

**REG: SMARTER TOGETHER - REALISING ENDURING EXCELLENCE
BY ENABLING INNOVATION AND LEADING CHANGE**

Improving data quality to support sector-wide initiatives

MoT Transport Knowledge Hub

5 December 2019

REG THE ROAD
EFFICIENCY
GROUP

**We are.
LGNZ.**

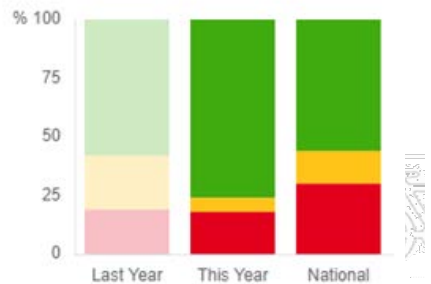
WAKA KOTAHI
NZ TRANSPORT
AGENCY

REALISING EXCELLENCE IN THE TRANSPORT SECTOR



DATA
QUALITY

OVERALL RESULTS



What is REG's aim?

○ Quality data and evidence

○ Good story telling

○ Optimal decision making by great people

○ Confident organisations & investors enabling better outcomes



What is this.....?

ROAD INFRASTRUCTURE MANAGEMENT FORUM DUNEDIN



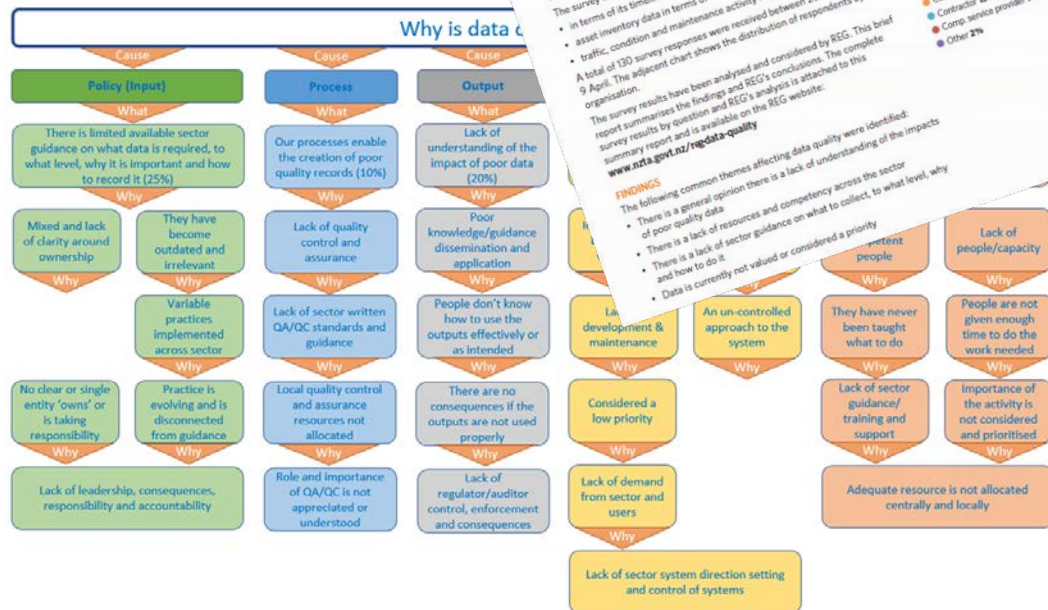
**Is this renewal work
or improvements?**

Asphalt or chipseal?

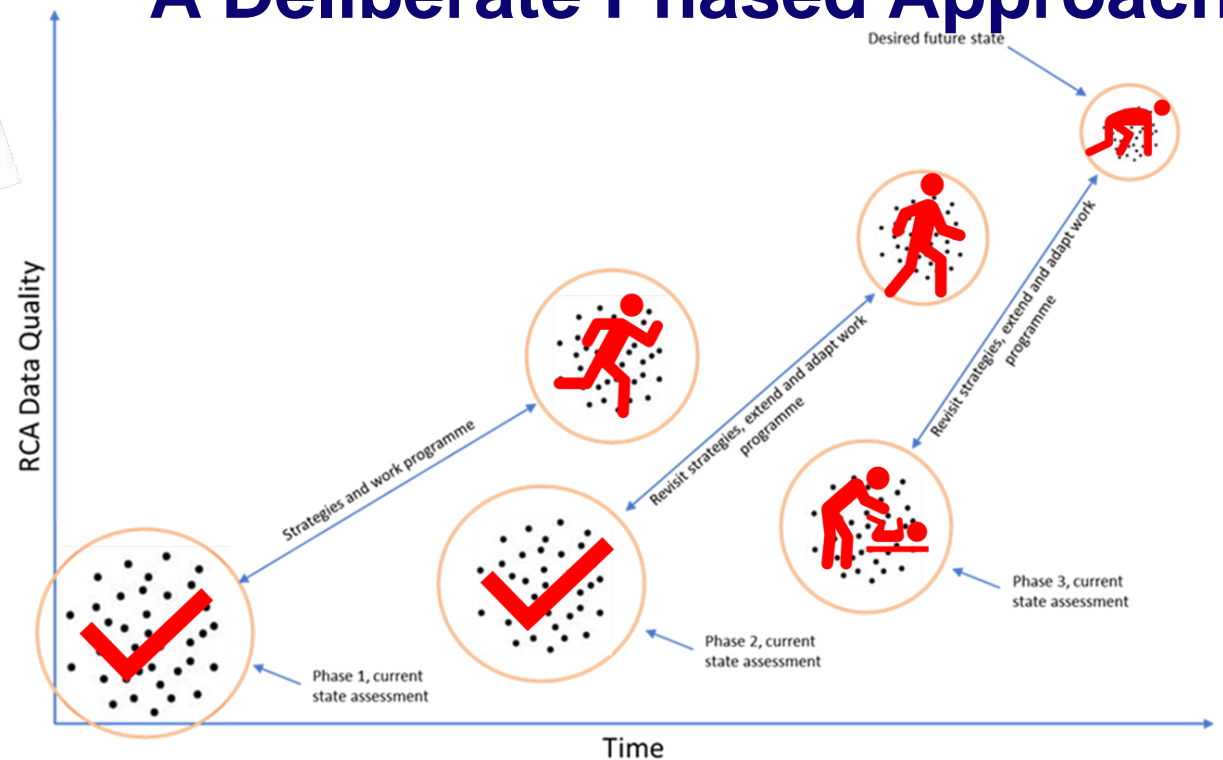
Cost vs Life

Work Category Code	Work Category Description
111	Sealed pavement maintenance
112	Unsealed pavement maintenance
140	Minor events
141	Emergency works
211	Unsealed road metalling
212	Sealed road resurfacing
214	Sealed road pavement rehabilitation
323	New roads
324	Road improvements
325	Seal extension
341	Minor improvements

Where have we come from....



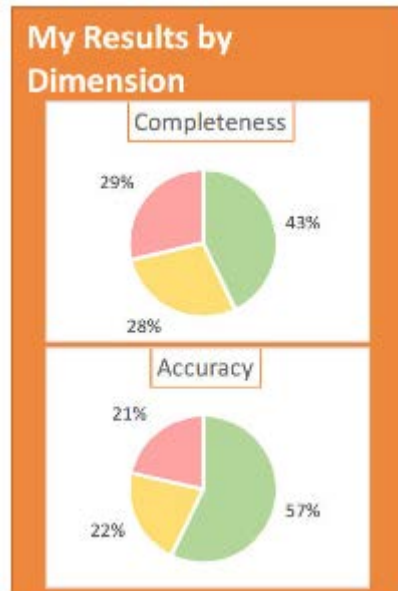
A Deliberate Phased Approach



What have we found...

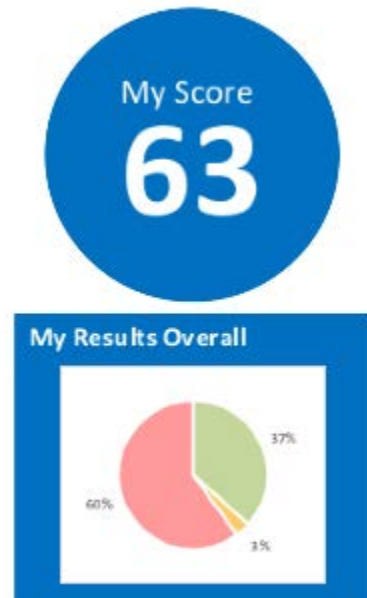
Phase One:

ONRC



Phase Two:

Asset Management



REG

The Road Engineering Group

ONRC

ONRC

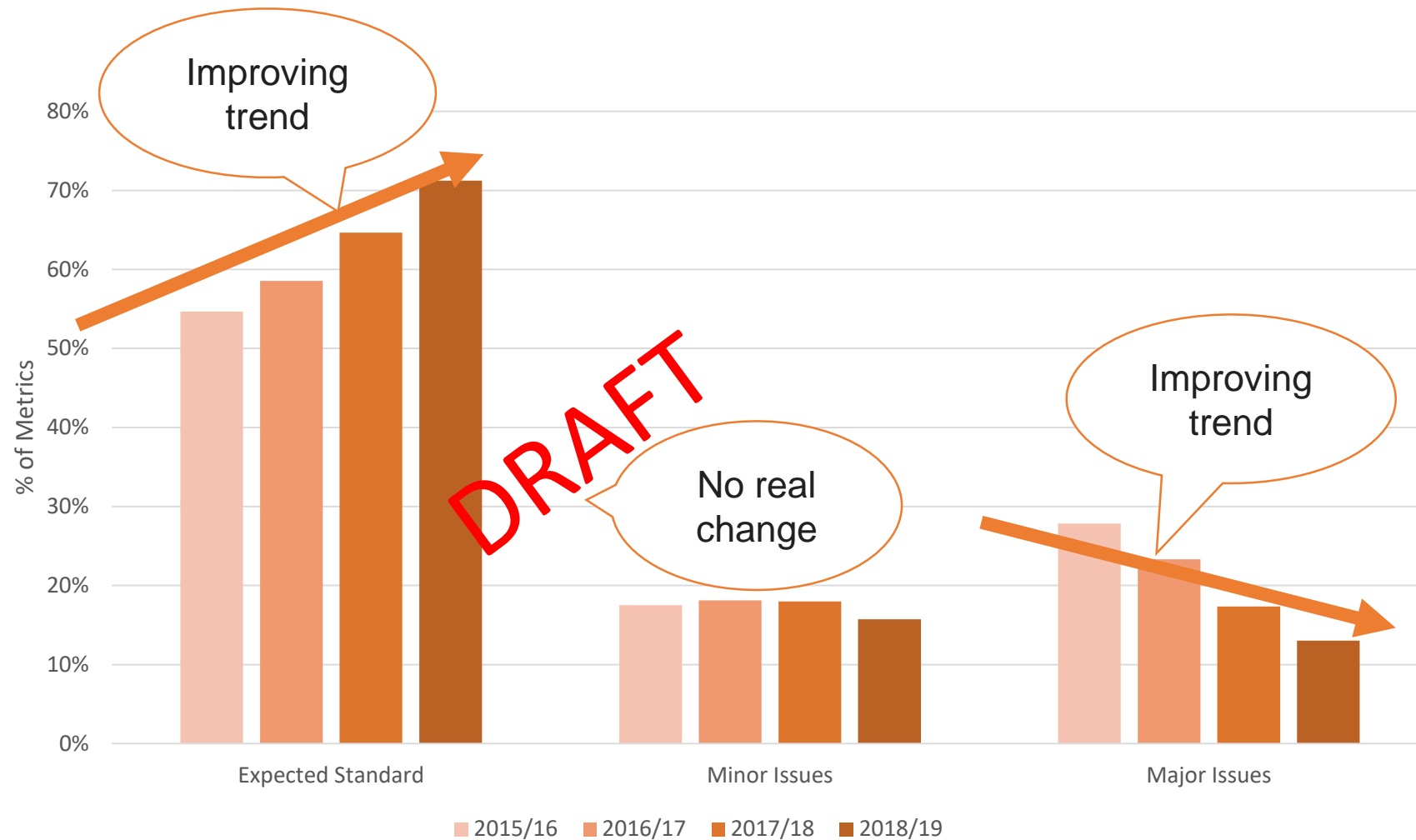
Data Quality Project

Road Controlling Authority

Dunedin City Council

Category	Sub-Category	PM Influenced / Affected	Ref ¹	Metric Descriptions	Primary Dimension	Metric Result	Trend ²		Major Issues	Minor Issues	Expected Statistics	
Network	Carriageway	Safety Accuracy Cost Efficiency	Ca1a	Rural number of lanes matches width Percentage of Rural sealed network length with alignment between carriageway width and no. of lanes (No. lanes=1 & width=5m, No. lanes=2 & width=4m or <17m, No. lanes=2 & width=6m) (excludes pavement type 'Bridge')	Accuracy	96.3	■	Carriageway	N/A - Results All OK: 100%			
			Ca1b	Urban number of lanes matches width Percentage of Urban sealed network length with alignment between carriageway width and no. of lanes (No. lanes=1 & width=5m, No. lanes=2 & width=4m or <17m, No. lanes=2 & width=6m) (excludes pavement type 'Bridge')	Accuracy	96.8	■					
			Ca2	ONRC categories are assigned Proportion of carriageway section records with an assigned ONRC category (where road type = "L" and owner type "L") (excludes pavement type 'Bridge')	Completeness	100.0	■					
			Ca3a	Rural carriageways are generally not short Proportion of Rural sealed carriageway records greater than 50m in length (i.e. not short) (excludes pavement type 'Bridge')	Accuracy	95.5	■					
			Ca3b	Urban carriageways are generally not short Proportion of Urban sealed carriageway records greater than 20m in length (i.e. not short) (excludes pavement type 'Bridge')	Accuracy	99.3	■					
	Ca4	Sealed/unsealed network correctly defined Percentage of sealed network length with a surface record, or unsealed network with no surface record. (excludes surface category "METAL" and pavement type 'Bridge')	Accuracy	96.1	▲							
	Treatment Length	Accuracy	TL1a	Treatment lengths are generally not short Proportion of sealed Treatment Length records that are not very short (<20m Urban and 100m Rural) (excludes disabled Tls and pavement type 'Bridge')	Accuracy	98.5	■		Treatment Length			
			TL1b	Treatment lengths are not too long Proportion of sealed Treatment Length records (excludes disabled Tls) that are not exceptionally long (>500m Urban and 1km Rural) (excludes disabled Tls and pavement type 'Bridge')	Accuracy	94.8	■					
			TL2	Treatment lengths match major surfaces Proportion of Treatment Length records with >= 80% coverage of the major surfacing (excludes disabled Tls and pavement type 'Bridge')	Accuracy	95.1	■					
			TL4	Network with STE reading Proportion of sealed Treatment Length records with a Smooth Travel Exposure (STE) value (excludes disabled Tls and pavement type 'Bridge')	Completeness	76.8	■					
TL5.1			Treatment lengths match renewals Proportion of Treatment Length records with >= 80% coverage of the major surfacing with a surface date in the reported financial year (excludes disabled Tls and pavement type 'Bridge')	Timeliness	94.0	■						
SL2	Surface records correctly located Proportion of surface records loaded in reported financial year that are within the limits of the road and have a width no more than 2m wider than the carriageway width (excludes pavement type 'Bridge')	Accuracy	97.1	■								

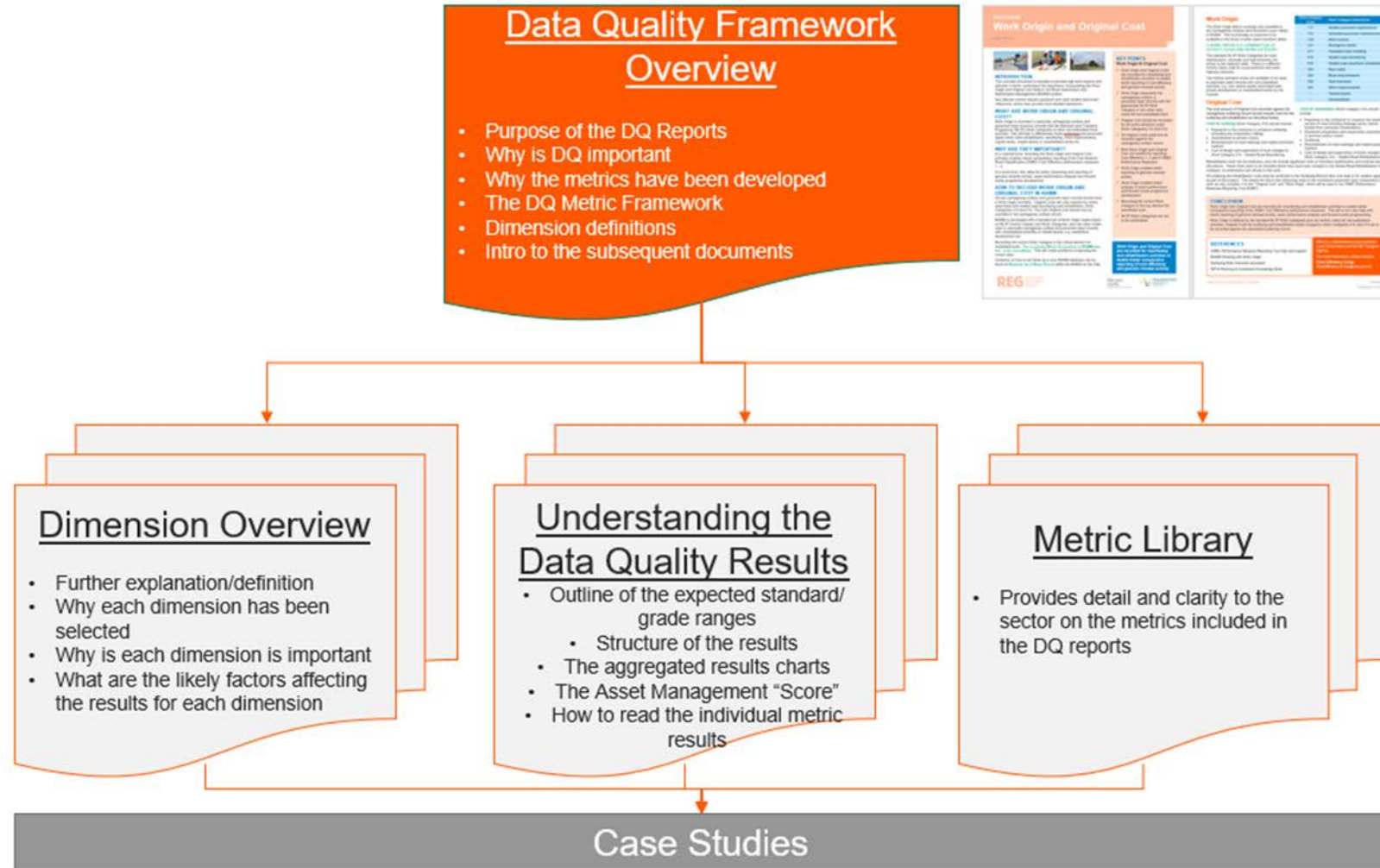
What does the national picture show us?



What Information is Available?



Journey to Improvement



2019 - 2021 REG Learning & Development Programme



Providing the Guidance to enable a change in Culture

ONRC Improvement Plan Achievements

DATA QUALITY PROJECT - PHASE 1 ONRC AND PERFORMANCE READABLES	Improvement programme steps
A. Traffic counting: We have sufficient data to confidently develop traffic estimates for the network reflecting the demands in terms of both traffic volume and loading.	1. Provide industry guidance on why and how to have a structured count programme and how to develop a robust traffic programme, including best practice examples. 2. Training to be available for RCA use how to improve data.
B. Traffic demand: We have confidence in the demand on the network through well maintained traffic estimate data for use for planning.	1. Provide industry guidance on why and how to maintain traffic data and content a robust count programme into an informative AADT for each road section, including providing best practice examples. 2. Training to be available for RCA use how to maintain estimate data.
C. Record of maintenance activity: Level of maintenance activity known for efficient planning and reporting.	1. Provide industry guidance on content on why this data is important and how to maintain the dataset. 2. Provide industry guidance on the best practice for the process of managing this dataset. 3. Encourage RCAs to carry out internal audit of the dataset and process.
D. Road roughness: A roughness dataset better reflecting network condition and allowing efficient planning.	1. Undertake research to determine the most appropriate format/ frequency for road data and output measure (IRI or RANB). 2. HSD roughness table to be populated with data collection methodology allows on board.
E. Surveying records: A robust, timely process for the capturing and recording of as built surveying data.	1. Provide industry guidance on content on why this data is important and how to manage it. 2. Provide best practice examples for the process of managing this dataset.
F. Treatment Length Segmentations: We have confidence in segmentation of the network for effective programming and planning.	1. Undertake a detailed review of the process and data management, investigate issues and identify changes. 2. Provide industry guidance on the use of TL segmentation and maintenance.
G. Smooth Travel Expenses: We have confidence in the STE results reported.	1. Report STE based on the process roughness table (HSD only). Identify other reports of STE that also need to be changed.
H. Carriageway: We have confidence in network definition in terms of number of lanes and width/ recorded.	1. A standard guidance is developed to define the number of lanes associated with a carriageway section. 2. Include a validation check on data input to PM2. 3. Guidance document to also define best practice for carriageway sectioning associated with that road section or as unclassified road (a bridge approach).
I. Crash knowledge: Complete crash data.	1. Guidance is provided on how to load crash data to RANB.

* A review of Traffic Estimate Module for a separate project underway to RCI.

Significant result Improvement for maintenance activity, but started from a low baseline.

Still problems with recording work origin and original cost.

No change to metric results at a national level. HSD metric retired in 2017/18 Improving the results for the sub-category. Calculation of STE through carriageway method being implemented.

Currency of available data distorting 2017/18 results. Appears to be an improvement.

Improving results for both traffic counting and estimates. Improvement in these areas should be over a period of years.

Improved trend in RCAs recording at the more granular level.

No real change to any metric result at national level.

No real change any metric result at national level. Reason: proportion of expenditure.

Resources

Home > Roads and rail > Road Efficiency Group >

Filter by:

Work group Data quality Type

Roading data quality reports

These reports are the result of the Road Efficiency Group's (REG) assessment of each Road Controlling Authority's (RCA) One Network Road Classification (ONRC), related performance measure data plus asset management and decision support systems data.

Data Quality Project - 2016/17 ALL RCAs Data Quality Report

Introduction
The quality of the RANB data being used by the ONRC Performance Measures Reporting Tool has recently been assessed by REG.

What this report tells me
The intention is for the results to identify opportunities for improvement in the way both individual RCA and the industry collect, manage and use data to support the decision-making processes. The report shows, for each metric, how you are positioned against what's considered good (the expected standard) and where the industry sits.

Background behind the metrics
The metrics have been grouped into categories and sub-categories. Each has several metrics summarising data completeness, accuracy and timeliness. Each metric has a graded result on a scale.

Practice overview - Carriageway sections

This overview document is intended to provide high level support and direction to better understand the criticality of defining carriageway sections and attributes, and how to maintain this dataset.

OVERVIEW Carriageway sections

INTRODUCTION
This overview document is intended to provide high level support and direction to better understand the criticality of defining carriageway sections and attributes, and how to maintain this dataset.

KEY POINTS
Carriageway sections:
✓ Are defined sections of each road on your network.
✓ Are sections of roadway consistent demand, dimensions, number of lanes and pavement type.

Evidence and Insights, Practice overview, Data quality

Additional guidance is still coming?

Document

Annual Asset Information Planner

Quality Assurance Guidance

Quality Assurance Example Specification

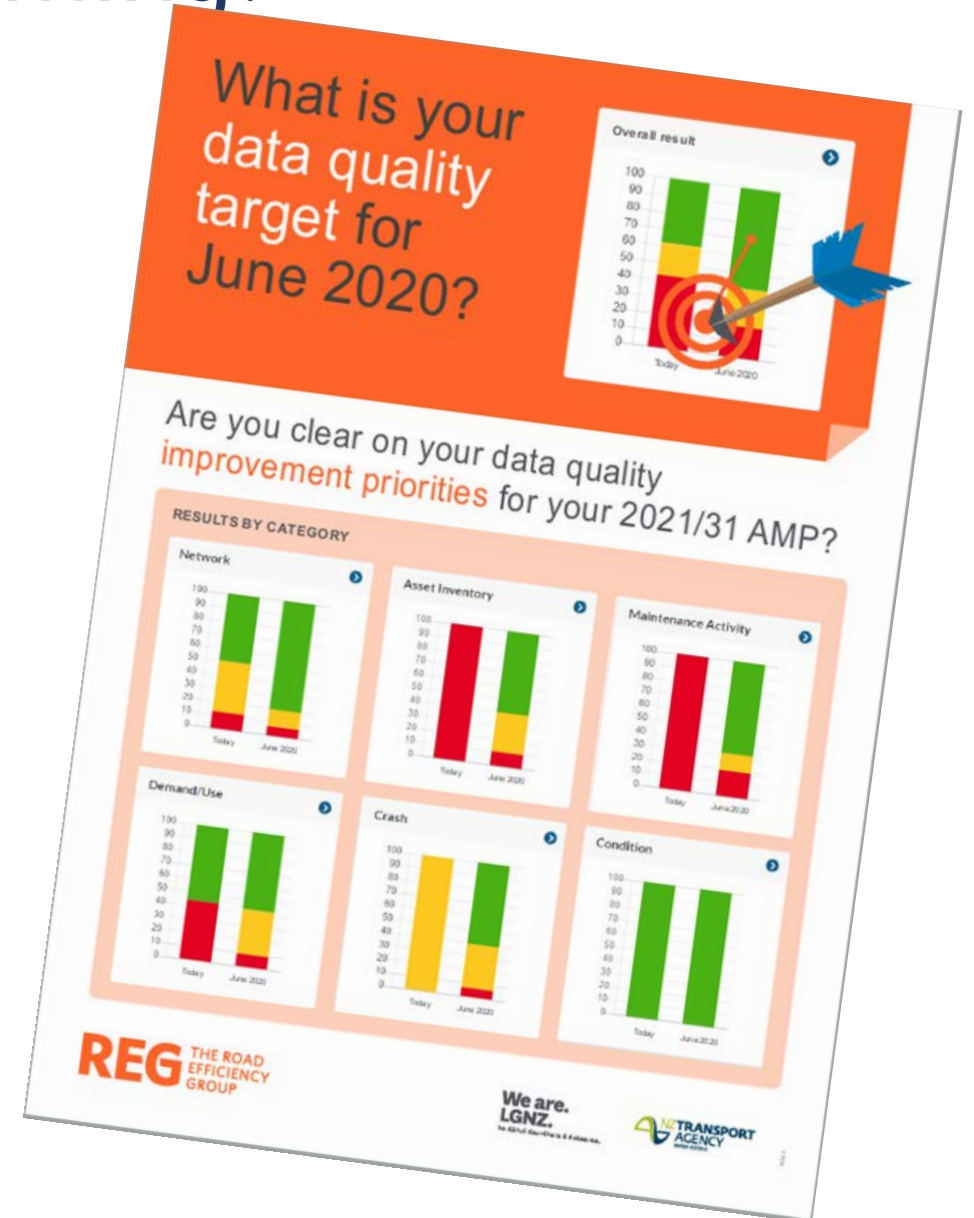
Managing, and maintaining expected surface lives

Data Quality Data Requirements

Data Maturity Index

Maintenance Activity standard unit practice guidance

Standard clauses for procured data collection services



Reporting asset and customer levels of service

Safety Customer Outcome 1 - Serious Injuries and Fatalities

Financial Year: 2016/17

RCA: Waipa

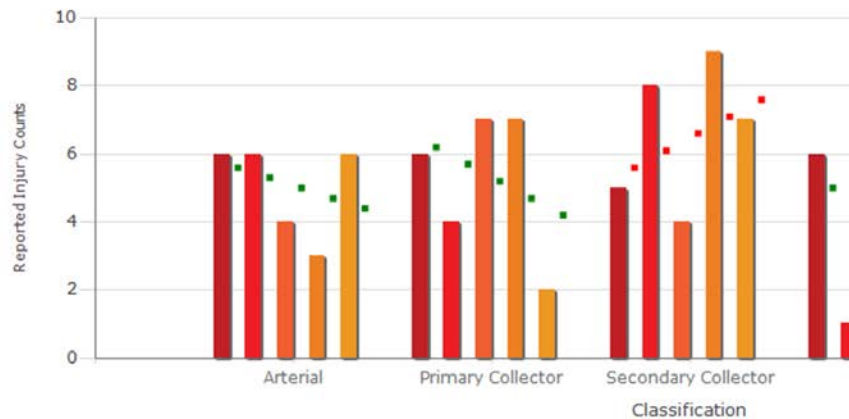
Classifications: Arterial, Primary Collector, Secondary Collector, Access, Low Volume

Urban/Rural: Urban, Rural

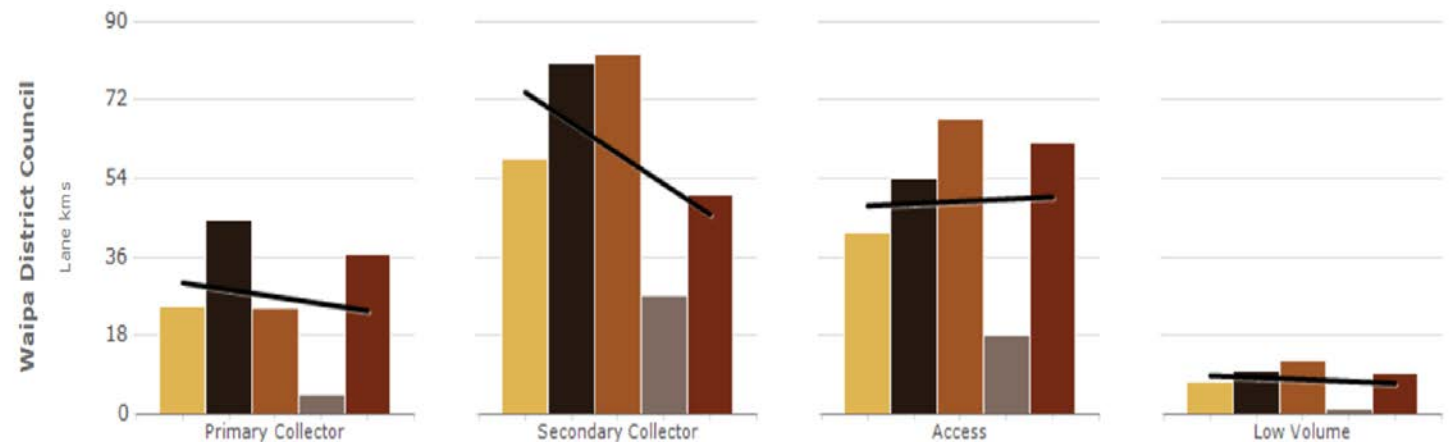
Number of Years: 5 (2015/16 represents the most recent complete year of crash data)



The total number of reported serious injuries and fatalities (DSI) each year on the network



Time series of the length of sealed road chipseal resurfacing by classification



Where do your strengths sit?

No Idea!



Thank you for supporting REG