showing information on distribution and meter ownership (ICPs per distributor and meter owner) ● Retailer statistics ● Monthly switching statistics ● Data on the number of times ICPs have switched since the registry began in 2009 Data: Number of connections lost and gained by month and electricity or gas retailer. From March 2009 to October 2023. There are also a set of 'Switching Rules' that establish gas switching and registry arrangements that will enable consumers to choose, and alternate, efficiently and satisfactorily between competing retailers. **Periodicity:** Updated when required **Access:** Free public access on: https://www.gasindustry.co.nz/our-work/work-programmes/switching-and-registry/#current-arrangements Data under "Gas Registry Statistics Dashboard" Rules under "The Switching Rules"

Dataset	Owner/provider	Contents
Retail price schedules for electricity and gas services - Fixed and variable tariffs for residential and commercial customers	Energy retailers	**Coverage:** Retail price schedules describe the fixed and variable costs for residential and commercial consumers of electricity and gas. **Formats:** Can come in a variety of formats (e.g., pdf, website) **Granularity:** Contains data on the fixed and variable costs of electricity and gas services in dollars. Includes any rates for: ● low users vs standard users ● cost of power during peak vs off peak periods ● uncontrolled and controlled usage ● daily charges. Electricity costs can be reported in measures such as cents per kWh. **Periodicity:** Updated as needed **Access:** For example, Powershop's retail price schedules can be found here: https://www.powershop.co.nz/our-rates/
Congestion prices - Tariffs which signal network or energy system congestion *See above.*	Energy retailers	**Coverage:** Congestion pricing (or time of use pricing, or peak pricing) is when retailers offer varied rates for consumption at different times of the day. **Formats/ granularity/ periodicity:** See retail price schedules above. **Access:** Congestion pricing can be found as part of an energy retailer's rate schedules, such as for Powershop. https://www.powershop.co.nz/our-rates/
Low user pricing - Price differentials for low user customer categories *See above.*	Energy retailers	**Coverage:** Low user pricing is for consumers that don't use much electricity (Powershop's threshold is less than 8,000 kWh per year). Retailers offer low users lower fixed rates (daily charges) and higher variable rates. **Formats/ granularity/ periodicity:** See retail price schedules above. **Access**: Low user pricing can be found as part of an energy retailer's rate schedules, such as for Powershop. https://www.powershop.co.nz/our-rates/
Geographic pricing - Regional pricing reflecting different service levels and network configurations *See above.*	Energy retailers	**Coverage:** Geographic pricing is when retailers charge different prices for customers in different places. **Formats/ granularity/ periodicity:** See retail price schedules above. **Access**: Geographic pricing can be found as part of an energy retailer's rate schedules, such as for Powershop. https://www.powershop.co.nz/our-rates/
Tariffs for interruptible load - Discounted tariffs for lower service levels *See above.*	Energy retailers	**Coverage:** Tariffs for interruptible load (controlled or uncontrolled) is when the networks give users a discounted rate on the power they can control (usually the supply to your hot water cylinder), because they are able to switch off the 'controlled' portion of your supply for short periods, e.g. when there is high network demand or there are faults on the lines. **Formats/ granularity/ periodicity:** See retail price schedules above. **Access**: Geographic pricing can be found as part of an energy retailer's rate schedules, such as for Powershop. https://www.powershop.co.nz/our-rates/

Dataset	Owner/provider	Contents
Smart meters - Availability of smart meters	Electricity Authority	**Coverage:** A dashboard which shows the number or proportion of a specific meter type in New Zealand. The data can be split into a variety of categories. **Formats:** Dashboard on a website **Granularity:** ● Sector: Wholesale, industrial, commercial, residential ● Locationally: country, islands, zones, main centres, and by different regions ● Entities: MEP, MEP parent company, trader, retail parent company ● Other Categories: Entity, market segment, meter category or type, electricity retailer ● Metric: Count or proportion (percentage) **Periodicity:** Updated monthly **Access:** Statistics on smart meters can be found here: https://www.emi.ea.govt.nz/Retail/Reports/AWNGPD
Industry levies in retail prices - Regulated components of prices	Electricity Authority	**Coverage:** Retailers with more than 1% of ICPs are required to report their retail gross margins to the Electricity Authority. These results are published. **Formats:** Excel document. **Granularity:** Contains information breaking down the revenue in $/MWh per electricity retailer (retailers with less than 5% of ICPs are anonymised). Contains information on the following components for each retailer: ● Electricity ● Metering ● Distribution ● Levies ● Margins ● Electricity sold in MWh. **Periodicity:** Updated annually. **Access:** An example of this for electricity can be found here: https://www.emi.ea.govt.nz/Retail/Datasets/RetailGrossMargins
Other		
Carbon prices - Application of carbon prices to the energy system	Climate Commission	**Coverage:** Brief explanation of how the ETS works and what sectors it applies to. **Formats:** Webpage. **Granularity:** What the ETS is and how it works (including what sectors it applies to), for example: ● Application to stationary energy (mainly fossil fuels used for heat and electricity generation) ● Explains different types of units and how prices are set. **Periodicity:** Updated as required. **Access:** Context available at: https://www.climatecommission.govt.nz/get-involved/new-content-page/what-is-the-nz-ets/

Dataset	Owner/provider	Contents
Environmental tax rates	OECD	**Coverage:** Environmentally related taxes are an important instrument for governments to shape relative prices of goods and services. **Formats:** Tool: line chart, bar chart, map format. Data: table online or csv. download **Granularity:** Characteristics of such taxes in the database (e.g. revenue, tax base, tax rates, exemptions, etc.) are used to construct the environmentally related tax revenues with a breakdown by: ● environmental domain: energy products (including vehicle fuels); motor vehicles and transport services; measured or estimated emissions to air and water, ozone depleting substances, certain non-point sources of water pollution, waste management and noise, as well as management of water, land, soil, forests, biodiversity, wildlife and fish stocks. ● Year ● OECD countries and averages ● % of total taxation or total GDP **Periodicity:** Annual. **Access:** This tool is available at: https://data.oecd.org/envpolicy/environmental-tax.htm
Energy sector carbon emissions - Greenhouse gas inventory by sector	Ministry for the Environment	**Coverage:** This report gives an overview of New Zealand's Greenhouse Gas Inventory in five sectors: agriculture, energy, industrial processes and product use, waste, land-use, land-use change and forestry, and other. **Formats:** Online or pdf document. **Granularity:** Graphs show changes in emissions in millions of tonnes of carbon dioxide by sector from 1990 to 2021 (page 6). Figure 4 is the gross emissions, ie. the absolute change from 1990, and Figure 5 is the amount emitted each year, ie. the trends. There is also text explaining the reasons behind the changes in sector emissions over the past year and thirty years (ie. 2020-2021, 1990-2021). **Periodicity:** Published annually. **Access:** New Zealand's Greenhouse Gas Inventory: Snapshot (1990-2021) is able to be downloaded from: https://environment.govt.nz/publications/new-zealands-greenhouse-gas-inventory-19902021-snapshot/
Energy sector carbon emissions - Energy related emissions, by source	Energy Efficiency Conservation Authority	**Coverage:** This website describes the makeup of New Zealand's energy-related emissions, with a focus on energy related emissions which make up around 40% of New Zealand's total greenhouse gas emissions. **Format:** Online. **Granularity:** Shows emission levels by sector, in terms of % of the total carbon emissions. Provides a more detailed breakdown of where energy related emissions come from (e.g. light vehicles, transport, electricity, manufacturing industry etc). **Periodicity:** One off, potentially updated with new data when available. **Access:** Available at: https://www.eeca.govt.nz/insights/energys-role-in-climate-change/new-zealands-energy-related-emissions/

Dataset	Owner/provider	Contents
Energy end use database	Energy Efficiency Conservation Authority	**Coverage:** This New Zealand data asset maintained by EECA enables insights and analysis of energy use across sectors and technologies. **Format:** Online tool. Available formats are stacked bar charts, (throughout time or grouped by other groups), or a chart that links the fuel time with the end use. **Granularity:** Temporally: data for 2017-2021 Locationally: country Available metrics: data on energy usage split by user group, sector, end use, technology group. Shows the different energy types used by category (e.g., diesel, coal, solar, petrol, electricity). **Periodicity:** Updated with new data when available **Access:** Available at: https://www.eeca.govt.nz/insights/data-tools/energy-end-use-database/
Energy hardship data - Household energy hardship indicators	Ministry of Business Innovation and Enterprise	**Coverage:** This report provides data and insights on how many New Zealanders may be experiencing energy hardship. They provide an indication of how many households and individuals across Aotearoa New Zealand may be experiencing energy hardship. **Formats:** pdf document. **Granularity:** Data on energy hardship has been sourced from Stats NZ's Household Economic Survey. It reports results from 1 July 2012 to 30 June 2022. The survey asks respondents if they identify with certain statements, such as: ● being unable to do things like keep accommodation adequately warm ● finding heating a major problem ● If they put up with feeling cold at night The report has some data broken into measures such as: ● ethnicity ● whether the person owns their own home ● income **Periodicity:** Annual release. **Access:** Report able to be downloaded from: https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-publications-and-technical-papers/report-on-energy-hardship-measures/
Winter energy payment data	Work and Income	**Coverage:** The Winter Energy Payment is a government subsidy for those facing financial hardship. This source covers payment eligibility and amounts (though this will vary based on specific circumstance). **Formats:** Information online. **Granularity:** This sources gives information to those wanting to apply for the winter energy payment, including: ● Who can get it - eligible groups will receive this automatically and do not need to apply (e.g. those on jobseeker support) ● How much people will receive ● When it gets paid ● Further information on reducing power bills. **Periodicity:** Updated as necessary. **Access:** Information is available from: https://www.workandincome.govt.nz/products/a-z-benefits/winter-energy-payment.html

Dataset	Owner/provider	Contents
Decarbonising / energy efficiency funding - Government Investment in Decarbonising Industry (GIDI) Fund	Energy Efficiency Conservation Authority	**Coverage:** Government Investment in Decarbonising Industry (GIDI) Fund supports energy efficiency, and the switch from fossil fuels to cleaner renewable energy sources across the industrial and commercial sectors. A total of $650m ($1b over 7 years) was allocated as part of Budget 2022. The sources show background information on the GIDI fund and a PowerBI dashboard with information on the approved GIDI projects. **Formats:** Website, PowerBI dashboard **Granularity**: Background information on the website includes an overview of the GIDI fund, including total allocation ($1b over 7 years), and areas of focus and objectives of the fund. The PowerBI dashboard covers the following areas: ● Sector: Industrial projects funded by GIDI ● Temporally: Six monthly updates (April 2021 - present, ongoing) ● Locationally: By region ● Metrics: ○ Amount of money invested from the fund and privately ○ Total impact of GIDI funding - tonnes of CO2 avoided per year, equivalent cars off the road, number of projects funded ○ Details on projects approved in each time period - project summaries of each project, any withdrawn projects **Periodicity:** Six-monthly updates. **Access:** Background - https://www.eeca.govt.nz/co-funding/industry-decarbonisation/about-the-government-investment-in-decarbonising-industry-fund/ GIDI projects tool - https://www.eeca.govt.nz/co-funding/industry-decarbonisation/approved-gidi-projects/
Clean car discount rebates and fees - Rebates and fees supporting transition to low emissions vehicles	Waka Kotahi	**Coverage:** Waka Kotahi has a table that outlines the summary to date of the Clean car discount rebates and fees between July 2021 to September 2023. **Formats:** Table, online. **Granularity:** The table details Waka Kotahi NZ Transport Agency expenditure, and crown grant allocations, on the Clean Car Discount scheme over the reported timeframe. All figures are reported on an accrual basis. It shows the cumulative total expenditure and grants as at June 2023, then September 2023, and the difference between the two. **Periodicity:** Updated monthly. **Access:** Available online to download from: https://www.nzta.govt.nz/vehicles/clean-car-programme/clean-car-discount/clean-car-discount-scheme-financial-reports/

Telco

Dataset	Owner/provider	Contents
General sector reports		
Digital strategy for Aotearoa	Digital.govt.nz NZ Government	**Coverage:** The purpose of this strategy is to enable digital equitability and innovation in New Zealand. **Formats**: pdf document (executive summaries are available in braille, audio, and sign language) **Granularity**: This discusses some initiatives that are underway which will aid in digital inclusion. The strategy describes concerns with over-the-top services online. Some relevance to equity targets and outcomes. Discusses briefly an approach for implementation and measuring success. **Periodicity**: One-off document **Access:** Available for download at: https://www.digital.govt.nz/digital-government/strategy/digital-strategy-for-aotearoa-and-action-plan/the-digital-strategy-for-aotearoa/
Lifting connectivity in Aotearoa	Ministry of Business, Innovation, and Employment	**Coverage:** Government statement of intent for lifting digital connectivity, which is part of the digital strategy. It is a ten-year vision for digital connectivity. **Formats:** pdf document **Granularity**: Defines objectives for network coverage, resilience, and performance achievement by 2032. Defines principles for how the government will support these objectives, including what will be funded. The document covers: ● Building on successful foundations - discussion of progress and investment so far, including a timeline ● Challenges and opportunities for the future ● Government Statement of Intent 2022 ● The vision for 2032, and putting this into action ● Principles to guide future actions and initiatives ● Plan to measure success **Periodicity:** One-off document **Access:** Available for download at: https://www.mbie.govt.nz/science-and-technology/it-communications-and-broadband/digital-connectivity-programmes/lifting-connectivity-in-aotearoa-government-statement-of-intent/
Telecommunications Forum Industry Report	Telecommunications Forum	**Coverage:** The report covers the main achievements of the telecommunications sector. **Formats:** pdf document **Granularity:** Provides an overview of telecommunications in the current year and a brief industry snapshot. Then, the report dives into five key themes: resilience, sustainability, consumer protection, achieving digital equity, and connecting Aotearoa. The report mentions areas where investment is needed to improve accessibility or future proof e.g. resilience in relation to environmental changes and rural connectivity. **Periodicity:** These industry reports are released on an irregular basis. **Access:** Available for download at: https://www.tcf.org.nz/news/telecommunications-forum-industry-report-2023-released

Dataset	Owner/provider	Contents
Monitoring reports and sources		
Annual Telecommunications Monitoring Report	Commerce Commission	**Coverage:** This report monitors urban, rural and mobile connectivity. For each, it discusses market structure and outcomes across infrastructure, wholesale, retail and consumer markets. There are several sections of relevance to pricing. These sources are described in more detail in the following rows. **Formats:** pdf document. **Granularity:** The most recent year's report offers the following information: ● A snapshot of New Zealand telecommunications and a summary of key statistics. ● Information on the market structure and market outcomes in the following areas: ○ Urban connectivity at home ○ Rural connectivity at home ○ Connectivity on the move ● Special topics (landlines and complaints about telecommunication services) ● Market monitoring updates There are many useful tables/charts, those with particular relevance are discussed in detail in the sources that follow. **Periodicity**: Published annually **Access:** Available for download at: https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/annual-telecommunications-market-monitoring-report
Network coverage *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Network coverage is displayed using maps and commentary which summarises findings regarding coverage/availability of the places outlined below. Coverage maps have been generated using broadbandmap.nz, which can generate maps across New Zealand. **Granularity:** Coverage maps (current snapshot) supplemented by commentary- ● Urban: Auckland, Hamilton, Wellington, Christchurch, Dunedin ○ Who built and operates the network ● Rural: Hunua, Tolaga Bay, Whangaroa, Wallacetown. ○ Size of settlement ○ Availability of options ● Fibre, planned fibre, cable, VDSL, wireless and planned wireless **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.
Mobile coverage *Included in the Annual Telcoecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Mobile coverage. **Granularity:** Information used to monitor mobile coverage includes: ● National mobile coverage % by landmass and population, 3G, 4G and 5G ● Market share of the mobile network operators by connections for the past four years ● Service characteristics - plan type, allowances, speed ● Average mobile download speeds **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.

Dataset	Owner/provider	Contents
Price differentials reflecting different network configurations *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Rural vs urban 4G wireless broadband prices. **Granularity:** Table 17: Urban vs rural 4G wireless broadband price comparison, compares the monthly cost of equivalent plan types. **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.
Rural accessibility *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Rural accessibility compared with urban accessibility. **Granularity:** ● Rural vs urban satisfaction with mobile services ● Technology offerings in rural areas by RSPs with national presence ● Service characteristics e.g. speed and data caps ● Estimated rural broadband connection by technology type (current snapshot, %) ● Average rural download/upload speeds ● Affordability maps for rural broadband ● Rural satisfaction levels with different offerings **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.
Subsidised plans for low-income consumers *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Subsidised plans which are offered for people facing financial or other hardship. **Granularity:** Describes plans - Fibre starter, Skinny Jump, and for each: ● Eligibility ● Data cap (e.g. 50GB, unlimited) ● Term (open or fixed e.g. 12 months) ● Modem cost ● Monthly cost Also discusses the COVID-19 Ministry of Education Support Package Initiative. **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.
Affordability *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Affordability using maps displaying the percentage of household net income to purchase fibre broadband by region. **Granularity:** Affordability maps (current snapshot)- ● Whole of New Zealand, broken down by region. ● Rural: % of net household income for basic or high-speed product. ● Urban: % of net household income. **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.

Dataset	Owner/provider	Contents
Retail competition *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Retail competition is measured in many ways throughout the *Annual Telecommunications Monitoring Report* (above), including through changing market share and offerings throughout time. **Granularity:** Key information that show competition through: ● Market share of top four providers & competition between top four providers ● Technology offerings by major providers ○ Fibre (50MBps, 300Mbps, Fibre Max, Hyperfibre), 4G wireless broadband, Copper, HFC cable ● Retail offer share by major providers (% for past four years) ● Time spent with current broadband provider in urban areas **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.
Switching rates *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Porting rates which is the process of transferring a phone number from one network to another. This is a critical market feature that supports switching, which promotes competition and positive consumer outcomes. **Granularity:** Switching providers – Net porting activity ● Total/mobile/local ported per month ● Measured over the last year ● Additional commentary around % of people porting each year ● Nationwide **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.
Time series of broadband pricing *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Fibre and Wireless Broadband pricing trends. **Granularity:** Figure 18: Teligen fibre vs 4G wireless broadband benchmark prices in New Zealand ● Price per month of Fibre and Fixed wireless broadband ● Period: past four years ● Fibre prices for the most common fibre plan (Fibre 300 in 2022 and Fibre 100 in prior years). ● 4G wireless broadband price reflects a 4G 30GB plan from 2020 to 2022 and a 120GB plan in 2019 (as 300GB plans were unavailable in 2019). **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.
Information about pricing for different telco services *Included in the Annual Telecommunications Monitoring Report (above).*	Commerce Commission	**Coverage:** Explanation on how prices are built up, including the flow-through of wholesale prices and examples of price differentials for different services. **Granularity:** Useful presentations include: Charts: ● Retail prices of fibre and wireless broadband ● Rural and urban 4G wireless broadband prices ● Wholesale fibre prices by provider ● Fibre and fixed wireless broadband pricing trends throughout time Tables: ● 4G wireless broadband monthly retail prices in urban areas, 300GB and Unlimited, December 2021 & 2022 ● Chorus' wholesale prices, 300Mbps and 1Gbps, October 2021 & 2022 **Formats/ periodicity / access:** Contained in the *Annual Telecommunications Monitoring Report* see above.

Dataset	Owner/provider	Contents
Quarterly Broadband Measuring Report	Measuring Broadband New Zealand (MBNZ) programme (Commerce Commission)	**Coverage:** These reports show the performance, reliability and quality of New Zealand's fixed line internet and services. The report aims to help customers assess the offerings of different providers, and to encourage providers to improve and compete on performance. **Formats:** pdf document. **Granularity**: ● Key features of this report include: ○ Performance of a number of applications (e.g. netflix) depending on internet connection ○ Quality of service and reliability ○ Comparisons by retail service provider and region ○ Appendices with information such as how tests are completed, what tests were done, and summary tables ● Providers tested: Contact Energy, Farmside, Inspire Net, Lightwire, Netspeed, Sky New Zealand, Starlink, UniFone, Wireless Nation and WIZWireless. ● Broadband offerings include: ADSL, VDSL, 4G Fixed Wireless, Fibre 300, FFibre Max, and HFC Max plans. ● Location: National, North Island, South Island, Auckland. **Periodicity**: Published quarterly. **Access:** Available for download at: https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/monitoring-new-zealands-broadband/Reports-from-Measuring-Broadband-New-Zealand
Telecommunications snapshot statistics	Commerce Commission	**Coverage:** This source is a single-page snapshot of telecommunication statistics over the past ten years, including financial, service and asset related metrics. **Formats:** pdf document. **Granularity:** ● Temporally: yearly ● Metrics: total industry, fixed line and mobile, e.g. ○ Revenue ○ Investment ○ Number of connections (mobile, broadband) ○ Call minutes ○ SMS sent ○ Mobile data usage etc. ● Locationally: nation-wide ● Metrics: thousands/millions, $bn, gigabytes, percentages **Periodicity**: Published annually **Access:** Available for download at: https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/annual-telecommunications-market-monitoring-report
Annual Telecommunications Industry Questionnaire Results	Commerce Commission	**Coverage:** Annual questionnaire responses from telco providers examining competition in, and the performance and development of, telecommunications in New Zealand. **Formats:** Excel workbook. **Granularity:** Contains statistics for subscribers, traffic, revenue, capex and connection characteristics. Collated version available but not by provider. **Periodicity:** Annual **Access:** Available for download at: https://comcom.govt.nz/regulated-industries/telecommunications/monitoring-the-telecommunications-market/annual-telecommunications-market-monitoring-report

Dataset	Owner/provider	Contents
Broadband map nz	Internet New Zealand Inc	**Coverage:** Shows broadband availability across New Zealand. **Formats:** Map which has been embedded into a website **Granularity:** Shows broadband availability, connection types and internet speeds. Broadband performance to be added in thefuture. Types of access: Fibre, Cable, VDSL, Wireless, ADSL Locational: Every address in New Zealand. Users can zoom into specific addresses to discover types of internet access available. **Periodicity:** Updated as required **Access:** https://broadbandmap.nz/availability/-36.97035865333006/174.875000780129l4?address
Government subsidies / initiatives		
Digital connectivity programmes	Ministry of Business Innovation and Enterprise	**Coverage:** Summary of significant government-led subsidies and programmes that are seeking to improve broadband and mobile connectivity. **Formats:** Online. **Granularity:** Summarises at a high level what each initiative is, and where to find more information on it. Links to additional information including the sources below. **Periodicity:** Updated as required. **Access:** https://www.mbie.govt.nz/science-and-technology/it-communications-and-broadband/digital-connectivity-programmes/
Rural broadband	Crown Infrastructure Partners	**Coverage:** Information on the investment and infrastructure plans for rural broadband initiatives, including the Rural Broadband Initiative phase two (RBI2), rural capacity upgrades and remote user schemes. **Formats:** Website and pdf document **Granularity:** Covers the following areas: ● What the Rural Broadband Initiative phase two (RBI2), and what RB12 coverage are. ● How far broadband has been extended ● Timing for RBI2 availability at selected locations (able to be interrogated by users) ● Who builds the RBI2 network **Periodicity:** Updated as required. **Access:** https://www.crowninfrastructure.govt.nz/rural/rural-broadband-initiative-phase-two-rbi2/

Dataset	Owner/provider	Contents
Mobile Black Spots Fund	Crown infrastructure partners	**Coverage:** Gives details around the Mobile Black Spots Fund, which will invest in the mobile network to improve the availability of mobile services to support safety on state highways. It will also enhance visitor experience at key tourist destinations, which do not currently have coverage from any mobile operator. **Formats:** Website and pdf document. **Granularity:** *Webpage* - what the fund is, why it is important and what the impacts of the fund will be. *Fact sheet* - provides statistics on the following areas:: ● Households and businesses that can access broadband speeds of at least 20 Mbps download (number) ● The amount of state highways and tourist areas covered by MBSF (kilometres, number) and a map/breakdown of these ● The value of the contracts and contractors involved ● Details on ultra-fast broadband acceleration and expansion (investment in $, population covered (%), date to be completed) ● Anticipated impacts of the full UFB fibre rollout (number of towns affected, OECD ranking) ● Pie chart of the broadband coverage across New Zealand (%). Shows % with ultra-fast broadband, those reached by RBI1, RBI2 and mobile black spots fund, and the uncontracted remainder. ● Contains links to additional sources - ○ Ultra-fast broadband programme map ○ Breakdown of how coverage will benefit each region (in number of users covered and state highway kilometres covered by region. **Periodicity:** Updated as required. **Access:** https://www.crowninfrastructure.govt.nz/blackspots/what/

Dataset	Owner/provider	Contents
Chorus' price-quality path and asset disclosures/ plans		
Price-quality paths for Chorus	Commerce Commission	**Coverage:** Chorus' Price-Quality Path set a three-year price-quality path for Chorus, as the largest of those regulated fibre wholesalers. Chapter 3 discusses allowable revenue. **Formats:** pdf document **Granularity:** It dictates forecast allowable revenue ($m) for Chorus, over a three year period. This is composed of: • Building blocks revenue • Forecast allowance for pass-through costs • Wash-up amounts This is shown on a total and annual basis in chart and tabular form. Key parameters for the building blocks model are also specified e.g: • Total initial PQ RAB • Financial loss asset value • Vanilla WACC • Post-tax WACC • CPI • Allocated real base capex allowance • Allocated real connection capex baseline allowance • Allocated real opex allowance Final building blocks revenue components ($m, nominal) e.g: • Return on capital • Opex allowance • Depreciation • Tax allowance • In-period smoothing • Total **Periodicity**: Updated every regulatory period. **Access:** Available at: https://comcom.govt.nz/regulated-industries/fibre/projects/fibre-price-quality-path-and-information-disclosure
Fibre networks' asset registers	Fibre Networks	**Coverage:** Chorus' "Our Fibre Assets" report covers Fibre Fixed Line Access Services (FFLAS) in areas where the provider is subject to price-quality regulation. It provides detailed information on every area of investment and operating expenditure. **Formats.** pdf document. **Granularity:** The report discusses assets related to the following groups: • Extending the network • Installations • Customer opex • Network sustain and enhance • Network opex • Network capacity • IT and support • Support opex **Periodicity:** Every three years **Access:** Mislinked on the Chorus website so download from Commerce Commission, by searching "Our Fibre Assets" https://comcom.govt.nz/search?query=our+fibre+assets

Dataset	Owner/provider	Contents
Fibre networks' asset plans	Fibre Networks	**Coverage:** Chorus' "Our Fibre Plans" report is Chorus' first proposal under new regulatory arrangements. It describes its fibre plans for the regulatory period. **Formats.** pdf document. **Granularity:** The report discusses plans for: ● Governance ● Demand ● Quality ● Delivery ● Engagement ● Connection Capex ● Investment Summary **Periodicity:** Every three years **Access:** Publicly available on Chorus' website https://company.chorus.co.nz/about/regulatory/regulatory-period-1-proposal
Fibre Networks' Regulatory Information Disclosures		
Regulatory information disclosures 1-13	Fibre Networks' Regulatory Information Disclosures	**Coverage:** From 2022, providers of fibre fixed line access services that are regulated under Part 6 of the Telecommunications Act 2001 (Chorus, Enable Networks, Northpower Fibre, Tuatahi First Fibre) have been subject to information disclosure regulations. **Formats.** pdf document. **Granularity:** The regulatory information disclosures contain many reports, listed below. Reports of particular relevance to monitoring pricing are described in more detail in subsequent rows. ● FFLAS Return on investment (ID, PQ and ID-only) ● Regulatory profit ● Regulatory tax allowance ● Asset allocations ● Value of the FFLAS Regulatory Asset Base rolled forward (ID, PQ and ID-only) ● Operating expenditure ● Cost allocations ● Capital expenditure ● Comparison of forecast and actual expenditure ● Term credit spread differential allowance ● Crown financing and notional deductible interest ● Related Party transactions ● FFLAS Asset Register ● Forecast operating expenditure ● Forecast capital expenditure ● Forecast capacity and utilisation ● Forecast network demand ● Asset management capability **Periodicity:** Annual **Access:** Chorus' disclosures are publicly available at: https://company.chorus.co.nz/about/regulatory/price-quality-information-disclosures

Dataset	Owner/provider	Contents
FFLAS Return on investment *Found in regulatory information disclosures 1-13*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** Schedules 1a, b & c: FFLAS Return on Investment (ID, PQ and ID-only) disclose information on return on investment relative to the Commerce Commissions estimates of post-tax WACC and vanilla WACC. **Granularity:** ● Return on investment - comparable to post-tax WACC and vanilla WACC ● Regulatory asset base calculations **Formats/ periodicity / access:** Contained in Schedules 1a,b&c of the *regulatory information disclosures 1-13* see above.
Financial loss asset *Found in regulatory information disclosures 1-13*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** The financial loss asset compensates regulated providers of fibre fixed line access services for the financial losses incurred during the initial period of operating Ultra-Fast Broadband networks before demand met supply. The financial loss asset forms part of the regulatory asset base on which fibre service providers are able to earn a return under the new regulatory regime (implemented in January 2022). The financial loss asset is contained in schedule 4b: Report on Value of the ID FFLAS Regulatory Asset Base rolled forward. **Granularity:** ● Financial loss asset = Opening RAB, less depreciation, plus revaluations less adjustment due to regulation **Formats/ periodicity / access:** Contained in Schedule 4b of the *regulatory information disclosures 1-13,* see above.
FFLAS asset registers *Found in regulatory information disclosures 1-13*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** This schedule requires a summary of the quantity of FFLAS assets that make up the network, by asset category and asset class, the estimated condition of the assets, a forecast of the percentage of assets to be replaced and the age profile of assets. **Granularity:** For layer 1, other network and layer 2 assets: ● Volumes for new fibre investment ○ Opening volume, net additional volume, closing volume ● Asset condition at start of planning period (%) ● Asset age profiles for the last 50 years **Formats/ periodicity / access:** Contained in the *regulatory information disclosures 1-13* see above.
Expenditure forecasts *Found in regulatory information disclosures 1-13*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** Expenditure forecasts by category are found in Schedule 5: Report on Operating Expenditure and Schedule 6: Report on Capital Expenditure of the regulatory information disclosures. **Granularity:** Operating and capital expenditure are forecast for the current and next three years, in nominal and constant dollars. Capex categories include: ● Extending the network ● Installations ● Network capacity ● Network sustain & enhance ● Network & customer IR ● Non-network IT & support Opex categories include: ● Customer opex ● Network opex ● Support opex **Formats/ periodicity / access:** Contained in the *regulatory information disclosures 1-13* see above.

Dataset	Owner/provider	Contents
Forecast capacity and utilisation *Found in regulatory information disclosures 1-13*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** This schedule requires a breakdown of current and forecast capacity and utilisation for each POI (point of interconnection) area. Information is on steady state configuration. **Granularity:** A current and three year forecast of: ● Number of central offices in area ● Number of point-2-point end-user connections within area ● Number of passive optical network end-users from central offices ● Central office to fibre flexibility point, with percentage fill greater than 85%. ● Premises passed **Formats/ periodicity / access:** Contained in the *regulatory information disclosures 1-13* see above.
Forecast network demand *Found in regulatory information disclosures 1-13*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** This schedule requires a forecast of new connections (by consumer type), peak demand and data volumes for the disclosure year and 5-year planning period. Note that in Chorus' regulatory information disclosures, totals are provided but some detail is not yet available due to transitional reporting exemptions. **Granularity:** Demand is forecast for the current and next five years: ● Number of active forecast connections by service description ● System Traffic (gigabits per second) by area ● Average demand by area (gigabits per second) ● Average to peak ratio by area (%) **Formats/ periodicity / access:** Contained in the *regulatory information disclosures 1-13* see above.
Regulatory information disclosures - transitional measures Schedule 19A *Found in regulatory information disclosures 19A*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** These schedules are focused on performance measures and constraints. **Formats:** pdf documents **Granularity:** Provisioning ● % of layer 1 and 2 services provisioned by agreed date ● Median time to provisioning (simple/complex FFLAS) by POI area Availability ● Transitional average unplanned downtime, for layer 1 and layer 2 by POI area. Faults and performance ● Faults: Number of faults per 100 connections. ● Traffic performance: number of traffic performance exceedances for the different targets of: ○ High priority traffic frame delays ○ High/low priority traffic frame losses ○ Number of active probes ● Port performance/ utilisation against thresholds of 90% and 95%. Customer service ● End-user survey results - number surveyed and average score for different question topics. **Periodicity:** Quarterly **Access:** Chorus' regulatory information disclosures are publicly available at: https://company.chorus.co.nz/about/regulatory/price-quality-information-disclosures

Dataset	Owner/provider	Contents
Regulatory information disclosures - transitional measures Schedule 24A *Found in regulatory information disclosures 24A*	Fibre Networks' Regulatory Information Disclosures	**Coverage:** Schedule 24: Report on Pricing is a monthly requirement to disclose connection charges, from 2022 onwards. **Formats.** pdf document. **Granularity:** Reports on Pricing are required for price-quality (PQ) and information disclosure (ID) regulated networks. Total revenues are broken down into: ● regulated FFLAS charges for layers 1, 2 services and other connection charges ● total, monthly and other. **Periodicity:** Monthly **Access:** Regulatory information disclosures are publicly available at: https://company.chorus.co.nz/about/regulatory/price-quality-information-disclosures
Pricing plans and terms		
Pricing plans	Telco retail providers	**Coverage: P**rices and average prices for different technologies and services. Information about pricing structures e.g. congestion pricing, and premium pricing. **Formats**: Website **Granularity**: Contains information on features of each plan including: ● the cost of the service ● technology requirements e.g. modem ● installation process and costs ● download speeds ● limits (e.g. texts, calls, data) ● amounts that rollover to the following month (e.g. texts, calls, data) ● billing cycle. Also outlines any terms and conditions that apply with each offer. **Periodicity**: Updated as needed. **Access**: Example: Skinny NZ's pricing plans can be found here: https://www.skinny.co.nz/pricing/plans/ (mobile) https://www.skinny.co.nz/broadband (broadband) Example: Spark's pricing plans can be found here: https://www.spark.co.nz/online/mobile-plans.html (Mobile) https://www.spark.co.nz/online/broadband/buy-plan?category=all (Internet)
Fair use policies and terms and conditions	Telco retail providers	**Coverage:** Fair use policies apply to some telco services, and set limits on how much of a service they can use and consequences of exceeding this, to ensure the ability to provide a quality service to all users. **Formats:** Found online or within policies that are able to be downloaded from retailers websites. **Granularity**: Identifies which services fall under the fair use policy and defines what fair use is. Describes what will happen if use of texts/data/calls is above levels that are considered fair use e.g. suspend, modify or restrict the use of services, or charge extra at their discretion for excessive usage. **Periodicity:** Updated as needed. **Access:** 2degrees' fair use policy can be found here: https://www.2degrees.nz/termsofuse/fair-use-policy One NZ's fair use policy can be found here: https://one.nz/legal/policy/fair-use/

Dataset	Owner/provider	Contents
User group definition	Telco retail providers	**Coverage:** User groups may be defined in terms and conditions, or under specific plans policies, or under a more general prices and rates page. For example Powershop defines low and standard users under 'Pricing', while One.NZ defines eligible user groups for the 'Family Add-On' in the terms of the plan. **Formats:** Plan descriptions are found online at retail providers websites, and may be downloadable in pdf format. **Granularity: '**Eligibility' explains the number of people that can use a plan and any other criteria e.g. age, family status. **Periodicity:** Updated as required. **Access:** Examples: Powershop low and standard users: https://www.powershop.co.nz/need-to-knows/pricing/#low-users One.NZ Family Add-On: https://one.nz/legal/terms-conditions/family/
Other sources		
User friendly data	Chorus	**Coverage:** Chorus provides several services on their website that are user friendly and help understanding for the customer. E.g. speed tests, broadband availability checker. Users can compare different prices for different service levels and options. **Formats:** Online tools **Granularity:** Speed checker lets the user check their broadband speed including, ping (ms), jitter (ms), download speed (Mbps), and upload speed (Mbps). The broadband options website helps users select the best broadband option, including: ● options by street address ● options for speed, reliability, data, and price ● how to connect to a certain type of broadband network. **Periodicity:** One-off document **Access:** Speed checker - https://www.chorus.co.nz/speed-test Broadband options - https://www.chorus.co.nz/broadband

Dataset	Owner/provider	Contents
Customer consultation	Commerce Commission	**Coverage:** Series of infographics summarising customer feedback on the Measuring Broadband New Zealand (MBNZ) programme. Questions cover transparency and competition in the telco sector, and the usefulness of the monitoring. This helps understand demand drivers and willingness to pay. **Formats:** pdf document. **Granularity:** Presents the results of the Measuring Broadband New Zealand survey. Specifically focuses on showing the responses and comments to the following seven questions: ● Do you think it's important to independently test, monitor and report on broadband performance in New Zealand? ● Have you ever viewed MBNZ reports to check or compare performance of a broadband provider or technology? ● In the future, will you consider looking at MBNZ reports to compare performance before you choose a new broadband provider or technology? ● Do you think in the future all broadband connections should have the ability to measure and report on performance? ● Should MBNZ look to expand the number of providers and technology types measured and reported on? ● Where we don't have enough volunteers on a technology or provider, should MBNZ still report these results even if they may be less accurate? ● In the future do you think MBNZ should also measure and report on in-home Wi-Fi performance? **Periodicity:** One off. **Access:** Available for download at: https://comcom.govt.nz/regulated-industries/telecommunications/projects/2022-review-of-the-measuring-broadband-new-zealand-programme

Water

Dataset	Owner/provider	Contents
Water tariffs and charges		
Residential water tariffs in New Zealand 2018	BRANZ Study Report	**Coverage:** This report analyses tariff structures which vary across territorial authorities. **Formats:** pdf document **Granularity:** Discusses the principles and structures of water services in New Zealand and how they affect pricing. ● Six key principles of tariff setting ● Analysis of advantages and disadvantages of different tariff structures ● International examples: Water tariff structures of 184 utilities in the OECD The report investigates NZ's water resource including legislative background, freshwater allocation, water metering in New Zealand and revenue vs expenditure ● Legislation across the drinking water system ● Potential allocation pressure for surface freshwater ● Annual water use as a percentage of the consented volume, per region The report also covers residential water tariffs in New Zealand ● Residential drinking water tariff structures and charging mechanisms in the North and South Island **Periodicity:** One off document in 2018. **Access:** The report can be downloaded through the link below: https://www.branz.co.nz/pubs/research-reports/sr413/

Dataset	Owner/provider	Contents
Domestic water services and wastewater charges	Local authorities	**Coverage:** Water service providers release documents outlining the charges for water and wastewater services, for domestic users. **Formats:** pdf document. **Granularity:** *Example: Watercare, Auckland Region.* This report contains the following charges for domestic users of water and wastewater for the Auckland Region: Water services ● Volumetric charges Wastewater ● Customers who have water meters ○ Fixed charge per meter ○ Volumetric charge ● Customers who do not have water meters ○ Fixed charge Infrastructure growth charges ● Categorised by area ● Charges for water and wastewater, water only and wastewater only Town to tank water supply service charges ● Setup cost ● Annual fixed charge ● Volumetric charge Other charges ● New connections and development charges ● Administration ● Other charges *Example: Horowhenua District Council.* The website contains 'fees and charges' pages for water and wastewater. The water pages discloses fees for: ● Application fees ● Temporary removal of water restrictor ● Water tanker filling ● Charges for breaches of Water Supply Bylaw ● Water meters - final reading and meter accuracy test ○ This applies for extraordinary users, which includes commercial and industrial premises, properties with pools, educational and health facilities, retirement villages and properties with agricultural use. ○ Having a water meter means you'll pay for some or all of your water on a 'user pays' basis. For some users, this only applies if usage is over a certain amount. For other users, there is a tiered charging system. ○ Charges for metered users are under "water consumption rates" The wastewater pages discloses fees for: ● Application fees ● Connection to/ disconnection from network ● Septage - Tankage loads Stormwater - information is provided about responsibilities and more. **Periodicity:** Updated annually. **Access:** *Example: Watercare, Auckland Region.* Charges are available on the watercare website: https://www.watercare.co.nz/Manage-account/Our-charges *Example: Horowhenua District Council.* Water fees & charges: https://www.horowhenua.govt.nz/Services/Home-Property/Water-Services/Water/Water-Fees-Charges Water consumption (metered) rates: https://www.horowhenua.govt.nz/Services/Home-Property/Water-Services/Water/Water-Consumption-Rates Wastewater fees and charges: https://www.horowhenua.govt.nz/Services/Home-Property/Water-Services/Wastewater/Wastewater-Fees-Charges

Dataset	Owner/provider	Contents
Non-domestic charges (commercial)	Local authorities	**Coverage:** Charges for water and wastewater services for non-domestic or commercial users. **Formats:** pdf document. **Granularity:** *Example: Watercare, Auckland Region.* This report contains the following charges for non-domestic users of water and wastewater for the Auckland Region: Water services ● Volumetric charges Wastewater - ● Annual fixed charge (per meter) ● Volumetric wastewater charge (per kL) ● By pricing plan, including the approximate annual wastewater volume recommended for each plan.: ○ Low user plan ○ Moderate user plan ○ High user plan ○ Industry plan ○ Notional rate - for commercial customers without water meters. ○ Trade waste - now charged as wastewater. Infrastructure growth charges ● Categorised by area ● Charges for water and wastewater, water only and wastewater only Other charges ● New connections and development charges ● Administration ● Other charges *Example: Horowhenua District Council.* Rates for commercial users are included in the description of water charges in the row above. **Periodicity:** Updated annually. **Access:** *Example: Watercare, Auckland Region* Charges are available on the watercare website: https://www.watercare.co.nz/Manage-account/Our-charges *Example: Horowhenua District Council* See row above.

Dataset	Owner/provider	Contents
Infrastructure Growth Charge (IGC)	Local authorities	**Coverage:** Guide on what infrastructure growth charges are for and how much they are. They're similar to development contributions, as they are both fees charged to cover increased infrastructure requirements from new usage. In the case of Auckland Council, all property owners or developers applying for new connections to water networks are liable to pay an IGC. **Formats:** pdf document. **Granularity:** *Example: Watercare, Auckland Region.* This document outlines: ● The purpose of IGCs ● When they will apply ● Distinguishes between development contributions and IGCs (ie. that IGCs can charge for the increase of scale and intensity of demand on a water service, whereas development contributions go toward the infrastructural costs of new developments). ● How many IGCs can be payable by different users (e.g. domestic and commercial) ● Other conditions around IGCs (e.g. contestability, non-payment) ● IGC price schedule ○ By area ○ By wastewater and water, water only, wastewater only **Periodicity:** Updated annually. **Access:** Charges are available on the watercare website: https://www.watercare.co.nz/Manage-account/Our-charges
Rating Policies *Example - Tauranga City Council*	Local authorities	**Coverage:** Ratings policies documents explain how the various rates are set for properties, including water rates. **Formats:** pdf document. **Granularity:** Rates policy has total rates broken down by: ● Waters (waste, storm) ● Waste (new, kerbside recycling) ● Resilience ● Transport ● Community ● General Rate ● Uniform Annual General Charge **Periodicity:** Every three years, as part of the Long Term Plan. **Access:** For example, publicly available for download at: https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31

Dataset	Owner/provider	Contents
Developer contributions *Example - Tauranga City Council*	Local authorities	**Coverage:** Policy/guidelines to determine when a development contribution charge will apply and how it will be calculated (including water portions). Development contributions are a fee charged for new developments to contribute to the costs building the infrastructure that supports them. **Formats:** pdf document. **Granularity:** The development contributions policy includes: ● Policy application: when a contribution will apply ● Policy statement: policy objectives/principles ● Methodology: how it will be calculated and used for different types of infrastructure investments **Periodicity:** Updated annually **Access:** For example, publicly available for download at: www.tauranga.govt.nz/council/council-documents/development-contributions/2023-24-development-contributions-policy
Council plans		
Council Long Term Plans *Example - Tauranga City Council*	Local authorities	**Coverage:** Sets out investment plans for the next ten years, including infrastructural improvements for water supply, wastewater, and stormwater. **Formats:** pdf document. **Granularity:** Funding impact statement ● Capital and operating funding forecast ● By source and application ● Grouped by growth, growth and level of service, level of service and renewals. Infrastructure strategy ● Key goals and programmes ● Any challenges related to water infrastructure ● Discussion of other sources of funding requirement e.g. resilience. ● 30 year capex and opex forecasts Financial strategy ● Capital investment by investment programme e.g. three waters infrastructure ● Capital investment by focus: growth, level of service and renewals. ● Funding & financing sources ● Programme of capital investment - annual breakdown of expenditure by different projects over the next ten years. **Periodicity:** Every three years. **Access:** For example, publicly available for download at: https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31

Dataset	Owner/provider	Contents
Council budget setting to determine water funding *Example - Tauranga City Council*	Local authorities	**Coverage:** Council's publish Long Term Plans which explain how council water budgets are set. In the case of Tauranga City Council, these include the 'Revenue and Financing Policy 2021' and 'Funding Needs Analysis', in the Tauranga City Council Long Term Plan 2021-2031. This document provides the background and analysis to explain the funding decisions made by Council. **Formats:** pdf document. **Granularity:** Revenue and Financing Policy 2021 ● Purpose & principles ● Operating costs and funding sources for these ● Capital costs and funding sources for these ● Overall funding considerations ● Rates Funding needs analysis - for a proposed activity ● Nature of benefit & beneficiaries ● Community outcomes and needs ● Separate funding ● Proposed funding sources ● Rationale for funding **Periodicity:** Every three years. **Access:** For example: Publicly available for download at: https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31

Dataset	Owner/provider	Contents
Asset management plans	Watercare	**Coverage:** The Asset Management Plan (AMP) covers the 2021-2041 period for Watercare. The AMP is in section 2 of the document. The document outlines the investment plan required to meet the needs of the region (Auckland) for both water and wastewater. **Formats:** pdf document. **Granularity:** Cash flow - 10 year forecast ● Operating expenditure ● Capital expenditure Risk evaluation ● Risk areas covering, potential consequence, reporting capitals showing dominant capital and key controls and mitigation strategies ● Risk evaluated by asset group ● Risk mitigation Strategic water programmes ● Supply demand balance for both peal and annual drought ● Network improvements Strategic wastewater programmes ● Treatment plants and catchments discussed and outlined Asset renewal strategy ● Critical facilities and assets ● Plant assets ● Transmission pipeline assets ● Local network assets ● Pipe asset age profiles ○ Total length of pipe assets ○ Length of water and wastewater transmission pipes ○ Length of local water and wastewater network pipes ● Length of pipe by material type for bulk transmission ○ Length of pipe by material type Operations and maintenance strategies AMP investment breakdown ● Water and wastewater strategic programmes ● Forecast capital expenditure by business area ● Capital expenditure forecast summary ● Shared services capital expenditure forecast ● Major investment in water and wastewater infrastructure **Periodicity:** Not updated on a regular basis. **Access:** Tool is online at: https://ourauckland.aucklandcouncil.govt.nz/media/yoohwxhv/watercare-amp-2021-2041.pdf

Dataset	Owner/provider	Contents
Review of Council Spending 2022	Office of the Auditor General	**Coverage:** This report presents the main findings from the 2020/21 audits of councils and other work with the local government sector. **Formats:** Can be accessed in HTML, PDF, or as an ePUB. **Granularity:** Part 2 - Councils' investment in infrastructure is relevant. This part covers the following topics - all are relevant to water, but the first two sections specifically mention the water sector: ● Reinvestment in councils' assets during 2020/21 ● Three waters performance measures ● Delivery of capital expenditure programmes ● Investing in assets needed for growth ● Council debt trends ● Council hedging practices Analysis is broken down by: ● metropolitan councils ● Auckland Council (considered separately from other metropolitan councils because of its size) ● provincial councils ● regional councils ● rural councils **Periodicity:** Published annually **Access:** https://oag.parliament.nz/2022/local-govt
Quarterly Three Waters Funding Update 2022	Crown Infrastructure Partners	**Coverage:** This is a quarterly report which summarises the Water Services Reform infrastructure programme**.** Government has appointed Crown Infrastructure Partners (CIP) to manage and work with the Department of Internal Affairs (DIA) to deliver elements of the programme. **Formats:** pdf document. **Granularity:** Contains the following sections: ● Programme overview - total combined spend by infrastructure type, national major infrastructure completed (km of pipes, number of water and wastewater treatment plants upgrades), funding statistics. ● Progress to date - length of pipes (km), number of water treatment plant (WTP) upgrades, wastewater treatment plant (WWTP) upgrades, and wastewater pump stations, funding spent, number of FTE workers, progress achieved (%), funding by asset type. ● Regional summary - total Government funding contracted and total project value by Water Service Entity, worker FTE projected and at programme completion by Water Service Entity. ● Update by region - summary statistics on infrastructure, funding, and local workers FTE. ● Glossary **Periodicity:** Released quarterly. **Access:** The latest quarterly Three Waters Infrastructure Funding Update can be found here: https://www.crowninfrastructure.govt.nz/water-infrastructure/
Water infrastructure		
Proportion of households with water meters *Part of the tool above*	New Zealand Infrastructure Commission - Te Waihanga.	**Coverage:** The proportion of households with water meters is a key feature of Te Waihanga's Water Sector Performance Tool. It can be found on the service performance dashboard, under water consumption. **Format**: online tool. **Granularity:** This shows residential properties with water metering as a %, by service provider. **Periodicity:** Updated as required. **Access:** Tool is online at: https://tewaihanga.govt.nz/our-work/performance-monitoring/water-sector-performance

Dataset	Owner/provider	Contents
Public registers of drinking and wastewater networks and supplies	Taumata Arowai - Institute of Environmental Science and Research	**Coverage:** A public register of drinking water supplies and wastewater networks in New Zealand. **Formats:** Website **Granularity:** The public register is able to be searched by: ● region ● territorial authority ● regional public health service ● supply type ● whether exemptions have been granted. ● Metrics available are: ○ Supply ID (drinking water) OR Network ID (wastewater) ○ Supply Name (drinking water) OR Wastewater Network Name (wastewater) ○ Supply Type (drinking water) ○ Community (drinking water) ○ Population serviced (wastewater) ○ Region (wastewater) ○ Territorial authority (wastewater) ○ Verified (wastewater) ● Locationally: nation-wide ● Filters: Region, territorial authority, regional public health service (drinking water), supply type (drinking water) **Periodicity:** Updated as required. **Access:** The public register can be accessed through the link below: https://www.taumataarowai.govt.nz/for-communities/public-register/
Rainwater tank size calculator	Auckland Council	**Coverage:** Councils may provide user friendly information to encourage different options for consumers or better outcomes, such as this rainwater tank size calculator. **Formats:** Online tool. **Granularity:** Inputs are: ● What you will use the rainwater for ● Size of roof area contributing to tank ● Number of people in household Results are: ● Estimated litres per day and per year of water use (litres) ● Recommended tank size (litres) ● Potential water savings per month (litres) ● Average number of days without tank water per year (days) ● Reliance on tank water (%) **Periodicity:** Updated as required. **Access:** The tool can be accessed online at: https://www.aucklandcouncil.govt.nz/environment/looking-after-aucklands-water/rainwater-tanks/Pages/rainwater-tank-size-calculator.aspx

Dataset	Owner/provider	Contents
Water quality and performance		
Water Sector Performance tool	New Zealand Infrastructure Commission - Te Waihanga.	**Coverage:** A dashboard which shows the performance of the water sector in three areas: service costs and investment, service performance, and health and safety. **Formats:** online tool. **Granularity:** Dashboards show statistics on key metrics for stormwater, wastewater, and water supply for each water service provider. Service costs and investment dashboard, by provider: ● Per serviced property metrics: ○ Operating cost ($) ○ Investment ($) ○ Total Revenue ($) ● Key provider metrics ○ Operating cost ($) ○ Investment ($) ○ Total Revenue ($) ● Average charge for household for 200m^3 of water ($/year) ● Percentage of serviced properties by charge ($) Service performance dashboard: water consumption, water demand management and service reliability. Statistics by service provider. ● Water consumption, e.g. ○ Shows statistics on average daily residential water use (litres/person/day) ○ Residential properties with water metering (%) ● Water demand management, e.g. ○ Estimated water loss ○ Water restriction days ● Service reliability, e.g. ○ Unplanned interruptions ○ Overflow events Health and safety ● Shows data on the staff per 1000 properties in the region ● Near miss reports ● Number of lost days due to injuries ● Water stored in reservoirs. **Periodicity:** Updated as required. **Access:** Tool is online at: https://tewaihanga.govt.nz/our-work/performance-monitoring/water-sector-performance

Dataset	Owner/provider	Contents
Drinking Water Regulation Report - Water services insights and performance	Taumata Arowai - Institute of Environmental Science and Research	**Coverage:** This is the first Drinking Water Regulation Report to cover a full year with Taumata Arowai as the water services regulator. The report presents data which reflects the state of drinking water. This report covers water supplies by 71 Councils and 4 Government agencies. **Formats:** PDF document **Granularity:** The yearly report covers the following areas: ● Key principles and concepts for drinking water supply in New Zealand ● Drinking water safety in Aotearoa: ○ Number of advisories ○ Location and whether Council or Government is the associated body. ○ Short and long-term advisories. ○ Long term advisories: ■ Location ■ Supplier ■ Population served ■ Type ■ Duration of advisory notice. ● Drinking water supplier performance - the proportion of supplying bodies that have: ○ Drinking water safety plans ○ Acceptable solutions ● Performance - Requirements of the sector and the role of Taumata Arowai in ensuring safe drinking water for New Zealand. **Periodicity:** Published annually. **Access:** The report can be accessed through the following link: https://www.taumataarowai.govt.nz/about/water-services-insights-and-performance/
Wastewater sector report 20/21	Ministry for the Environment	**Coverage:** The report describes the wastewater sector in New Zealand including details on current and emerging issues for wastewater management. This report aims to inform the policy work related to the development of a proposed new national environmental standard for wastewater discharge and flow, ie. Three Waters reform. **Formats:** PDF document **Granularity:** The document covers the following sections: ● Description of the wastewater sector ○ Includes issues such as overflows and byproducts. ● Trade waste ● Environmental performance ● Māori values, principles and perspectives ● Land-based discharges ● Climate change considerations There are several figures and tables that contain relevant information about the performance and pricing of the wastewater sector including (but not limited to): ● Proportion of permitted, conditional and high risk trade waste. ● Summary of fees and charges for trade waste activities ● Total wastewater overflows **Periodicity:** One-off document as part of package of reforms to the Three Waters regulatory system. **Access:** The report can be accessed through the following link: https://environment.govt.nz/assets/Publications/Files/wastewater-sector-report.pdf

Dataset	Owner/provider	Contents
National Performance Review	Water New Zealand	**Coverage:** The National Performance Review (the Review) is a voluntary performance reporting exercise for drinking water, wastewater, and stormwater services. The Review aims to provide accessible and transparent information to inform service delivery improvements. **Formats:** PDF document **Granularity:** The document covers the following sections: ● Description of the wastewater sector ○ Includes issues such as overflows and byproducts. ● Trade waste ● Environmental performance ● Māori values, principles and perspectives ● Land-based discharges ● Climate change considerations **Periodicity:** Previously updated annually, but most recent document is 2020/21. **Access:** Able to be downloaded from: https://www.waternz.org.nz/ModularPage?Action=View&ModularPage_id=89
Drinking Water and Wastewater Network Environmental Performance	Taumata Arowai - Institute of Environmental Science and Research	**Coverage:** This report is on the environmental performance of drinking water and wastewater, in accordance with the Water Services Act 2021 (the Act) includes requirements to monitor and report on the environmental performance of drinking water, wastewater, and stormwater networks and their operators. **Format:** pdf download **Granularity:** Discussion on new requirements ● The Drinking Water Network Environmental Performance Measures and Guidance Material document Objectives, functions and purpose ● Summary of the relevant objectives and functions set out in the Regulator Act and how it impacts the development of environmental performance measures. Drinking water measures requirements for years 1-3 ● Drinking water performance measures (some examples below) ○ Drinking water treatment by-products ○ Fish passage and screening ○ Resource consent compliance ● Data source for performance measure included Wastewater measures for years 1-3 ● Wastewater performance measures (some examples below) ○ Wastewater network information ○ Wastewater treatment ○ Wastewater network connections ● Data source for performance measure included **Periodicity:** One-off document **Access:** https://te-puna-korero.taumataarowai.govt.nz/regulatory/second-tranche-nepm/

Dataset	Owner/provider	Contents
Other		
Water Storage and the Provincial Growth Fund	Provincial growth fund (PGF)	**Coverage:** The Provincial growth fund (PGF) aims to support greater regional prosperity by enabling access to reliable water for land development through investment in storage and distribution infrastructure. **Formats:** online. **Granularity:** The PGF website explains briefly that the PGF invests in small-scale sustainable water storage and distribution projects in regions facing water availability limitations. The MBIE document summarises the approach to investment and the underlying objectives, principles and priorities. **Periodicity:** One off **Access:** PGF website: https://www.growregions.govt.nz/established-funds/what-we-have-funded/the-provincial-growth-fund/infrastructure-projects/ MBIE document about approach to PGF investment in water: https://www.mbie.govt.nz/dmsdocument/11497-position-paper-water-storage-pdf
Environmental funding sources	Ministry for the Environment	**Coverage:** The Ministry for the Environment has several funding resources to invest in water. These include the Essential Freshwater Fund, The Freshwater Improvement Fund, The Public Waterways and Ecosystem Restoration Fund and the Te Mana o te Wai Fund. **Formats:** online. **Granularity:** Details are given on the focus of the funds, amount funded and time horizon, application status (open or closed). Recipients of funding are displayed in tabular form, with details on project descriptions and funding allocations. **Periodicity:** The list is updated as more projects are announced, but funding has been fully allocated now. **Access:** https://environment.govt.nz/what-you-can-do/funding/related-resources-for-seekers-of-environmental-funding/

Transport

Dataset	Owner/provider	Contents
National, regional and council plans		
Government Policy Statement on Land Transport	Ministry of Transport	**Coverage:** The Government Policy Statement on land transport (GPS 2021) is a national government document that provides direction and guidance for planning, assessing and making decisions on investment of the National Land Transport Fund over the next 10 years (2021/22-2030/31). **Formats:** pdf document. **Granularity:** This document: ● Sets the strategic priorities for land transport investment ● Sets the upper and lower bounds for National Land Transport Fund for next ten years with three year commitment, broken down by activity class ● Discusses other committed land transport crown funding for the next ten years, broken down by activity class ● Discusses different funding and financing sources for consideration, e.g. borrowing facilities and repayment methods. **Periodicity:** Every three years. **Access:** The draft 2024 Government Policy Statements on Land Transport, is publicly available for download at https://www.transport.govt.nz/area-of-interest/strategy-and-direction/government-policy-statement-on-land-transport-2024/
National Land Transport Programme	Waka Kotahi	**Coverage:** The 2021–24 National Land Transport Programme (NLTP) is Waka Kotahi's three year national plan, targeted at delivering a land transport system that is safe and accessible; that supports Aotearoa's economic recovery and continues our transition to a more sustainable transport system, and connecting people, products and places. **Formats:** pdf document. **Granularity:** The beginning of the report contains: ● 2021-24 revenue and investment flows summary ○ Where the funding comes from (majority NLTF, e.g. road user charges) ○ What the funding will be invested in ● Development of the plan: Strategic priorities, government objectives, iwi engagement ● How Waka Kotahi assesses and prioritises projects The body of the report is about how investments under the NLTP 2021-2024 will deliver: ● On Government Policy Statement on Land Transport 2021 ● On 'baseline' activities ● On government commitments ● By activity class ● By region - allocation of funding and plans to address specific regional needs and priorities including: ○ Safety improvements ○ Climate change ○ Public transport ○ Investment highlights for this period and achievements of the previous period. **Periodicity:** Every three years. **Access:** Publicly available to download at: https://www.nzta.govt.nz/planning-and-investment/national-land-transport-programme/

Dataset	Owner/provider	Contents
National Land Transport Fund Annual Reports	Waka Kotahi	**Coverage:** These annual reports summarise the achievements of the National Land Transport Fund for the past year, specifically with regards to delivering on the Government Policy Statement on land transport 2021 (GPS 2021) by investing the National Land Transport Fund in the 2021–24 National Land Transport Programme 2021– 24 (2021–24 NLTP). These investments work toward the long-term changes set out in the government's Transport Outcomes Framework. **Formats:** pdf document. **Granularity:** This report discusses: ● investments that have occurred over the last year in absolute measures and % of totals. ○ by activity class ○ by region ○ by GPS focus area ● progress against key performance measures ○ Target vs actually and achievement status ○ e.g. reduction in road related death and serious injuries, greenhouse gas emissions. **Periodicity:** Every year. **Access:** https://www.nzta.govt.nz/resources/annual-report-nzta/
Regional Land Transport Plans	Regional land transport committees	**Coverage:** Regional land transport plans set out investment plan for next ten years for the region. **Formats:** pdf document. **Granularity:** Regional land transport plans have the following key elements: ● Strategies and priorities, including priority projects or programmes, for the region's land transport plan. ● Actions and policies that will be taken to manage the land transport network. ● How the region's land transport plans will be monitored, evaluated, and reviewed. **Periodicity:** This document covers a ten year period, but is updated every three years. **Access:** Two examples of regional land transport plans are below: Auckland Transport - https://at.govt.nz/about-us/transport-plans-strategies/regional-land-transport-plan Wellington - https://www.gw.govt.nz/your-region/plans-policies-and-bylaws/plans-and-reports/transport-plans/wellington-regional-land-transport-plan-mid-term-review-2023/

Dataset	Owner/provider	Contents
Regional Public Transport Plans	Regional land transport committees	**Coverage:** Sets out the proposed public transport network and service levels (performance), fares and farebox recovery rates **Formats:** pdf document. **Granularity:** Regional public transport plans have the following key elements: ● Plans, visions, and goals for the public transport network. ● Actions and policies that will be taken to manage the public transport network. ● How the public transport network will be monitored, evaluated, and reviewed. **Periodicity:** This document covers a ten year period, but is updated every three years. **Access:** Two examples of regional public transport plans are below: Auckland Transport - https://at.govt.nz/about-us/transport-plans-strategies/regional-public-transport-plan-2023-2031-rptp Wellington - https://www.gw.govt.nz/your-region/plans-policies-and-bylaws/plans-and-reports/transport-plans/wellington-regional-public-transport-plan-2021/
Council Long Term Plans *Example - Tauranga City Council*	Local authorities	**Coverage:** Will set out investment plans for the next ten years, including transport. **Formats:** pdf document. **Granularity:** Funding impact statement ● capital and operating funding forecast ● by source and application ● Grouped by growth, growth and level of service, level of service and renewals. Infrastructure strategy ● Key goals and programmes ● Transport assets ● Discussion of other sources of funding requirement e.g. resilience. ● 30 year capex and opex forecasts Financial strategy ● Capital investment by investment programme e.g. transport ● Capital investment by focus: growth, level of service and renewals. ● Funding & financing sources ● Programme of capital investment - annual breakdown of expenditure by different projects over the next ten years (noting that the RLTP provides additional specific transport detail) **Periodicity:** This document covers a ten year period, but is updated every three years. **Access:** Publicly available for download at: https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31

Dataset	Owner/provider	Contents
Council budget setting to determine transport funding *Example - Tauranga City Council*	Local authorities	**Coverage:** Councils will publish a Long Term Plan which explains how council transport budgets are set. This is likely to contain multiple relevant policies, including the 'Revenue and Financing Policy 2021' and the 'Funding Needs Analysis', in the Tauranga City Council Long Term Plan 2021-2031, which provide the background and analysis to explain the funding decisions made by Council. **Formats:** pdf document. **Granularity:** Revenue and Financing Policy 2021 ● Purpose & principles ● Operating costs and funding sources for these ● Capital costs and funding sources for these ● Overall funding considerations ● Rates Funding needs analysis - for a proposed activity ● Nature of benefit & beneficiaries ● Community outcomes and needs ● Separate funding ● Proposed funding sources ● Rationale for funding **Periodicity:** Long term plans are refreshed every three years, but councils' budgets are likely to be refreshed annually in the annual plans. **Access:** Publicly available for download at: https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31
Council financial policies *Example - Tauranga City Council*	Local authorities	**Coverage:** Council's will publish a Revenue and Financing Policy which determines what it can fund through debt (capex), or other (opex). In the case of Tauranga City Council, this is part of the Policy section of the Long Term Plan above. **Formats:** pdf document. **Granularity:** Revenue and Financing Policy 2021 ● Purpose & principles ● Operating costs and funding sources for these ● Capital costs and funding sources for these ● Overall funding considerations ● Rates **Periodicity:** Every three years, as part of the Long Term Plan. **Access:** Publicly available for download at: https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31

Dataset	Owner/provider	Contents
Ratings database *Example - Tauranga City Council / Bay of Plenty Regional Council*	Local authorities	**Coverage:** Rateable property information **Formats:** Online by searching an address at the relevant council site, or within the rating policies (example below). **Granularity:** Online property search tool has total rates broken down by: ● General Rate ● Uniform Annual General Charge ● Regional Safety and Rescue Services ● Civil Defence Emergency Management ● Passenger Transport Rates policy breakdown: see below. **Periodicity:** Updated as changes to rates occur. **Access:** Rates property search tool - https://www.boprc.govt.nz/your-council/rates/property-search?Form=21345 Long term plan containing rates information https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31
Rating Policies *Example - Tauranga City Council*	Local authorities	**Coverage:** How the various rates are set for properties **Formats:** pdf document. **Granularity:** Rates policy has total rates broken down by: ● Waters (waste, storm) ● Waste (new, kerbside recycling) ● Resilience ● Transport ● Community ● General Rate ● Uniform Annual General Charge **Periodicity:** Every three years, as part of the Long Term Plan. **Access:** Publicly available for download at: https://www.tauranga.govt.nz/council/council-documents/long-term-plans/long-term-plan-2021-31
Development contributions *Examples - Tauranga City Council and Auckland City Council*	Local authorities	**Coverage:** Policy/ guidelines to determine when a development contribution charge will apply and how it will be calculated (including transport portions). **Formats:** pdf document. **Granularity:** The development contributions policy includes: ● Policy application: when a contribution will apply ● Policy statement: policy objectives/ principles ● Methodology: how it will be calculated and used for different types of infrastructure investments **Periodicity:** May be updated on an annual basis, or every few years. **Access:** Auckland City Council: https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-policies/development-contributions-policy/Pages/default.aspx Tauranga City Council: www.tauranga.govt.nz/council/council-documents/development-contributions/2023-24-development-contributions-policy

Dataset	Owner/provider	Contents
Parking pricing policies *Example - Wellington City Council*	Local authorities	**Coverage:** Councils may release a parking policy which outlines how publicly operated parking (off-street and on-street) are priced. **Formats:** pdf document. **Granularity:** Broken down into: ● Context ● Problems ● The Parking Policy ○ Objectives ○ Principles ○ Measures of success ○ Parking space hierarchy ○ Area-based approach ○ Parking management tools - including the approach for **pricing** Council parking. **Periodicity:** Updated as required. **Access:** Publicly available for download at: https://wellington.govt.nz/your-council/plans-policies-and-bylaws/policies/parking-policy
Rates, duties, tolls, fares		
Weekly fuel price monitoring	Ministry of Business, Innovation and employment	**Coverage:** Weekly fuel price monitoring. Weekly monitoring of importer margins for regular petrol, premium petrol and automotive diesel. **Formats:** Charts online, data for download in .xlsx or .csv formats. **Granularity:** Temporally: week, year, end of week date Available metrics: dubai crude, a variety of statistics for diesel, regular and premium petrol, NZD/USD exchange rate. **Periodicity:** This data is updated weekly, using the previous week's data. **Access:** Charts and data for download publicly available at: https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/weekly-fuel-price-monitoring/
Published Road User Charges (RUC) Rates	Waka Kotahi	**Coverage:** Heavy and light diesel vehicle charge information by axle weights. **Formats:** Online or pdf document. **Granularity:** Details the RUC rate ($/1000km) for each vehicle type/band. Includes for powered vehicles, unpowered vehicles, H distance licences and additional licences. **Periodicity:** Updated as required. **Access:** Road User Charges Handbook is publicly available at: https://www.nzta.govt.nz/vehicles/road-user-charges/ruc-rates-and-transaction-fees/#ruc-handbook

Dataset	Owner/provider	Contents
Background to the road user charges (RUC) system	Te Manatū Waka / Ministry of Transport	**Coverage:** Explanation of how the RUC cost/km rates are set, with the aim of recovering the costs from vehicles in proportion to the damage they generate. **Formats:** pdf document. **Granularity:** Discusses how the RUC system is intended to recover charges from vehicles in proportion to the costs they generate. Discusses: ● RUC rates are based on Cost Allocation Model calculations. ● NLTP expenditure by cost category as a percentage of total RUC revenue (%) ● Allocation of costs making up RUC rates for six common vehicle types ($), broken down by vehicle type and cost category. ● Also discusses limitations, including that the pavement wear assumption may not be valid for all roads in New Zealand. **Periodicity:** Updated as required. **Access:** Background to the road user charges (RUC) system is publicly available at: https://www.transport.govt.nz/about-us/what-we-do/queries/methodology-used-for-road-user-charges-rates/
Fuel Excise Duty Rates	Ministry of Business, Innovation and employment	**Coverage:** Fuel taxes and levies in NZ cents per litre, exclusive of GST. **Formats:** Tables, online. **Granularity:** Displays in tabular format the national and regional fuel taxes, for each type of fuel. National fuel taxes: ● National Land Transport Fund tax (fuel excise duty) ● Methanol Excise Duty ● ACC Levy ● Petroleum or Engine Fuel Monitoring Levy ● Local Authorities Fuel Tax Regional fuel taxes: ● Auckland Regional Fuel Tax ● Auckland Regional Fuel Tax (Weighted Average^2) Types of fuel: ● Unleaded 91 Petrol ● Unleaded 95 Petrol ● Petrol/ Ethanol Blends ● Automotive Diesel ● Biodiesel ● Methanol ● LPG **Periodicity:** Updated as required. **Access:** Current rates are publicly available at https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-generation-and-markets/liquid-fuel-market/duties-taxes-and-direct-levies-on-motor-fuels-in-new-zealand/
Regulatory Impact Statements for increases to PED and RUC	Ministry of Transport	**Coverage:** Description of rationale and some analysis on effects of increases to FED and RUC. Most recent available RIS is from 2018. Demonstrates the lack of consideration of externalities in FED decisions, and the weak links between willingness to pay, investment levels, network configuration, and network quality. **Formats:** pdf document. **Granularity:** Description of rationale and some analysis on effects of increases to FED and RUC, and the limitations of this analysis. **Periodicity:** Aligned with changes in FED and RUC. **Access:**https://www.transport.govt.nz/assets/Uploads/RIA/RIS-Funding-the-Government-Policy-Statement-on-land-transport-2018-SIGNED.pdf

Dataset	Owner/provider	Contents
Toll Road Rates	Waka Kotahi	**Coverage:** Charge information by toll road and vehicle type. **Formats:** Online. **Granularity:** Rates for each toll road and vehicle type (<3.5 tonnes, >3.5 tonnes, caravan or trailer). Other fees - transaction, administration, service and infringement. **Periodicity:** Updated as required. **Access:** Current rates are publicly available at https://www.nzta.govt.nz/roads-and-rail/toll-roads/toll-road-information/tolls-and-fees/
Explanation of Toll Road Pricing	Waka Kotahi	**Coverage:** Waka Kotahi publishes a breakdown of how toll revenue is used for the three toll roads around New Zealand (Northern Gateway, and two toll roads in Tauranga). **Formats:** Online. **Granularity:** Brief explanation given on the breakdown of uses of toll road revenue, for a $2.60 toll: ● Most of the money goes towards debt repayment ($1.46) ● $0.80 going towards operating costs to run the tolling business ● $0.34 goes to Inland Revenue as GST. There does not seem to be an explanation as to how the total toll charge is set though. **Periodicity:** Updated as required. **Access:** Explanation can be found under “Where does money from a toll go”: https://www.nzta.govt.nz/roads-and-rail/toll-roads/toll-road-information/tolls-and-fees/changes-to-toll-pricing/

Dataset	Owner/provider	Contents
Domestic Transport Costs and Charges Study Report	Ministry of Transport	**Coverage:** The Domestic Transport Costs and Charges Study Report aims to understand and measure the total costs of the domestic transport system in New Zealand, and the financial payments made by users, to enable effective transport policies to be made. Total costs mean the financial, economic, social, safety, health and environmental costs. **Formats:** pdf document. **Granularity:** Overview of NZ Domestic Transport Sector: discusses for roads, rail, urban public transport and coastal shipping and domestic aviation ● Assets and ownership ● Services and operations ● Safety regulation ● Funding principles and arrangements ● E.g. who is responsible, how it works. Economic Principles and Methodology - Transport Services and Infrastructure ● Discusses issues with the costs associated with domestic travel types e.g. costs operators face including social costs and environmental costs, different cost structures. ● Different cost and cost recovery methods. The document then calculates domestic transport costs and charges for the following transport modes: ● Road System Appraisal ● Rail System Appraisal ● Urban Public Transport ● Long-distance coaches ● Personal (for hire) Transport ● Active Transport ● Coastal Shipping These sections include (using road as an example): ● Overview of the sector and key statistics e.g. number of vehicles, distance travelled ● Direct costs and indirect costs ● Fuel duties and other payments and levies made by users ● Other road costs (economic, financial, social, environmental, parking) ● Valuation of the road network ● Public expenditure on the road system ● User contributions compared to costs of the system ● Summary: Road person and freight transport economic and financial analysis summary 2018/19 ● Allocation of economic costs ● Other: Parking, road accidents, traffic congestion. There is then a chapter on the environmental impacts of these different transport modes. **Periodicity:** One off commissioned piece of work. **Access:** Publicly available to download at: https://www.transport.govt.nz/area-of-interest/freight-and-logistics/transport-costs-charges/

Dataset	Owner/provider	Contents
Monetised benefits and costs manual	Waka Kotahi	**Coverage:** The Monetised benefits and costs manual (MBCM) is Waka Kotahi NZ Transport Agency's standardised guidance for assessing the monetised benefits and costs of proposed investments in land transport (activities). Monetising is the process of applying a dollar value to non-financial benefits (e.g. health impacts) in order to compare them with costs. The primary purpose of this manual is to establish consistency, transparency and comparability between activities to enable fair evaluation and comparison of projects and their economic efficiency, so investment decisions can be made. The manual is for use by proposal submitters, transport analysts and decision makers **Formats:** pdf document **Granularity:** The document begins with a discussion of key concepts, methods, terms and principles to be used throughout the document. Then it discusses the approaches that should be used for the following stages of estimating benefits and costs of transport investments, including: ● Demand estimation and mode share ● Monetising and calculating benefits e.g. health benefits, reducing greenhouse gas emissions. ● Evaluation procedures, by different activities e.g. walking, freight. ● Discounting ● Benefit-cost ratios ● Sensitivity and risk analysis There are several tables of input assumptions throughout the document that should be used to underpin transport analysis. **Periodicity:** Periodically amended when changes to methodologies or valuations are required. Benefit and cost update factors are published annually. **Access:** Publicly available to download at: https://www.nzta.govt.nz/resources/monetised-benefits-and-costs-manual
Public Transport Fares *Example - Auckland Transport*	Public Transport Authorities	**Coverage:** Public transport fares will be released by the public transport authority that is responsible for the area, and are likely to be listed online or in a document that is downloadable from the authority's website. **Formats:** Online. **Granularity:** Fares are broken down by number of zones travelled, payment type (AT HOP or Cash), age or concession group (e.g. child, student, accessible fare). Different PTAs have different fare structures (e.g. zone, stage, journey etc). **Periodicity:** Fares are updated as required. **Access:** Lists of fares, fare zones & concessions etc: https://at.govt.nz/bus-train-ferry/fares-discounts

Dataset	Owner/provider	Contents
Public Transport Fare Policies *Example - Auckland Transport*	Public Transport Authorities	**Coverage:** Information on how fares are set may be spread across a number of sources. In the example of Auckland Transport, these sources include the Auckland Transport website, the Regional Public Transport Plan (RPTP) and the Statement of Intent. However, some sources about how the fares are calculated don't seem to be publicly available. **Formats:** Online and pdf documents. **Granularity:** Sources which contribute to the understanding of how public transport fares are set include: ● Auckland Transport web page, which explains how fare zones work for different modes of transport. This explains that users are charged depending on the number of zones they travel through on their journey. ● The RPTP contains an overview of policies which underpin how public transport fares are set. Key policies include 'fares and pricing' and 'Procurement, service delivery, funding and monitoring' which covers farebox recovery ratio - the % of total PT operating cost recovered through fares. ● The farebox recovery ratio is set in the Statement of Intent, where it is used as a performance measure against the goals of 'value for money and reducing costs to Council' and 'how we will be held accountable'. **Periodicity:** Fares are updated as required. RPTP are typically updated every three years. Statement of intents are updated annually. **Access:** Fare zones & calculating how much you pay: https://at.govt.nz/bus-train-ferry/fares-discounts/fare-zones-calculating-how-much-you-pay RPTP - principles/ policies that underpin fare setting: https://at.govt.nz/about-us/transport-plans-strategies/regional-public-transport-plan-2023-2031-rptp Statement of intent - contains farebox recovery ratio https://at.govt.nz/about-us/our-role-organisation/corporate-plans-strategies/statement-of-intent
Vehicle registration charges	Waka Kotahi	**Coverage:** What vehicle registration fees are for different vehicles and fuel types, including a breakdown into the component fees. **Formats:** Online. **Granularity:** ● Vehicle type: Motor vehicles, motorcycles, mopeds, goods truck/van/utility ● Registration period: 3, 6, 12 months ● Fuel type: petrol, diesel, electric - further breakdown available. ● A further breakdown of the vehicle registration fee into Licence fee, ACC Levy, Online admin plus label fee and GST is available at rightcar.govt.nz/rego/ by entering a vehicle's number plate. **Periodicity:** Updates as fees change. **Access:** Tables displaying the vehicle registration fees: https://www.nzta.govt.nz/vehicles/licensing-rego/vehicle-fees/licensing-fees/ Tool providing the breakdown of registration fees for entered number plate: https://rightcar.govt.nz/rego/
Driver licensing fees	Waka Kotahi	**Coverage:** What driver licensing fees are, and other associated fees e.g. overseas conversion fees, endorsements, replacements, exemptions, and sanctions. **Formats:** Online. **Granularity:** Tables of application fees for different classes of vehicle (car, heavy vehicle, motorcycle), and different licence classes (learner, restricted, full). **Periodicity:** Updates as fees change. **Access:** Tables displaying the drivers licensing fees: https://www.nzta.govt.nz/driver-licences/licensing-fees/licence-fees/

Dataset	Owner/provider	Contents
Subsidies & funding		
Farebox revenue policy	Waka Kotahi	**Coverage:** Describes the National farebox recovery policy which included a target to recover at least 50% (national farebox recovery ratio) of the cost of running public transport through fares. This target applied until mid-2018. **Formats:** pdf documents **Granularity:** There are two useful documents on this page: the National Farebox Recovery Policy and the Fare policy decision-making guide. The *National Farebox Recovery Policy* contains a section called *NZTA expectations regarding the farebox recovery policies of regional councils*. This section describes principles and concepts that regional councils should consider when setting fare prices. This includes commentary on ● How much of the cost of public transport should be publicly subsidised ● The positive externalities of public transport ● The wider benefits of public transport, and meeting social needs of consumers. ● Equitable pricing - ensuring that user groups that are disadvantaged transportationally or have lower willingness and ability to pay are considered in pricing structures ● What should be in a farebox recovery policy ● The need to set a farebox recovery ratio and how to improve the farebox recovery ratio. ● The need to review fares annually and report to the New Zealand Transport Agency information to calculate the regional council's farebox ratio. The *Fare policy decision-making guide* has two useful sections, which cover the following: ● Measures to increase farebox recovery ○ Increasing average ticket price ○ Increasing patronage ○ Reducing the costs of service ● Decision making processes for selecting a fare system: ○ Define and prioritise fare policy goals ○ Evaluate fare systems options ○ Develop fare structure alternatives ○ Estimate patronage and revenue impacts ○ Evaluate alternative fare structures ○ Select fare system and structure **Periodicity:** One-off documents **Access:** https://www.nzta.govt.nz/resources/national-farebox-recovery-policy/

Dataset	Owner/provider	Contents
Total mobility public transport fare subsidy	Waka Kotahi and regional councils or transport providers	**Coverage:** The Total Mobility Scheme is a national scheme delivered by regional councils, so information about the scheme is provided by Waka Kotahi and by regional councils or transport providers. The scheme provides subsidised door to door transport services (in addition to discounted public transport fares) to assist eligible people, with long-term impairments, to access appropriate transport to meet their daily needs and enhance their community participation. **Formats:** pdf document **Granularity:** The Waka Kotahi document has the following sections: ● About the Total Mobility scheme ● Visiting another region in New Zealand ● Details on Total Mobility scheme providers by region in New Zealand. Each region has details on: ○ Region coverage ○ Transport operators (name, contract details, wheelchair accessibility) ○ Level of subsidy (by percentage or dollar amount) ○ Contact information Auckland Transport provides the following information on its page: ● How the discount works ● Cash fares with and without the subsidy ● Eligibility ● Links to additional information. **Periodicity:** One-off document **Access:** Auckland Transport page - https://at.govt.nz/bus-train-ferry/whaikaha-accessible-travel/total-mobility-scheme Waka Kotahi page - https://www.nzta.govt.nz/resources/total-mobility-scheme/total-mobility.html
Clean Car Discount - Electric Vehicle Subsidies	Waka Kotahi, Ministry of Transport	**Coverage:** The clean car discount is a cashback policy for the purchase of new electric vehicles, which is a publicly funded subsidy to encourage electric vehicle uptake. **Formats:** Website, with supporting pdf documents and images on the website. **Granularity:** Describes the rebate amounts for cars based on CO_2 emissions, whether the vehicle is new or used, and the level of emissions from the vehicle. Provides information on how to compare vehicles for CO_2 emissions, rebates, and fees. Also gives information on rebates for dealers and lease vehicles. **Periodicity:** Updated as needed. **Access:** The relevant information can be accessed here: https://www.nzta.govt.nz/vehicles/clean-car-programme/clean-car-discount/overview/

Dataset	Owner/provider	Contents

Funding Assistance Rate (FAR) Policy	Waka Kotahi	**Coverage:** This is Waka Kotahi NZ Transport Agency's policy regarding funding assistance rates for investments from the National Land Transport Fund, and the principles behind setting the FAR.
		
		Formats: Website
		
		Granularity: This webpage explains the principles and framework behind the Waka Kotahi funding assistance rates (FARs) for co-investment from the National Land Transport Fund (NLTF) and describes the methodology for determining approved organisations' normal FAR. The document has the following sections:
		
		● Policy statement
		● FAR principles and framework
		  ● Support optimal national land transport outcomes
		  ● Provide users with an integrated and appropriately consistent network throughout the country
		  ● Appropriately share the costs of the land transport network between system users and local communities, recognising that each of these groups affects the network and gains benefits from it
		  ● Provide relevant organisations with as much investment certainty as practicable
		  ● Be efficient to apply
		  ● Be based on readily accessible/reliable evidence
		  ● Ensure that any variations are identified and applied transparently.
		● Setting normal FARs
		● FAR adjustment and front-loading
		● Targeted enhanced funding assistance rates (TEFARs)
		● Variations to normal FARs
		
		Periodicity: Updated as needed.
		
		Access: https://www.nzta.govt.nz/planning-and-investment/planning-and-investment-knowledge-base/202124-nltp/202124-nltp-principles-and-policies/funding/funding-assistance-rates-far-policy/

Funding Assistance Rate (FAR) to be used in the NLTP	Waka Kotahi	**Coverage:** The default funding assistance rate for local transport investment is set for the National Land Transport period of 2021–24. Alternative FARs are Waka Kotahi board decisions. **Formats:** Website **Granularity:** The *Normal funding assistance rates* webpage provides information on the normal FAR for all approved organisations for most activities under the NLTP. ● Categories: By approved organisation (usually a council) ● Temporal: By financial year (2021/22 until 2023/24) ● Metric: Percentage (%) There are two other supplementary pages titled *Targeted enhanced funding assistance rates* and *Other funding assistance rates* which outline exceptions to these. **Periodicity:** Updated as needed. **Access:** https://www.nzta.govt.nz/planning-and-investment/planning-and-investment-knowledge-base/202124-nltp/202124-nltp-funding-assistance-rates/funding-assistance-rates-for-the-2021-24-national-land-transport-programme/

Dataset	Owner/provider	Contents
Datasets		
NZ Road Centrelines (Topo, 1:50k)	LINZ	**Coverage:** Spatial layer showing all roads in New Zealand. Nationwide, any formed all-weather road suitable for passage of any vehicle. Derived from satellite and aerial imagery. Over 149k road segment features as of August 2023. **Formats:** Line vector spatial layer, available in multiple spatial formats (e.g. .csv, .shp, .gpkg, .gdb) and projections. **Granularity:** Roads are divided into segments of variable length, one row of data per road segment. Data fields include lane count, surface type, name, and (where applicable) highway number. **Periodicity:** Maintained and downloadable on an ongoing basis. Updates 3-6 times per year. Changeset available. **Access:** Free public access under Creative Commons Attribution 4.0 International licence. Downloadable at data.linz.govt.nz, or machine access by API with free account.
Capital procurement programme dashboard	Waka Kotahi	**Coverage:** Interactive online portal for spatial data on capital investments in transport. Nationwide, projects collated by the WK Infrastructure Services Procurement Team in collaboration with Transport Services. **Formats:** Line and point vector spatial layers **Granularity:** Entries reflect project extent and phase. For example, 8 km of walking and cycling roadside upgrades currently in design phase might be one row/line shape. Data fields include project name and names of design, delivery, and procurement leads as well as funding origin, funding status, activity class (e.g. Public Transport) and type (e.g. Pavement and surfacing), phase value (where available), phase and procurement start and end dates (where available), and sourcing approach. **Periodicity:** Undisclosed. **Access:** Public access via online portal for viewing only. Site language declares that there are no limitations on use of the data, but no bulk download or machine access options are available. https://www.arcgis.com/apps/mapviewer/index.html?webmap=6be165c13dd748c4ab85b5a1e3e33fe8
Performance		
Travel time on key routes	Waka Kotahi, Local Authorities, Public Transport Authorities	**Coverage:** Traffic dashboards which provide information on the travel time on key routes. These include motorways and transport to and from popular destinations. **Formats:** Website **Granularity:** Auckland Traffic Dashboard example: • Categories: Motorways, to and from airport, to and from popular destinations outside of Auckland • Data: Route, time to complete journey currently, time to complete journey in free flowing traffic, delays compared to if traffic was free-flowing • Metrics: Minutes Wellington Traffic Dashboard Map example: • Distance • Speed and time to reach destination in current conditions • Map showing the fastest route • Delays compared to if traffic was free-flowing **Periodicity:** Data is updated in real-time **Access:** https://www.journeys.nzta.govt.nz/regions/auckland/traffic-dashboard https://www.journeys.nzta.govt.nz/regions/wellington/traffic-dashboard/wellington-airport-to-city

Dataset	Owner/provider	Contents
Rail safety performance	Waka Kotahi, Local Authorities	**Coverage:** This allows Waka Kotahi to monitor the performance of individual rail licence holders (e.g. KiwiRail holds a licence to use rail infrastructure). This is valuable to understand the overall safety performance of the rail sector. It also provides information about the size of the sector, which is vital for planning services and informing government policy. **Formats:** Information about the reports is available online, but the reports themselves are not publicly available. **Granularity:** The Safety Performance Report collects data from each licence holder for the previous 12 months. This includes: ● the size and nature of the licence holder's workforce ● details of any non-licensed service providers performing rail activities for the licence holder ● the level of rail activity of the licence holder ● the nature of the licence holder's rail activities ● rail safety accidents and incidents experienced by the licence holder. **Periodicity:** Annually **Access:** Safety performance reports are not publicly available, however Information on what is included in a safety performance report can be found at: https://www.nzta.govt.nz/roads-and-rail/rail/operating-a-railway/safety-performance-reports/
Public Transport patronage	Public Transport Authorities	**Coverage:** Public Transport Authorities may release patronage data which can be used to monitor current public transport use, trends and measure growth. Auckland Transport releases regular and detailed patronage data, while Environment Canterbury appears only to release annual totals. **Formats:** ● Auckland Transport data: Excel workbook. ● Environment Canterbury data: formats include Google Transit feed (GTFS), XML, JSON, CSV. **Granularity:** ● Auckland Transport example: The AT patronage monthly report is a regular monthly update on the annual public transport patronage change in Auckland, ranging from 2005 to present. Data is categorised by month and type of transport eg. bus, train, ferry. ● Environment Canterbury example: Annual total public transport trips for the Greater Christchurch. **Periodicity:** Auckland Transport - Monthly. Environment Canterbury - Annual. **Access:** Auckland Transport data: https://at.govt.nz/about-us/reports-publications/at-metro-patronage-report Environment Canterbury data: https://data.ecan.govt.nz/Catalogue/Search?Query=public+transport&CollectionId=5

Dataset	Owner/provider	Contents
Asset condition information	Waka Kotahi, Local Authorities, Public Transport Authorities	**Coverage:** Asset condition information provides an overview of the condition of structural assets, criticality of those assets to the network and an update on the progress and outcomes of inspections undertaken. The following example is released by Auckland Transport. **Formats:** pdf document. **Granularity:** Asset condition information includes: ● Overview of structural asset condition (from excellent to very poor) and and network criticality (minor to vital) by asset class ● Details on the inspection programme for roading structures, metro structures, and carpark buildings (type of asset, number of assets, number of inspections planned for different timeframes, number of assets reported as “very poor”) ● Seismic assessment outcomes (asset type, total assets, assessments completed to date, % NBS, total requiring retrofit/strengthening) ● Active landslip monitoring and remediation statistics (total number of slip sites, priority level of site, sites programmed for remedial works, remediation delivered to date, remediation delivery in progress, remediation works done at a later date) ● Updates on key structural defects and remediation (asset name, description, current update, status, target completion date) **Periodicity:** Provided on a quarterly basis. **Access:** https://at.govt.nz/media/1983083/item-102-closed-16-june-20-asset-condition-inspection-update-final-after-elt.pdf
Traffic counts	Waka Kotahi, Local Authorities	**Coverage:** Waka Kotahi provides Daily-updated traffic volumes from state highway count sites, by vehicle type. Individual local authorities also provide traffic count data, for example, the Waikato District Council collects traffic count data each financial year on selected roads to monitor the number of vehicles using that road and track any increases or decreases in traffic volume. **Formats:** Waka Kotahi data is downloadable in .csv and API formats. Waikato District Council traffic counts table is available for download as a pdf. **Granularity:** Waka Kotahi data dashboard - Date, class weight (light or heavy), site description, lane number, flow direction, region name. Waikato District Council traffic counts - road, count date, count status, % heavy vehicles, and % cars. **Periodicity:** Waka Kotahi - Updates vary depending on the existing contract the site is in and varies from weekly to 4 weeks a year. Waikato District Council collects traffic count data each financial year, but councils may collect data less frequently for low volume roads. **Access:** Waka Kotahi data is downloadable from: https://opendata-nzta.opendata.arcgis.com/datasets/tms-daily-traffic-counts-api/explore Waikato District Council traffic counts - https://www.waikatodistrict.govt.nz/services-facilities/roads-travel-and-parking/roads-and-transport/our-road-strategy-and-partners/traffic-counts

Dataset	Owner/provider	Contents
Freight volumes	Waka Kotahi, Kiwi Rail, Ministry of Transport	**Coverage:** The Freight information Gathering System provides an overview of freight movements around New Zealand, including containerised freight, rail freight, and bulk coastal freight. **Formats:** Qualitative overview and graphs on website. Data is downloadable in csv and xslx format **Granularity:** Covers various tables and charts with various breakdown categories, including: ● Container trade in twenty-foot equivalent units (TEU) ○ by quarter, port, container type ○ import and export ○ any containers, full containers, tonnes ● Full TEU container trade summary by port for 2019 (all trade, imports, exports) ● Container types ● Covid-19 impacts **Periodicity:** Various depending on category eg. container trade is quarterly whilst overseas ships deadweight tonnage is annual. **Access:** https://www.transport.govt.nz/statistics-and-insights/freight-and-logistics/figs-containers/
Externalities		
Air quality	Waka Kotahi, Local Authorities, MoT, Climate Change Commission, Ministry for the Environment	**Coverage:** Gives figures for daily average concentration of PM2.5 and PM10 from air quality monitoring sites around New Zealand from 2016-2022. **Formats:** Excel document **Granularity:** Location: Spans the whole country, broken down to specific air quality monitoring sites with information on region (e.g., Auckland, Bay of Plenty), by council/agency, site location and town, latitude and longitude data. Details on Site: Site type Temporal: Daily data from 2016-2022 **Periodicity:** Unknown **Access:** https://www.lawa.org.nz/download-data/

Dataset	Owner/provider	Contents
Greenhouse gas emissions	Ministry for the Environment	**Coverage:** This report gives an overview of New Zealand's Greenhouse Gas Inventory in five sectors, showing the trends in sector and total greenhouse gas emissions from 1990-2021. **Formats:** Online or pdf document. **Granularity:** Sectors: ● Agriculture ● Energy e.g. road transport and electricity ● Industrial processes and product use ● Waste, land-use, land-use change and forestry ● Other. Key charts: ● Infographic summarises the emissions of 2021 and shows gross and net greenhouse gas emissions from 1990 to 2021. ● Graphs show changes in emissions in millions of tonnes of carbon dioxide by sector from 1990 to 2021. ● Figure 4 is the gross emissions, ie. the absolute change from 1990 ● Figure 5 is the amount emitted each year, ie. the trends. There is also text explaining the reasons behind the changes in sector emissions over the past year and thirty years (ie. 2020-2021, 1990-2021). **Periodicity:** Published annually. **Access:** New Zealand's Greenhouse Gas Inventory: Snapshot (1990-2021) is able to be downloaded from: https://environment.govt.nz/publications/new-zealands-greenhouse-gas-inventory-19902021-snapshot/

Dataset	Owner/provider	Contents
Reports and dashboards on fleet statistics	Ministry of Transport	**Coverage:** Offers a variety of reports on the New Zealand vehicle fleet, from 2000 to 2021, as well as an interactive dashboard. **Formats:** Reports and dashboards are viewed online, data available for download in csv. format. **Granularity:** Reports available are: ● Weekly low emission vehicle report ● Monthly motor vehicle registrations ● Monthly registrations - make/model ● Monthly motor vehicle fleet, broken down by vehicle type ● Quarterly & annual fleet statistics ● Vehicle kms travelled Further detail on the granularity that can be observed in these reports is included in the source described below. Dashboards can be viewed throughout time from 2000-2021 on plots or tables. Insights include: ● Fleet count ● Fleet travel ● Fleet composition ● Fleet fuel count ● GHG emissions ● Road freight For each of the above, metrics include: ● Fleet composition ○ Vehicle type ○ New or used ● Vehicle age ● Distance travelled ● Engine capacity and emissions ● Vehicle kms travelled ● Vehicles entering/ exiting the fleet ● For road freight transport - tonne-km **Periodicity:** The periodicity of data varies from daily to annual, throughout time. Most recent data is this week, while some is only as recent as 2021. **Access:** Statistics on the New Zealand transport fleet can be found at: https://www.transport.govt.nz/statistics-and-insights/fleet-statistics/
Vehicle Kilometres Travelled (VKT) data	Ministry of Transport	**Coverage:** Vehicle use, expressed as 'vehicle kilometres travelled' (VKT) is featured in the fleet statistics described above. This data has no spatial element, and does not show where travel occurs. **Formats:** Can be downloaded as a CSV, or viewed online. **Granularity:** Year and vehicle type and fuel: ● LPV (petrol, diesel) ● LCV (petrol, diesel) ● Light (electric) ● Motorcycle ● Truck (petrol, diesel) ● Bus (petrol, diesel, electric) **Periodicity:** The periodicity of data varies from daily to annual, throughout time. Most recent data is this week, while some is only as recent as 2021. **Access:** 2021 annual fleet statistics: https://www.transport.govt.nz/statistics-and-insights/fleet-statistics/sheet/2021-annual-fleet-statistics

Dataset	Owner/provider	Contents
Vehicle emissions predictions model	Waka Kotahi & Ministry of Transport	**Coverage:** Forecast information on vehicle emissions for a fleet of vehicles. The model has a variety of assumptions in it which can be changed. **Formats:** Website **Granularity:** The model has the following inputs: ● Input Year ● Gradient (%) ● Heavy vehicles: load (%) ● Whether to consider cold start (Y/N) ● Whether to consider degradation (Y/N) ● Average trip length (km) ● Ambient temperature °C ● Input average speeds (km/h) for cars, LCVs, HCVs and buses The user then has to enter the fleet profile (%) The model outputs values for the following emission types: CO, CO_2-e, VOC, NOx, NO_2, $PM_{2.5}$, PM_{10}, $PM_{2.5}$, FC, CO_2, N_2O, and CH_4. **Periodicity:** Updated for each year. **Access:** The vehicle emissions prediction model can be accessed through the following website: https://www.vepm.co.nz/
Annual road safety statistics	Ministry of Transport	**Coverage:** The Ministry has developed an interactive open data tool that shows the annual statistics of New Zealand's historical crash data for the period 2000-2021. **Formats:** Data dashboards on website. **Granularity:** The following details are for the Crash and Injury Data Dashboard. ● Number of crashes ● Number of injuries ● Number of fatalities ● Road type ● Transport mode ● Region ● Injured individual details: Age group, gender ● Time details: holiday, weekend Other dashboards available include: ● Speed ● Alcohol and drugs ● Diverted attention ● Overseas drivers ● Fatigue ● Several others. **Periodicity:** Updated annually until 2021. **Access** https://www.transport.govt.nz/statistics-and-insights/safety-annual-statistics/crash-and-injury-data/

Dataset	Owner/provider	Contents
Road Asset Activity Management Plans	Territorial local authorities	**Coverage:** Territorial local authorities release activity management plans with set out the intentions for works under specific categories, such as roading. **Formats**: PDF document **Granularity**: Asset management plans can include items such as: ● Executive summary and introduction ● Services provided to customers ● Future demand analysis ● Lifecycle management plan ● Risk management plan ● Financial information ● Plan improvement and monitoring **Periodicity:** These documents are updated on an irregular basis. **Access:** https://www.mdc.govt.nz/documents/plans/asset-management-plans
Speed limits map and dataset	Waka Kotahi	**Coverage:** The NSLR (national speed limit register) is the single source of truth for speed limit data. It contains the full detail layer of the extents for certified speed limit records from 26 May 2022 onwards, and their associated attribute data. Previously, 68 different road controlling authorities (RCAs) published this information in multiple formats. **Formats:** Mapping tool - spatial mapping tool available online. Data download - csv file. **Granularity** Mapping tool - map of the whole of New Zealand. One can zoom up on any area or road to see the speed limit. Can see speed limit for any past date. Data download - location, speed limit, speed limit reason, data monitored, data speed limit was effective from, other locational and timing data. **Periodicity:** The data is extracted from the NSLR on a nightly basis. **Access:** Speed limit register tool: https://speedlimits.nzta.govt.nz/ Speed limit register data: https://opendata-nzta.opendata.arcgis.com/datasets/NZTA::national-speed-limit-register-nslr/about

Dataset	Owner/provider	Contents
Traffic volumes - datasets & interactive table	Waka Kotahi	**Coverage:** There are several datasets on traffic volumes that may be of use, including: ● Annual average daily traffic interactive map - This map displays traffic count sites and estimated traffic volumes for state highways. ● Daily vehicle counts dataset - Daily-updated traffic volumes from state highway count sites, by vehicle type. ● 15 minute vehicle counts - Daily traffic volumes from state highway count sites in 15-minute intervals, by vehicle class and direction, from January 2013 to January 2022. ● Monitoring sites location dataset - The location of traffic monitoring sites that are used to count and classify traffic on state highways. The first two of these are discussed in more detail below. **Formats:** ● Annual average daily traffic interactive map - website ● Daily vehicle counts dataset - data table, API, or CSV **Granularity:** Annual average daily traffic interactive map - ● The estimated annual average daily traffic (AADT), represented as lines ● Regional councils and local authorities ● Site reference labels ● Heavy traffic estimates ● Reference stations Daily vehicle counts dataset - ● Temporally: daily ● Metrics: ○ Site ID ○ Region name of site ○ Site Reference ○ Weight class of vehicle ○ Site description ○ Lane number ○ Flow direction ○ Traffic count ● Locationally: Nation-wide, broken down by location **Periodicity:** Traffic Monitoring System (TMS) dataset (underlying) is updated daily. **Access** https://opendata-nzta.opendata.arcgis.com/pages/key-datasets
Forward works programme	Waka Kotahi	**Coverage:** The Forward Works dashboard displays the expected State Highway Pavement and Surfacing renewal programme to be completed during the current construction season. This programme will commence in September, and the majority of the programme will be complete by the end of March. **Formats:** Online data mapping visualisation tool. **Granularity:** The data can be filtered by network area and treatment category, ie. Chipseal, Asphalt or Pavement Rehabilitation. **Periodicity:** Updated annually. **Access** https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/pavements/national-pavement-conditions/

Dataset	Owner/provider	Contents
State Highway Resilience	Waka Kotahi	**Coverage:** This mapping tool shows resilience information for State Highways. The data is derived from the New Zealand Transport Agency National Resilience Project. **Formats:** Online data mapping visualisation tool. **Granularity:** This tool gives disruption ratings for 4 hazard types with return periods as follows: ● Earthquake: 1 in 1,000 years ● Storm / Flooding: 1 in 100 years ● Volcano: ○ Lahar – 1 in ~250 years (specific to lahar source) ○ Ash fall – 1 in 500 years (with comparison to 1 in 10,000 years) ○ Eruption/lava flow – variable depending on volcano source and ○ Eruption volume (1 in ~1,000 years to 1 in ~5,000 years) ● Tsunami: 1 in 2,500 years The disruption ratings are in the following four categories: ● Disruption: overall disruption rating that combines the following groups. ● Availability: whether the road section would be able to be used either at full level, at various reduced levels or not at all. ● Outage: duration of unavailability. ● State Highway One Network Road Classification: determines if the road is crucial. **Periodicity:** Last updated in 2017. **Access** https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/pavements/national-pavement-conditions/
National pavement conditions dashboard		**Coverage:** National pavement condition annual reports record the condition of the state highway network, based on high speed data (HSD). They are a useful tool for monitoring various performance measures related to condition. They provide trend analysis, percentile distributions for some measures, and comparisons against the national average and against other areas, on network outcome contract (NOC) boundaries. **Formats:** Excel workbook summarising key data. **Granularity:** This tool looks into various elements of pavement conditions for different area contracts (national outcomes contracts) around the country. Metrics available include: ● Average Seal Age ● Average Remaining Seal Life ● Roughness ● Rutting ● Skid Resistance ● Smooth Travel Exposure ● Surface Condition Index ● Texture **Periodicity:** Annual report. **Access** https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/pavements/national-pavement-conditions/

3 Appendices

Appendix A - Restrictions

This document has been prepared for and only for Te Waihanga in accordance with the Consultancy Services Order dated 16 January 2023.

This document contains information obtained or derived from a variety of sources, as indicated within the document. PwC have not sought to establish the reliability of those sources or verified the information so provided. Accordingly, no representation or warranty of any kind (whether express or implied) is given by PwC to any person (except to our client(s)) under the relevant terms of the contract for goods and services) as to the accuracy or completeness of the document.

We do not accept or assume any liability or duty of care for any other purpose or to any other person to whom this document is shown or into whose hands it may come save where expressly agreed by our prior consent in writing. Any person who is not an addressee of this document or who has not signed and returned to PwC a Release Letter is not authorised to have access to this document.

Should any unauthorised person obtain access to and read this document, by reading this document such person accepts and agrees to the following terms:

- The reader of this document understands that the work performed by PwC was performed in accordance with instructions provided by our addressee client and was performed exclusively for our addressee client's sole benefit and use.
- The reader of this document acknowledges that this document was prepared at the direction of our addressee client and may not include all procedures deemed necessary for the purposes of the reader.

The reader agrees that PwC, its partners, principals, employees and agents neither owe nor accept any duty or responsibility to it, whether in contract or in tort (including without limitation, negligence and breach of statutory duty), and shall not be liable in respect of any loss, damage or expense of whatsoever nature which is caused by any use the reader may choose to make of this document, or which is otherwise consequent upon the gaining of access to the document by the reader. Further, the reader agrees that this document is not to be referred to or quoted, in whole or in part, in any prospectus, registration statement, offering circular, public filing, loan, other agreement or document and not to distribute the document without PwC's prior written consent.

Appendix B - References

- Commerce Commission New Zealand. (2017). *Annual Telecommunications Monitoring Report 2016*.
- Commerce Commission New Zealand. (2023a). *Annual Telecommunications Monitoring Report 2022*.
- Commerce Commission (2023b). Measuring broadband New Zealand: Winter Report, September 2023.
- Covec & MRCagney. (2018). *Congestion pricing options for Auckland: analysis of distributional effects*. Prepared for The Congestion Question.
- National Infrastructure Commission (UK). 2017. *Economic growth and demand for infrastructure services.*
- Palmerston North City Council. Average daily residential water consumption. Online dashboard. https://performance.envisio.com/dashboard/Palmerston-north-city-dashboards/Goal-5141-Goal-5141-LongTermTarget-5386
- Pollard, Andrew. (2022). Residential water use in New Zealand. BRANZ SR469.
- Ministry of Transport. (2020). The Congestion Question Technical Report, July 2020.
- Water New Zealand. (2021). National Performance Review 2020-2021.