

An aerial photograph of a city at sunset. The sun is low on the horizon, casting a warm, golden glow over the scene. A river flows through the city, reflecting the light. The city is densely packed with buildings and trees. In the foreground, there is a large green area with a building and a pool. The sky is a mix of orange, yellow, and blue.

Data Management

Importance of Data Quality

Eric Singh
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**Hamilton
City Council**
Te kaunihera o Kirikirioa

Where have I seen them

Vehicle Kilometres Travelled (VKT) vs. fuel consumption

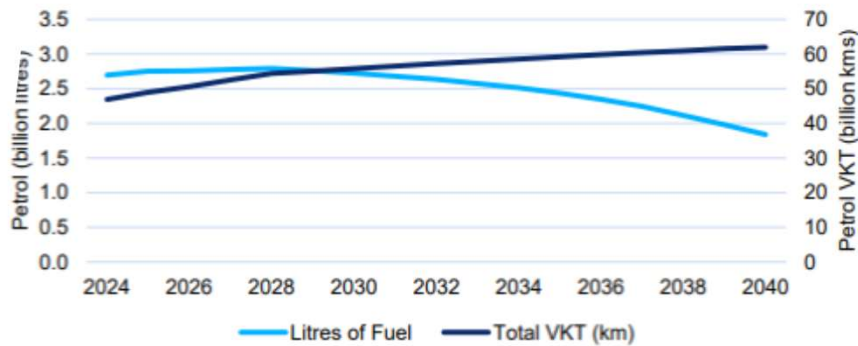


Figure 2. Total petrol consumption is forecast to decrease, despite a continuing increase in road travel distances, due to an increase in the fuel efficiency of vehicles and the shift to electric vehicles.

Figure 3. Local, private and NLTF/Crown shares of public transport services and infrastructure funding

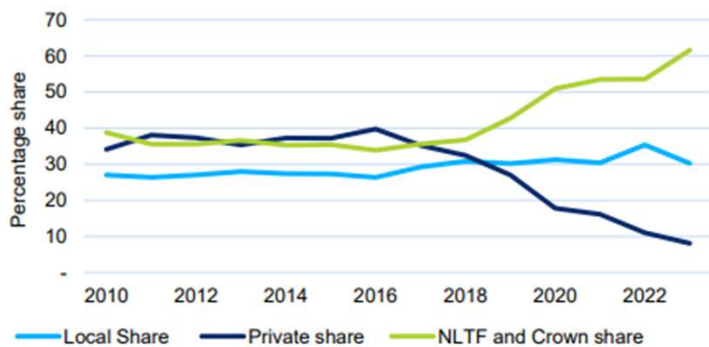
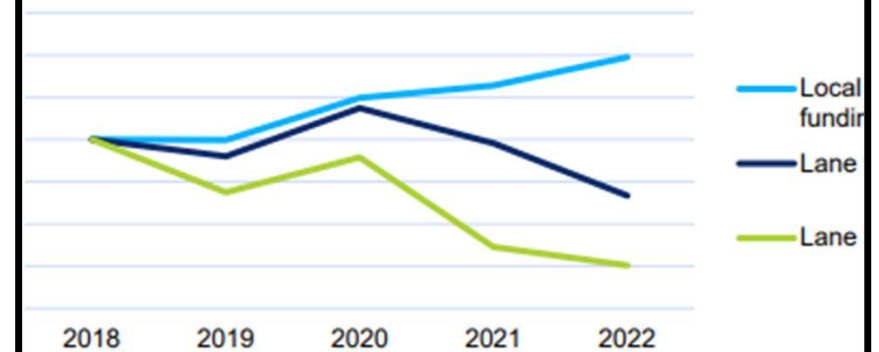


Figure 3. The private share of public transport costs has been falling since 2016/17. In 2022/23, the private share of public transport costs was less than 10 percent.

Maintenance funding trends – Local Roads



The amount of local road rehabilitation and resealing has not increased in 2022/23. Local Road maintenance funding excluding emergency work is forecast to decrease.

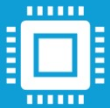
Famous Quotes



Justin Gray, Managing Director of Datacom New Zealand: "The quality of AI outputs is wholly dependent on the quality of data that is available – garbage in, garbage out."



"Data is like garbage. You'd better know what you are going to do with it before you collect it." ~ Mark Twain



"We are surrounded by data, but starved for insights." ~ Jay Baer


New Zealand

- Government Standards revised in 2011. See [Data.govt.nz](https://www.data.govt.nz) under New Zealand Data and Information Management Principles
- There are 7 principles that help data, held by the NZ Government, to be managed to a high standard. Data should be:
 - open
 - protected
 - readily available
 - trusted and authoritative
 - well managed
 - reasonably priced
 - reusable

<https://www.data.govt.nz/toolkit/policies/new-zealand-data-and-information-management-principles>



Why does it matter to Transport

- 
- NZTA is a government arm and it has reporting mechanisms based on these principles through Road Efficiency Group Te Ringa Maimoa (REG)

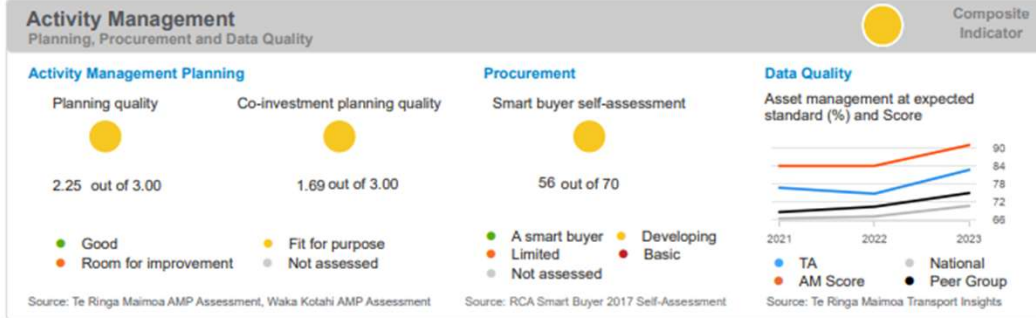
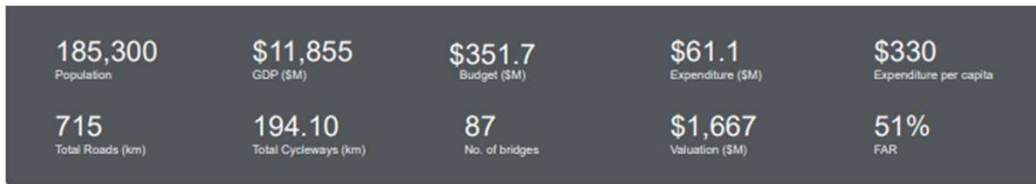


Straight out from NZTA on Data Quality

The objectives of the Te Ringa Maimoa data quality project are to:

- establish and maintain a framework to measure, monitor and report data quality across Road Controlling Authorities (RCAs) over time
- establish a data quality baseline for each RCA, establishing a national perspective of data quality across RCAs, different quality dimensions and data types
- gain an evidence-based understanding of the root causes of data quality issues
- develop work programmes to address the issues and help RCAs improve data quality over time.

Sample Reporting



Service Performance

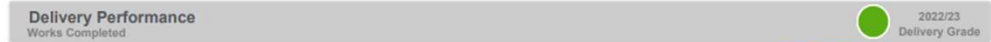
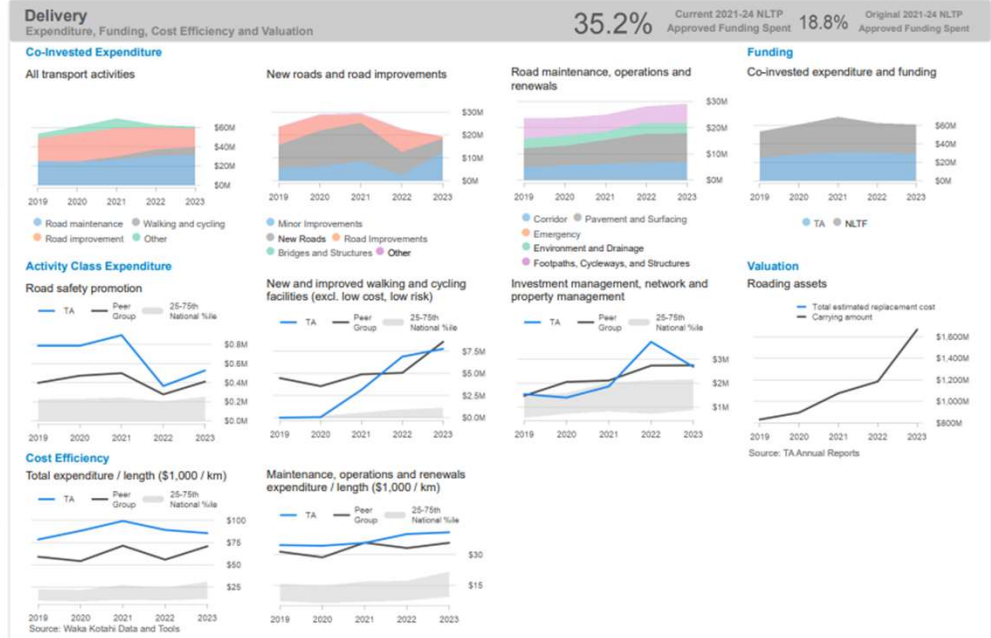
LGA Non-Financial Performance Measures

2021-24 LTP Targets Achieved

Annual Targets Achieved	2018-28 Long Term Plan			2021-31 Long Term Plan	
	2018/19	2019/20	2020/21	2021/22	2022/23
Provision of roads and footpaths					
Road safety	●	●	●	●	●
Condition of the sealed road network	●	●	●	●	●
Maintenance of the sealed road network	●	●	●	●	●
Condition of the footpaths within the local road network	●	●	●	●	●
Response to service requests	●	●	●	●	●

Source: TA Annual Reports

● Target achieved ● Partially achieved ● Target not achieved ● Not reported



Getting the basic right

Who needs it (Client / Investment partner / stakeholders / customers)

What do you need it for Inventory, maintenance management (reactive, preventive, reporting, planning)

Need to have vs nice to have.

Law of averages

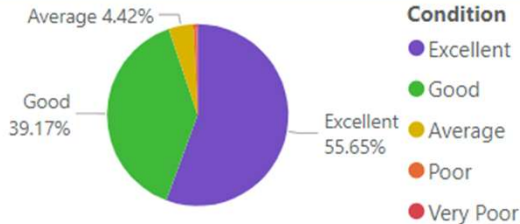
Data

Who? What? Why?

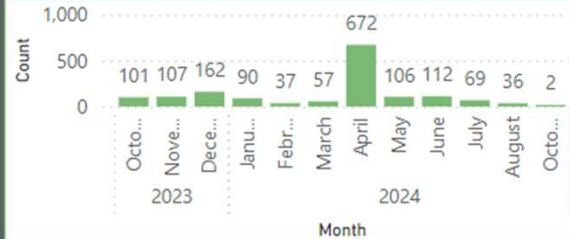
Breakdown of Assets on Network

21 October 2024

Condition of Signs



Signs Installed by Month



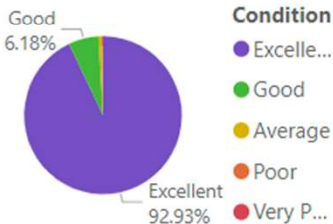
Total Streetlight Poles

14.47K

Streetlight Poles Installed (Last 3 Months)

49

Condition of Streetlights

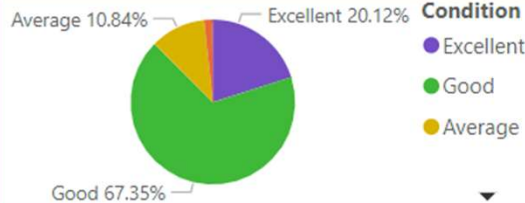


Streetlight Lights Installed by Month

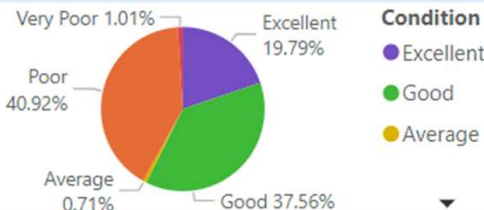


Condition of Traffic Signal Poles

Condition of Traffic Signal Poles

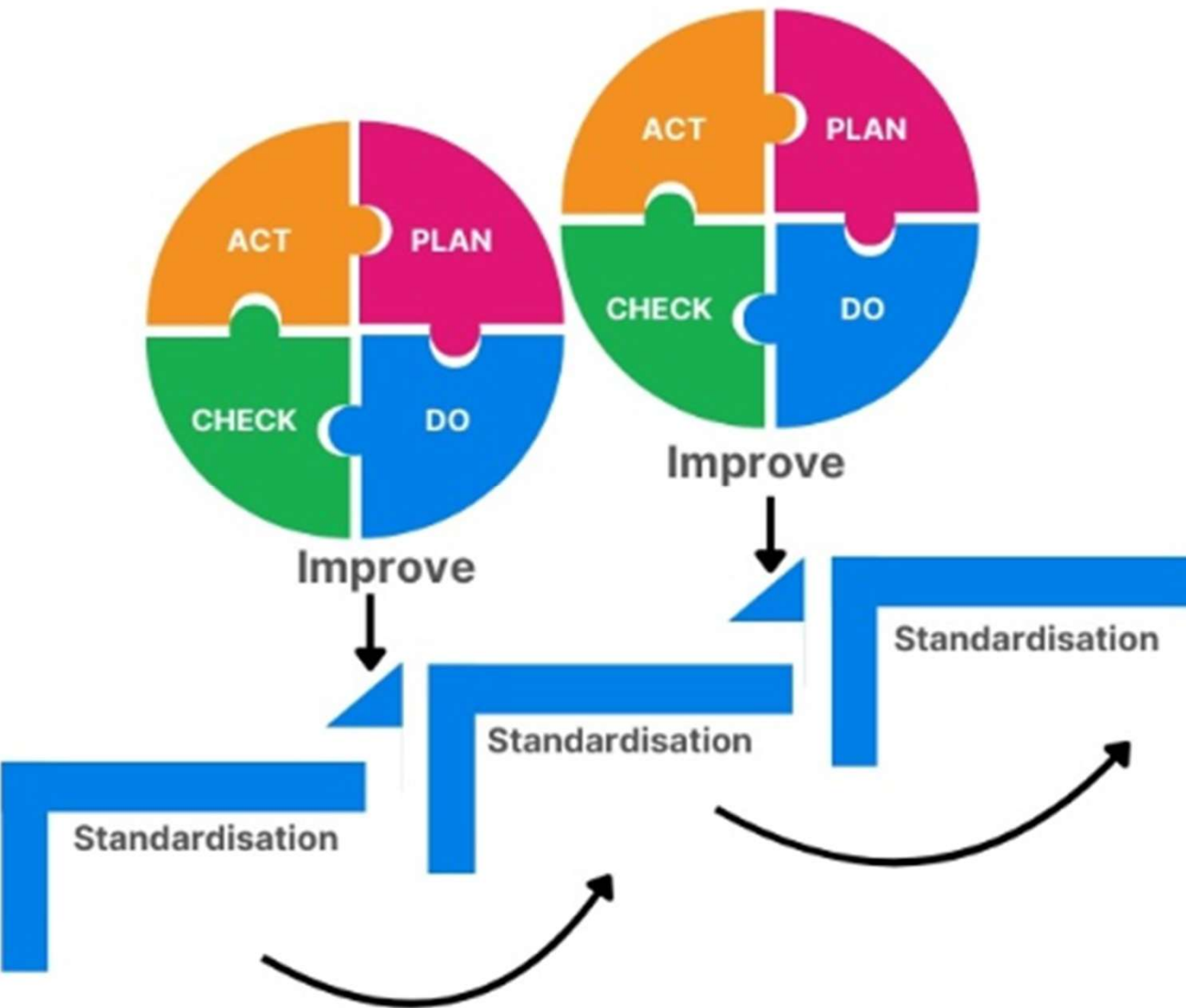


Condition of Traffic Signal Lanterns



Getting the basic right System

How do you achieve this? Manually – systems (one or two), alliance, partnership, (RAMM / Power Bi / GIS Spatial)



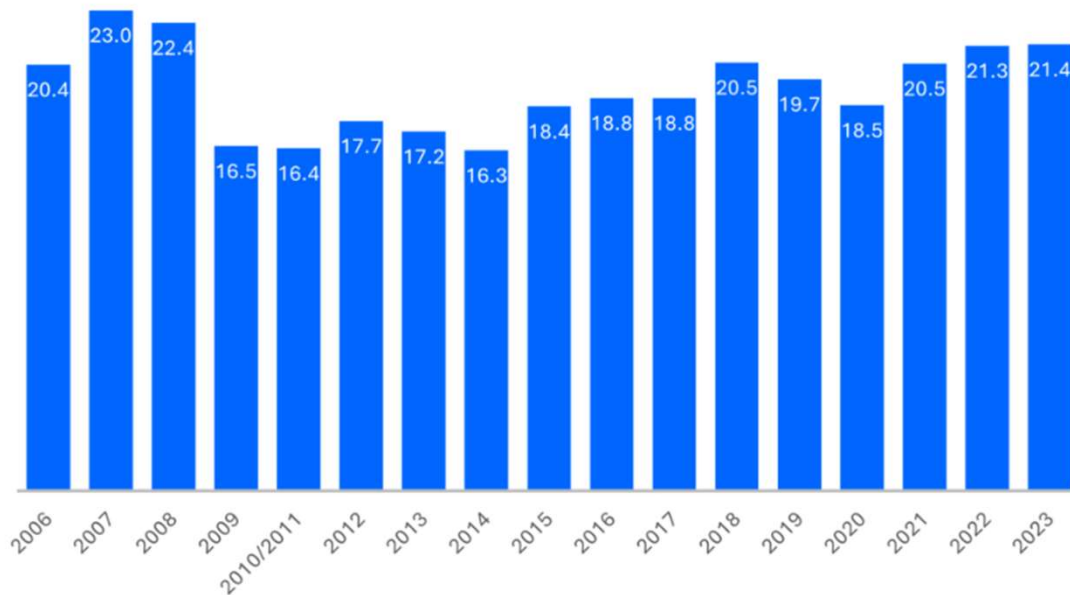
Getting the basic right

Process Continuous Improvement

Implement – use – lessons learned. Why have we not met the goals set (are you doing what is prescribed / training required / resource required) – improve – use – lessons learned – key the cycle going.

Getting the basic right

% NZ Staff Turnover 2007 to 2023



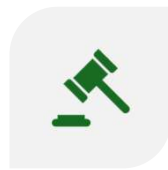
People

Data is still people driven. You will have staff turnover, change in systems, process, etc. Train people that they are productive, look after them that they don't leave.

Where have I seen this SUMMARY



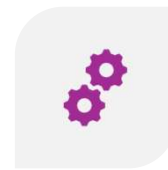
ESTABLISH DATA AND INFORMATION GOVERNANCE PROCESSES TO DIRECT, CONTROL AND ASSURE THAT ASSET INFORMATION IS MANAGED EFFECTIVELY AS AN ORGANISATIONAL RESOURCE



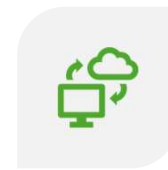
DEFINE RELEVANT LEGISLATIVE REQUIREMENTS, MANAGEMENT STANDARDS AND GUIDELINES



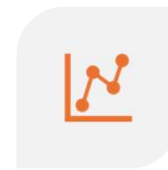
DEFINE AND SPECIFY DATA DESIGN – SUCH AS APPROPRIATE SYSTEM ARCHITECTURE FOR CREATING, STORING AND PROCESSING DATA; AND THE ORGANISATION'S ASSET DATA STANDARDS THAT PROVIDE COMMON DEFINITIONS OF ASSET HIERARCHIES AND ATTRIBUTES



UNDERSTAND AND DEFINE DATA COLLECTION PROCESS CRITERIA, AND MAINTENANCE OF DATA



UNDERSTAND AND DEFINE DATA INTERFACE EXCHANGES BETWEEN SYSTEMS AND INFORMATION STORAGE REQUIREMENTS (SUCH AS SECURITY AND CONFIDENTIALITY)



ANALYSE DATA TO GAIN AN UNDERSTANDING OF THE ORGANISATION'S INFRASTRUCTURE.

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