

2020/21 National Data Quality Results

November 2021



INTRODUCTION

This report provides a summary of national data quality as at the end of the 2020/21 financial year. The Data Quality Framework (DQF) developed by the Road Efficiency Group (REG) has been used as the basis for the analysis. The results have been analysed in terms of the reported financial year and trends since the reported results in 2014/15.

A summary of the annual RCA results are available on the REG website and individual RCA metric results can be access by the RCA via [REG Insights](#).

THE 2020/21 DATA QUALITY FRAMEWORK

The 2020/21 data quality assessment is based on 60 asset management metrics for TLAs (inc. DOC) and 54 metrics for Waka Kotahi State Highways spread across three data quality dimensions, three importance levels and six data categories.

A number of changes have been made to the DQF in 2020/21 to enhance the framework and also in response to feedback received from the sector. These are detailed on the [Data Quality Project website](#) and the online [Metric Library](#).

Data quality has been analysed against the DQF through a primary quality dimension, level of importance and data category lens. Potential areas of improvement have been identified based on the proportion of metric results at the expected standard, and the level of improvement in recent years. The current suite of metrics for 2020/21 are the basis for the reported results. This includes previous year's results.

RESULTS

The table below shows the annual data quality results for all RCAs. The values reported are the percentage of metrics achieving the expected standard by year.

	2017/18	2018/19	2019/20	2020/21	Last year change
All dimensions	56	64	68	70	2
Accuracy	59	64	67	69	2
Completeness	58	69	74	77	3
Timeliness	50	56	57	60	3

There has been a continued overall improvement in the sector's data quality over the reported period. The last 12 months has seen an improvement in the metric results across all quality dimensions.

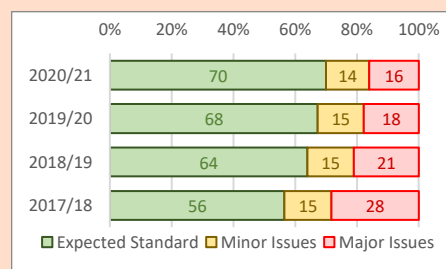
Although timeliness has seen the joint greatest improvement in the last 12 months there is still a significant opportunity for improvement in the metrics testing this quality dimension.

KEY POINTS

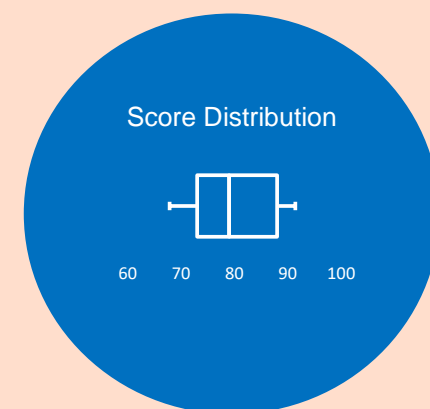
Annual Results 2020/21:

- ✓ Overall, the sector's data quality has improved across all quality dimensions.
- ✓ The level of improvement in the last 12 months is lower to what was achieved in the previous periods.
- ✓ There is significant opportunity to further improve data quality nationally, particularly for the timeliness quality dimension.
- ✓ There has been significant improvement in the results of the bottom 10% of RCAs this year.

2020/21 Asset Management



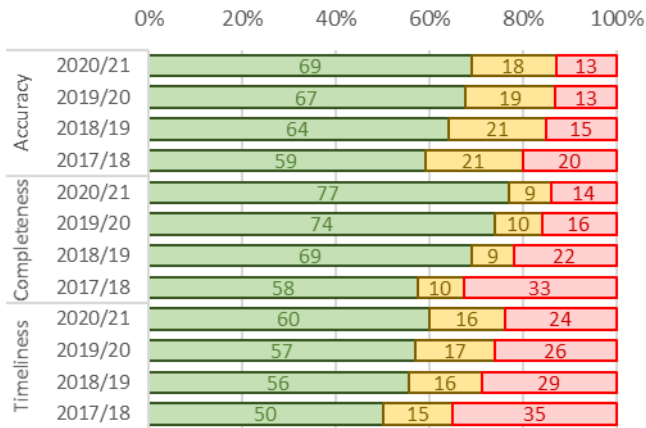
Asset Management "Score"



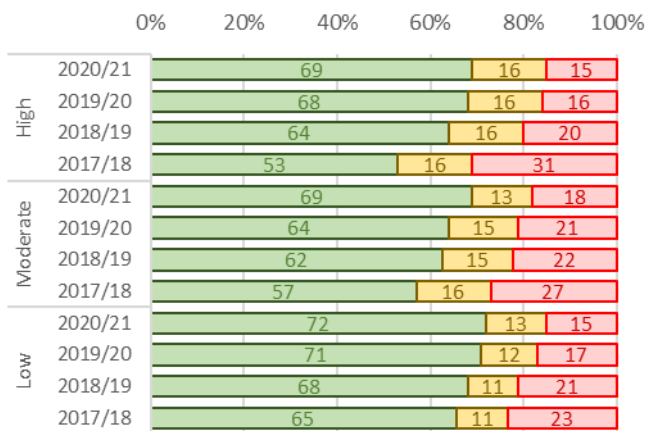
Overall the sector's data quality continued to show improvement, however the gains in the last 12 months have been small.

Asset Management Results

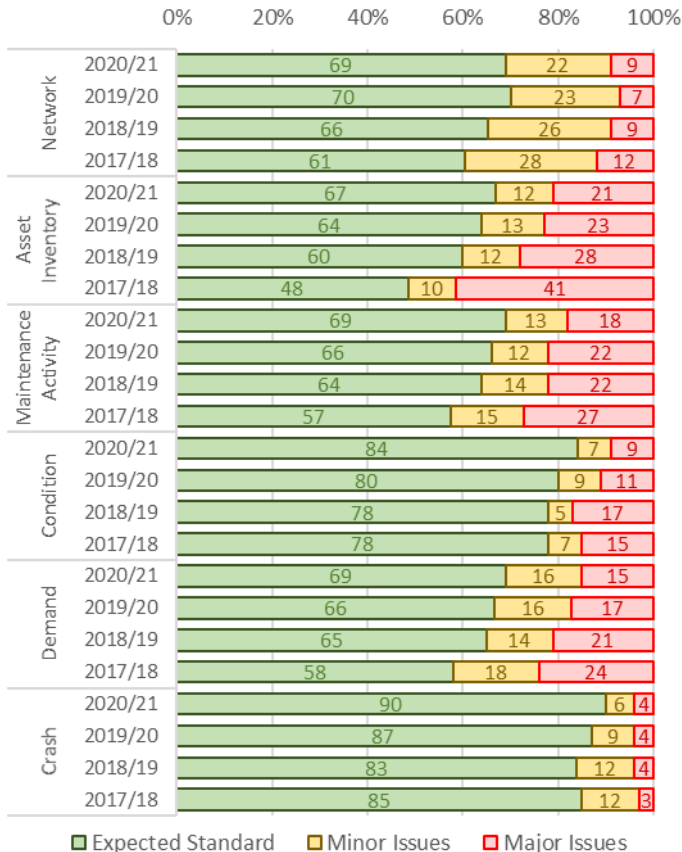
By quality dimension:



By importance:



By data category:



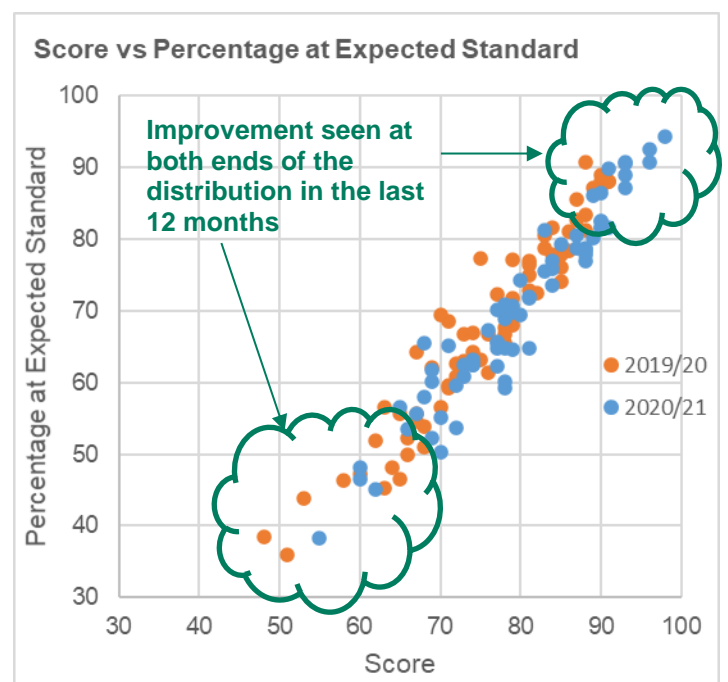
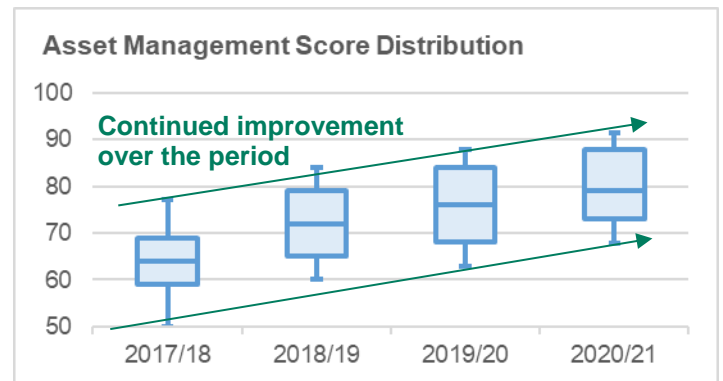
OBSERVATIONS

Overall, there has been a continued improving trend of metric results at the expected standard. Looking at the results through a quality dimension lens shows continued improvement across all three dimensions. The timeliness dimension has seen the greatest improvement in the last 12 months. However, this dimension still has the lowest proportion of metric results at the expected standard and there is an increasing proportion of results with potential minor issues which needs further analysis to understand.

The results reported by level of importance show a similar level of improvement across all three levels. A reduction in the number of metrics with potential major issues is encouraging. The comparative 2020/21 results by importance shows there isn't a significant difference in the proportion at the expected standard for each level with low importance metrics have slightly more at the expected standard than high and moderate.







The results by data category are discussed in more detail on the next page along with intended improvement areas.

The below two charts show a continued improvement in the Asset Management Score has been achieved. It is positive to see the improvement in results for last year's lower scorers.



AREAS FOR IMPROVEMENT

The below table summarised the 2020/21 results by data category. The overall results for each category have been assessed and assigned a traffic light based on a combination of the proportion of metric results at the expected standard, and the level of improvement in recent years. The improvement areas are based on an initial assessment of the results at a metric level and will be taken forward to inform the improvement programme for 2021/22.

Data Category	Overall Status	2020/21 Achievements	Improvement Areas
Network		Very slight decrease in overall results with an increase of 2% for metric results with potential major issues. Also, a large proportion of results with potential minor issues.	The process around ongoing management of ONRC potentially needs clarification. This is also relevant to ONF. The treatment length metrics and supporting guidance to be reviewed for the 2021/22 reporting.
Asset Inventory		Improvement in 2020/21 results. Major data issues have significantly decreased over the last four years, however, only about two thirds of the metric results are at the expected standard. We are aware there has been issues with the treatment length summarisation processes impacting the surfacing and pavement results for some RCAs.	Consider additional guidance, or a case study, on the reporting and as-building of annual achievements in TIO and RAMM. There are many more Asset Inventory metrics currently than other categories. Review the DQ framework for the 2021/22 reporting considering the potential to reduce or combine current metrics. Review logic of SURF6 to exclude potential issues from widening, or similar, activities.
Maintenance Activity		Continued improvement in results in 2020/21, however, about 30% are not at the expected standard. MAINT2 has less RCAs at the expected standard compared to 2019/20.	Additional guidance is needed around recording of maintenance activity data to support asset performance analysis and asset management decision-making processes.
Condition		A large proportion of results continue to be at the expected standard for roughness. The annual variations in the RATING metrics indicates mixed compliance with current minimum requirements.	The metrics in the Condition category to be reviewed for the 2021/22 reporting considering the move away from manual rating surveys to an increasing use of high speed and other automated survey methods.
Demand/Use		Continued improvement in results in 2020/21, however, about 30% are not at the expected standard. A large proportion of RCAs have minor or major issues with the coverage of their count programmes.	Review the grade ranges for the 'COUNT' metrics for the 2021/22 reporting, as many RCAs have been consistently sitting in the yellow zone.
Crash		Results show a large proportion (90%) at the expected standard and a further improvement on the 2019/20 result.	Investigate the results for the RCAs that have issues with crash records with invalid locations to understand the root cause.

CONCLUSION

The 2020/21 data quality results show the sector has achieved a continued improvement with a small increase in metrics at the expected standard overall for the last 12 months. Improvement is evident across all three quality dimensions and most data categories. There is still opportunity for improvement, particularly in the metrics testing the timeliness quality dimension, and Network, Asset Inventory, Maintenance Activity and Demand data categories.

REFERENCES

[Data Quality Project website](#)

[Data Quality Framework Overview](#)

[Understanding the Data Quality Results Overview](#)

[Online Data Quality Metric Library](#)

REG is a collaborative project between Local Government and Waka Kotahi NZ Transport Agency.

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