10.0 ASSET MANAGEMENT PROCESSES AND PRACTICES

Contents

10.1 The Asset Management Processes

The asset management process is intended to deliver agreed levels of service in the most cost effective way to present and future customers. The services to be delivered contribute towards the achievement of the community outcomes in Council's Long Term Plan.

Gaps between required standards and levels of service, and the ability of the network to deliver them are identified and processes are put in place to manage these gaps. In managing these gaps both asset solutions (such as new or enlarged asset elements) and non-asset solutions (such as use reduction programmes) are considered. Decisions on asset management actions are based on a range of factors such as risk assessments, legal requirements, whole life costs, customer approval ratings and the ability of the community to pay for system improvements.

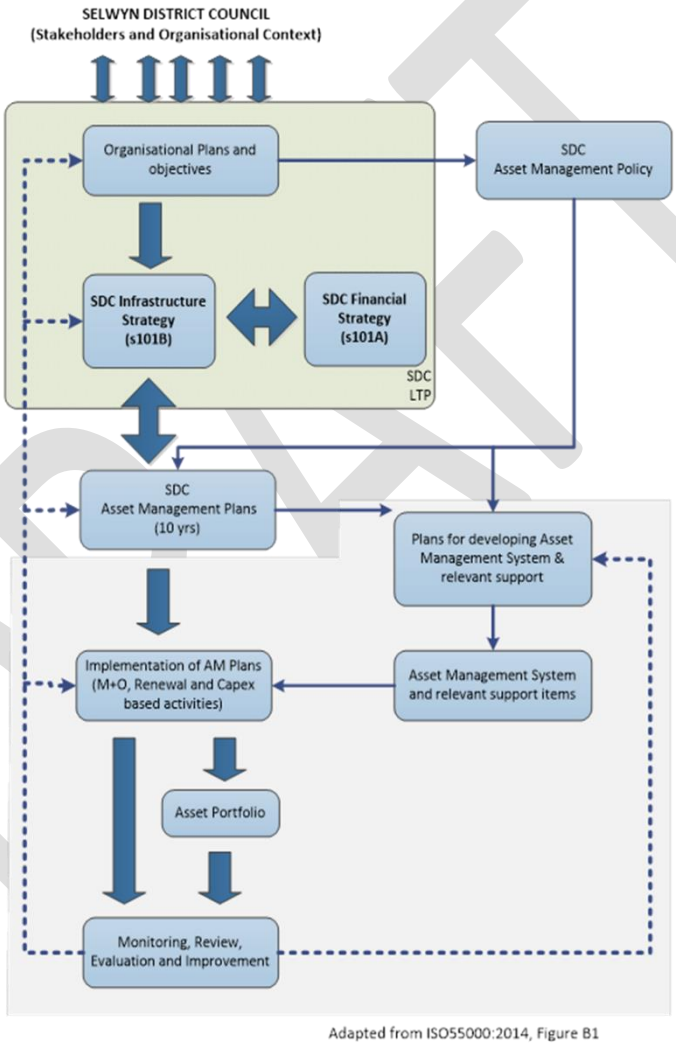


Figure 10-1: *Asset Management Planning Process (Selwyn District Council Infrastructure Strategy)*

Council's Transportation Asset Management function is responsible for managing the roading assets of the community. To help identify the AM information needs of the transportation activity, it is helpful to breakdown business practice into three key AM inputs:

- **Processes** - The procedures, considerations, analysis and evaluation techniques that consider asset data and support lifecycle asset management.
- **Information systems** - The information support systems used to store and manipulate the data.

- **Data** - Data available for manipulation by information systems to produce the required outputs.

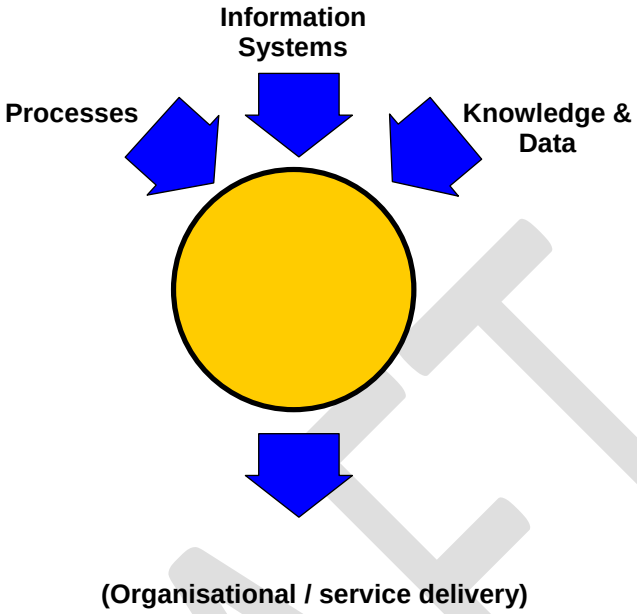


Figure 10-2: *Key Asset Management Inputs and Outputs*

The tables in the following section set out the current business practices and the desired business practices that need to be developed. The AM Improvement Plan details the development priorities, timetables, resources, and costs.

10.2 Data Management

10.2.1 Information Systems and Business Practices

Council uses a number of information management systems for different asset management functions.

Table 10-1: *Overview of Management and Data Systems*

System	Current Business Practice
Asset Registers	Reliable asset registers available for most assets contained in RAMM.
Financial System	MagiQ is used to manage financial system functions. Job costing system available, via general ledger system. Costs allocated at activity level only. Inflation adjustment application. Current valuation generated from downloaded information inventory from databases.
Maintenance Management	Maintenance records held in RAMM, direct entry by the Maintenance Contractor.
Contract Management	Maintenance standards specified in maintenance contracts. RAMM and manual works order systems for unscheduled or out of contract work.
Condition/ Performance Monitoring	Performance & condition information held and updated in RAMM for major asset groups (eg. Pavements and bridges)
Customer Enquiries	Customer service system integrated in MagiQ
Work Planning	RAMM treatment selection analysis undertaken. Bridge repairs identified and programmed. dTIMS used for longer-term identification of renewal needs. Minor asset groups defect analysis less developed.
Risk Management	AM plan to include risk register and analysis. No risk management strategy in place at a corporate level, risk management is undertaken at an activity level
Optimised Renewal Strategy	dTIMS is used to establish optimal network condition and budgets. RAMM treatment selection module available for pavements. Effective lives assigned to all asset groups.
Forward Works Programme	Forward programmes developed for major road improvement projects, seal extensions, seal widening and bridge renewal. Development based on a good assessment of needs confirmed under consultative processes. dTIMS used and verified.
Integration of Systems	Extensive use of RAMM throughout planning and operations. All databases have GIS type interfaces and functionality.

System	Current Business Practice
Plans and records	Hard copy plans held for most major project and improvement works. (availability reduces as further back in time). All new plans / as-builts on digital systems, & on consents information system.
GIS	GIS used for spatial representation of assets.

10.2.2 Accounting and Financial Systems

All Council activities are required to have their financial results reported externally in a way that complies with Generally Accepted Accounting Practice (GAAP) in New Zealand. This is in accordance with International Accounting Standards IAS16. The International Accounting Standards are determined by the Institute of Chartered Accountants of New Zealand. The Finance Activity ensures that GAAP is complied with by regular updates to the Council's Accounting processes and the on-going formal and informal training and education of staff in departments throughout the Council. The Selwyn District Council uses the MagiQ financial management system.

The activity relies on the Council's core financial systems which include:

- MagiQ accounts payable, fixed assets, inventory, time entry, work orders, and general ledger.
- Accounts receivable, cash receipting, bank management and rates, plus inputs from other Local Government regulatory systems such as Person/Property, Infringements, Licensing, Consents.

Monthly and yearly expenditure reporting is presented to Council staff, elected representatives, and Committees.

10.2.3 Public Enquiries and Concerns

To assist reactive maintenance, Council deploys a Customer Service Request system. Requests for service (RFS) are presently recorded via MagiQ and forwarded to the appropriate council staff or maintenance contractor for action. The RFS are recorded with details such as name, location, issue, and priority to enable tracking for resolution.

The receiving officer or maintenance contractor is required to action the enquiry within a specified time period. Once the issue is resolved to council's standards, the details are updated with completion time & date, and any issues arising during the resolution process. Requests for service are discussed in more depth in Section 6.3 Customer Expectations

10.2.4 RAMM

RAMM is an asset management system which was created as a database to store inventory condition information from inspections carried out according to Transfund's 1997 Road assessment and maintenance management (RAMM) manual.

Council uses RAMM as the main inventory database for its transportation assets. The RAMM system is web-based and stored on a Microsoft server based in Australia. The system is available simultaneously to users in the Council, contractors, and consultants. Road network maintenance data is entered directly by the contractor and used for asset management and contract management purposes. The professional services contractor undertakes quality checks on the data entered by the maintenance contractor. Council also uses the RAMM system to undertake asset valuation using its Asset Valuation Module.

An extensive range of inventory items can be recorded using RAMM:

Table 10-2: *RAMM Inventory Groups*

Group	Inventory
Carriageway	road name/location descriptions/dimensions summary traffic volumes and loads ownership
Treatment lengths	condition maintenance activities pavement type treatment-intervention cots
Traffic	traffic volume traffic mix
Carriageway Surfacing	description/ dimensions location/age/surfacing
Pavement Structure	pavement layer rehabilitation
Kerbs and Channels	location type descriptions/dimensions ownership
Footpath and Berms	location descriptions/dimensions surfacing ownership
Drainage	dimensions/type location/maintenance ownership
Traffic Facilities	location/type quantity/maintenance ownership
Bridges and Major Culverts	components dimensions restrictions ownership

Group	Inventory
Route Data	features location/type
Street Lighting	pole location / material / type / dates / ownership lamp type location /dates / ownership bracket type / dates
Asset Valuation	ORC ODRC expected life RUL effect of condition on life replacement asset type how asset element is measured (volume, area etc) predicted depreciation
User-defined items	In addition RAMM can cater for an unlimited number of user defined items

RAMM has built-in Data Assessment & Analysis functionality, and can:

- Record requests for service and track their progress and completion,
- Issue works orders,
- Record pending by location and asset element,
- Allow contractors to sign-off repairs as they are completed and update the asset data base accordingly,
- Collect and update data directly, and
- Evaluate problems and issues on-site though the availability of data held on the asset element.

Condition rating is another part of the RAMM system. Road condition is measured by recording absolute values for defects rather than condition indices or scores. The defects measured are cracks, deformation, surface texture, disintegration, edge defects and surface roughness.

The road network is divided into sections with consistent construction types and traffic loading. Sections are then further subdivided into 100 metre sections for roughness ratings, and 50 metre sections of visual inspection every 500 metres. Each sealed road section's condition is assessed and recorded, based on a visual assessment of pavement condition and roughness data from a mechanical or electronic survey of the road. Roughness is measured using a NAASRA and IRI roughness meters or laser profileometers attached to a vehicle, and teams on foot usually collect visual data

The absolute values of defects and distress are used in a costing algorithm in RAMM, called the Treatment Selection Algorithm (TSA). The TSA takes into account the faults measured, carriageway roughness, traffic volumes, and maintenance costs to determine overall costs of alternative treatments. Unit cost rates are determined by the user. Treatment alternatives vary depending of the type of pavement, and are reported for the current and subsequent years.

Table 10-3: *Outline of RAMM TSA Options*

Flexible Thin Sealed Pavements	Continued routine maintenance Resurfacing Smoothing Strengthening
Structural Asphaltic Pavements (UNDER REVIEW)	Reconstruction Milling and replacing unstable surface mix Thin overlay Thin overlay over a stress absorbing membrane layer (SAMI) Stress absorbing membrane reseal (SAM) Conventional reseal Continued general maintenance

Treatment options are ranked based on benefit cost ratios (BCR) for pavement renewals and priority indicators (PI) for resurfacing. Priority indicators are calculated by dividing the additional cost in maintaining a pavement for an additional year by the cost of resurfacing, to give a first year rate of return. The need for renewal of a pavement is checked against the required BCR. If the BCR is not satisfied it is then checked for a reseal. If a reseal cannot be justified then the chosen treatment is to continue maintenance. A preferred pavement renewal option and a preferred non-pavement renewal option is determined and then the two preferred options compared to determine the overall preferred option.

10.2.5 RAMM Data Quality

Council's Professional Services consultant performs an annual review of the accuracy of RAMM data annually. These reviews provide confidence that Council's asset data is accurate.

Table 10-4: *Data Completeness and Accuracy (UNDER REVIEW)*

Asset Data	Completeness and Accuracy
Asset Classification	Suitable asset classification system adopted for asset
Asset Identification	Unique ID numbers allocated in RAMM for most assets
Asset Attributes, Spatial Data	Aerial photos available for assets in Selwyn and all rural towns. Plans available for most bridges and recent construction projects
Asset Attributes, Textual Data	Pavements- >100% complete & ~95% accurate (RAMM) Bridges- >100% complete & ~95% accurate (RAMM) Footpaths- >100% complete & ~95% accurate (RAMM) Street lights- >100% complete & ~95% accurate (RAMM) Kerb & channel- >100% complete & ~95% accurate (RAMM) Signs- > 100% complete & ~95% accurate (RAMM) Markings- > 95% complete & ~95% accurate (RAMM) Minor culverts- 50% complete and 50% accurate (RAMM)
Maintenance Data	Routine maintenance activity and costs available from contracts Unscheduled maintenance work records available in hard copy form

Asset Data	Completeness and Accuracy
Historical Condition & Performance Data	Good historical records for pavements and bridges only
Future Prediction Data	Good knowledge of future demographic and traffic trends
Life Cycle Costs	Renewal & new improvements costs for common items known from recent experience

10.2.6 dTIMS

The RAMM database is updated continually to enable forward work programmes to be developed via the Treatment Selection process and the predictive monitoring software package dTIMS. dTIMS (Deighton Total Infrastructure Management System) is a computerised pavement deterioration modelling tool that provides analysis, prediction, and costing of major pavement renewal works including reseals and sealed road pavement rehabilitations. It allows for the comparison of future asset condition, different budgets and alternative levels of service in terms of renewal intervention levels to be tested and optimised. The system also has the advantage of being able to forecast the need for works at a treatment length level as well as at the network level. It is a flexible system that enables the user to alter the framework or models to suit their locally calibrated conditions. Council's dTIMS analysis is undertaken and delivered by the professional services contractor.

dTIMS uses data stored in RAMM such as traffic volumes and pavement strength to predict the future network condition and treatment needs over longer-term outlooks. Treatments can be triggered using intervention level or budget constrained approaches and include reseals, smoothing, strengthening, and reconstruction options. Key data required for dTIMS analysis includes layer thickness, construction date, sub grade strength and maintenance costs. Where this data is not available, assumptions based on local knowledge, falling weight deflectometer (pavement strength) testing, desktop study of construction drawings, or a mixture of methodologies are used to ensure results are reasonable. These assumptions can be introduced into dTIMS outside of RAMM as well.

10.2.7 Asset information Security

The responsibility for asset information security rests with the Council's IT department. Data is stored in the Council's EDRMS system which is backed up nightly and stored on-premises and in our secure cloud repository. Council information systems are security controlled, allowing some staff to view the data, and others to add and edit it. Data manuals are available that explain the various procedures.

10.3 Organisational Structure

10.3.1 Staff Structure

Council's road and bridge asset management is carried out by in-house staff and external specialist contractors and consultants. Within Council's Infrastructure unit are the Transportation Service Delivery team and asset management team who perform parallel but integrated functions to ensure the whole of life asset management and delivery of the roading network. Road network professional services are largely delivered by in-house staff, who are accountable to the Service Delivery Manager. There are a number of cross- departmental links that are important to the correct functioning of the roading team and management of the roading network

10.3.2 Council and Committee Structure

The Selwyn District Council is made up of twelve elected representatives; the Mayor, and the eleven councillors representing the four ward areas. Two councillors represent the Ellesmere Ward, four councillors represent the Selwyn Central ward, three councillors represent the Springs ward, and two councillors represent the Malvern ward.

Council also has an extensive committee structure. In addition to the Mayor and Councillors, there is a specific Community Board for the Mavern Ward area, established under the Local Government Act 2002, with the delegated authority from the Council to make decisions on specific matters which affect the Malvern Hills area. Community halls and public reserves in each area are run by local hall committees and reserve committees with funding and support from the Council.

10.3.3 Staff Competencies

An important measure of the quality of Council's asset management is the ability, experience and qualifications of the individuals and companies involved in its preparation. Council employs a wide range of technical staff appropriately qualified to carry out the asset management function. Staff experience in Asset Management ranges up to 30 years.

Training and professional development plans are defined on a role-by-role basis, established as part of staff professional appraisal processes. Learning development plans are established that guide the amount and nature of training and development opportunities, to make sure these are tailored to staff specialties and enhance their undertaking of responsibilities. The nature of training opportunities has changed dramatically in the past year and as courses are increasingly adapted for the online environment more training opportunities become available.

10.4 Quality Assurance

10.4.1 Audits

A number of audits are undertaken to assure quality in all aspects of asset and delivery management:

- Procedural Audits are undertaken to establish and ensure the on-going improvement of the quality of Council's systems, audits of financial, technical and performance systems need to be routinely implemented.

- The Local Government Act requires that independent annual financial audits be undertaken on the operations of Council – such audits may include all significant activities such as asset management planning. The auditor's opinions are included in Council's Annual Report.

- Information System Audits should be undertaken at regular intervals to assess the appropriateness and performance of asset management systems, data and processes. Audits should identify the current status of asset management processes, systems and data and produce targets for Asset Management practices to be achieved in following years. A programme of actions is included for asset data through the Transport Asset Information Services Contract.

- Technical and Investment Audits (peer reviews) are undertaken by NZTA undertaken at regular intervals to assess and identify compliance with statutory and procedural requirements. Council may undertake additional technical audits using external or internal reviewers as part of AMP preparation.

- Performance Audits establish whether the stated objectives for the operation of the asset have been achieved.

10.4.2 Roading Standards and Guidelines

Council has prepared a comprehensive suite of design guides and codes of practice. This informs planning undertaken for developments as part of the Resource Consents process. Adherence to these codes is expected to improve the quality and consistency of Council's portfolio of assets.

10.5 Data Quality Report

The Road Efficiency Group prepares Data Quality Reports that allows Councils to see where they sit for different criteria relative to the other Road Controlling Authorities across New Zealand. Selwyn's data quality has been consistently strong since the measure was introduced in 2017.

2019/20

Selwyn District Council
Asset Management Data Quality Report

REG THE ROAD EFFICIENCY GROUP

In 2019/20 the Asset Management Data Quality suite of metrics has been expanded to include the previously separated report metrics interrogating the data underpinning the ONRC Performance Measure results. As such, there is no separate ONRC data quality report for 2019/20.

The data quality of each RCA is assessed annually against a suite of data quality metrics. Each RCA metric result is compared against an expected standard and the distribution of all RCAs. The intent is for this report to identify potential issues with how the RCA's data is being collected, managed, and maintained. Further analysis will be required to determine if additional action is needed.

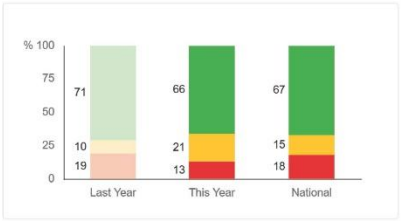
This report assesses the Road Asset Maintenance and Management (RAMM) data supporting asset management and associated decision support systems. For three metrics, renewal as-built data in RAMM are compared with the achieved renewal activity reported in the New Zealand Transport Agency Transport Investment Online (TIO) system.

Refer to the following overviews for further information:

- Data quality framework; The intent and purpose of the data quality framework.
- Data quality dimensions; Why the three quality dimensions; accuracy, completeness and timeliness are important.
- Understanding the data quality results; How to read and understand the annual data quality reports.
- Frequently Asked Questions (FAQs) and detailed metric descriptions in the Performance Measures Reporting Tool.

Score

Overall Results

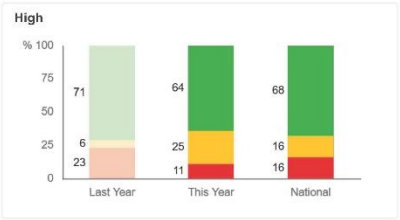


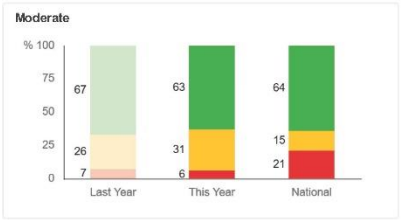
Expected Standard
Minor Issues
Major Issues

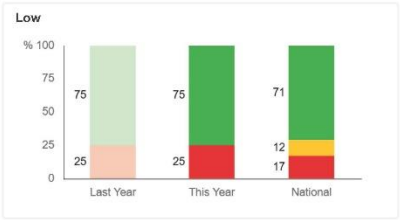
Import Date: 14th August 2020

Data Source: This report uses RAMM data from the annual snapshots loaded onto the ONRC Performance Measures Reporting Tool (PMRT) by the RCA and data input into TIO by the RCA.

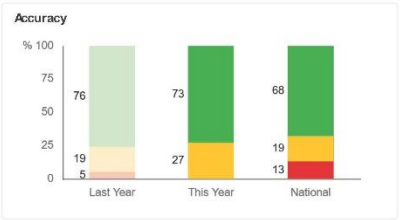
Results by Importance

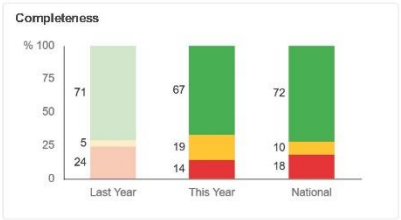


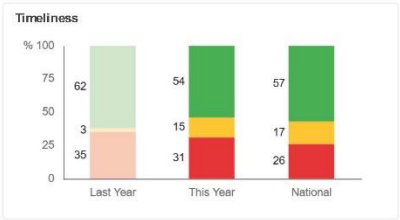




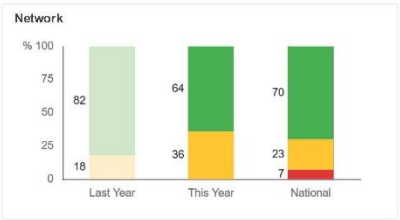
Results by Quality Dimension

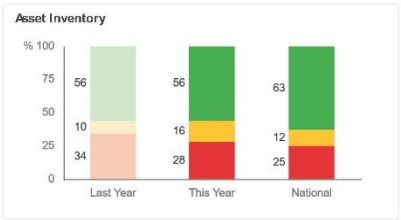


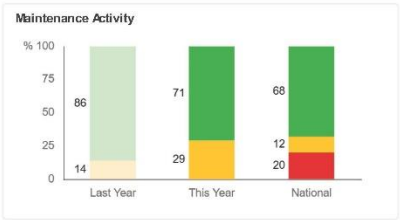


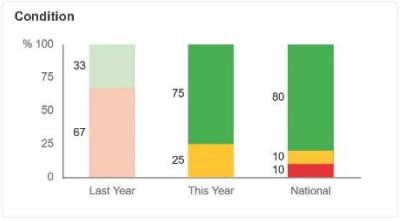


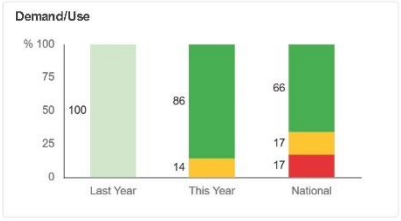
Results by Data Category

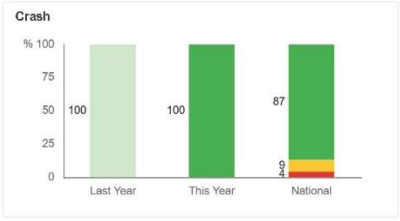






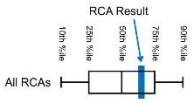






2019/20

Selwyn District Council
Asset Management Data Quality Report



Cat	Sub	Ref[1]	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend[2]	Major Issues / Minor Issues / Expected Standard
Network	Carriageway	CWAY1	Road network data complete	Accuracy	High	AMENITY, COST EFFICIENCY, SAFETY		98.5	—	90 92 94 96 98 100
		CWAY3[3]	ONRC categories assigned to new carriageways	Completeness	High	AMENITY, COST EFFICIENCY, SAFETY		100.0	—	40 52 64 76 88 100
		CWAY4	ONRC categories are assigned	Completeness	High	AMENITY, COST EFFICIENCY, SAFETY	✔	100.0	—	95 96 97 98 99 100
		CWAY7	Sealed/unsealed network correctly defined	Accuracy	High	AMENITY, COST EFFICIENCY, SAFETY	✔	98.2	—	95 96 97 98 99 100
		CWAY5	Assigned ONRC category aligns with traffic data	Accuracy	Moderate	AMENITY, COST EFFICIENCY, SAFETY		86.8	▼	60 68 76 84 92 100
		CWAY6a[3]	Rural carriageways are generally not short	Accuracy	Moderate	AMENITY, COST EFFICIENCY, SAFETY	✔	93.0	—	85 90 95 100
		CWAY6b[3]	Urban carriageways are generally not short	Accuracy	Moderate	AMENITY, COST EFFICIENCY, SAFETY	✔	99.7	—	95 96 97 98 99 100
		CWAY2a[3]	Rural number of lanes matches carriageway width	Accuracy	Low	AMENITY, COST EFFICIENCY, SAFETY	✔	99.9	—	95 96 97 98 99 100
		CWAY2b[3]	Urban number of lanes matches carriageway width	Accuracy	Low	AMENITY, COST EFFICIENCY, SAFETY	✔	98.3	—	90 92 94 96 98 100
	Treatment Length	TREAT1	Treatment Length dimensions match sealed area	Accuracy	High	AMENITY		97.4	—	90 92 94 96 98 100
		TREAT2a	Treatment Lengths are generally not short	Accuracy	High	AMENITY	✔	87.9	—	80 85 90 95 100
		TREAT2b	Treatment Lengths are not too long	Accuracy	High	AMENITY	✔	80.3	—	75 80 85 90 95 100
		TREAT5	Treatment Lengths match renewals	Timeliness	High	AMENITY	✔	89.3	▼	75 80 85 90 95 100
		TREAT3	Treatment Lengths match major surfaces	Accuracy	Moderate	AMENITY	✔	88.8	—	80 85 90 95 100
Asset Inventory	Surfacing	SURF1a[4]	Achieved chipseal resurfacing renewal programme as-built	Timeliness	High	COST EFFICIENCY		94.2	—	55 69 83 97 111 125
		SURF1b[4]	Achieved asphaltic concrete resurfacing renewal programme as-built	Timeliness	High	COST EFFICIENCY		108.6	▲	0 56 112 168 224 280
		SURF2	Surface records have valid attribute data	Accuracy	High	COST EFFICIENCY		99.7	—	95 96 97 98 99 100
		SURF3	Surface records correctly located	Accuracy	High	COST EFFICIENCY	✔	94.7	—	85 90 95 100
		SURF4	Surface records with Original Cost	Completeness	High	COST EFFICIENCY	✔	42.8	▲	40 52 64 76 88 100
		SURF5	Surface records with Work Origin	Completeness	High	COST EFFICIENCY	✔	66.3	▲	45 56 67 78 89 100
		SURF6	Surface records newer than pavement	Accuracy	Moderate	COST EFFICIENCY	✔	81.3	—	65 70 75 80 85 90 95 100
	Pavement	PAVE1[4]	Achieved pavement renewal programme as-built	Timeliness	High			118.4	—	0 25 50 75 100 125
		PAVE2[3]	Pavement layer records have valid attribute data	Accuracy	High			100.0	▲	15 32 49 66 83 100
		PAVE3[3]	Pavement layer records with Work Origin	Completeness	High			100.0	—	10 28 46 64 82 100

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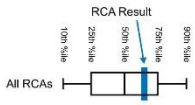
Selwyn District Council
Asset Management Data Quality Report



Cat	Sub	Ref¹	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend²	Major Issues / Minor Issues / Expected Standard
Asset Inventory	Footpath	FOOT1	Footpath asset known	Completeness	Moderate			99.9	—	85 90 95 100
		FOOT2	Footpath asset records maintained	Timeliness	Low			16.2	▼	0 5 10 15 20
	Drainage	DRAIN1	Culvert assets known	Completeness	Moderate			91.7	—	20 36 52 68 84 100
		DRAIN2	Culvert asset records maintained	Timeliness	Low			3.6	▼	0 5 10 15
	SW Channel	SWC1	SWC asset known	Completeness	Moderate			95.4	—	5 24 43 62 81 100
		SWC2	SWC asset records maintained	Timeliness	Low			11.3	▼	0 5 10 15
	Signs	SIGNS1	Sign assets known	Completeness	Moderate			66.3	▼	5 24 43 62 81 100
		SIGNS2	Sign asset associated to a 'road'	Accuracy	Low			99.8	—	90 92 94 96 98 100
		SIGNS3	Sign replacement activity	Timeliness	Low			0.3	▼	0 5 10 15 20
	Railings	RAIL1	Railing assets known	Completeness	Moderate			37.9	—	5 24 43 62 81 100
		RAIL2	Railing asset records maintained	Timeliness	Low			0.8	▼	0 9 18 27 36 45
	Retaining Walls	RETAIN1	Retaining Wall assets known	Completeness	Moderate			0.0	NEW	0 20 40 60 80 100
		RETAIN2	Retaining wall asset records maintained	Timeliness	Low			0.0	NEW	0 20 40 60 80 100
	Streetlights	LIGHTS1	Streetlights associated with a 'road'	Accuracy	Low			99.7	—	90 92 94 96 98 100
		LIGHTS2	Streetlights records have a light	Completeness	Low			99.8	—	95 96 97 98 99 100
		LIGHTS3	Streetlight replacement activity	Timeliness	Low			27.6	▲	0 10 20 30 40 50
Maintenance Activity	Maintenance Activity	MAINT2	Complete pavement and surface maintenance activity	Completeness	High	COST EFFICIENCY	✓	10.0	▼	0 5 10 15
		MAINT4	Correctly located pavement and surface maintenance activity	Accuracy	High	COST EFFICIENCY	✓	95.4	—	45 56 67 78 89 100
		MAINT6	Level of pavement, surfacing, shoulder and drainage maintenance activity known	Completeness	High	COST EFFICIENCY		99.9	—	80 85 90 95 100
		MAINT7	Pavement and surface maintenance activity has a valid location	Accuracy	High	COST EFFICIENCY	✓	99.5	—	95 96 97 98 99 100
		MAINT1	Consistency of pavement, surfacing and shoulder maintenance activity units	Accuracy	Moderate	COST EFFICIENCY		1.7	▼	0 1 2 3 4 5
		MAINT3	Pavement, surfacing, shoulder and drainage maintenance activity known	Completeness	Moderate	COST EFFICIENCY		99.7	—	35 48 61 74 87 100
		MAINT5	Correctly located shoulder and drainage maintenance activity	Accuracy	Low	COST EFFICIENCY		98.2	—	35 48 61 74 87 100

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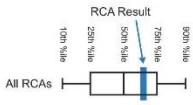

Cat	Sub	Ref[1]	Metric Description	Dimension	Importance	ONRC Customer Outcome	ONRC Metric	Result	Trend[2]	Major Issues / Minor Issues / Expected Standard
Condition	Roughness	ROUGH1	Roughness survey within 2.5 years	Completeness	High	AMENITY	✔	97.4	NEW	80 85 90 95 100
		ROUGH2	Roughness data has valid location	Accuracy	High	AMENITY	✔	99.9	—	95 96 97 98 99 100
	Rating	RATING1	Road rating data current	Completeness	High			91.5	NEW	0 20 40 60 80 100
		RATING2[3]	Rating data locations valid	Accuracy	Moderate			99.8	NEW	95 96 97 98 99 100
Demand/Use	Traffic Count	COUNT1	Well targeted traffic count programme	Completeness	High	AMENITY, COST EFFICIENCY	✔	86.1	—	20 34 48 62 76 90
		COUNT3	Traffic loading understood	Completeness	High	AMENITY, COST EFFICIENCY	✔	29.8	—	20 30 40 50 60 70
		COUNT2	Traffic count programme activity on sealed network	Timeliness	Moderate	AMENITY, COST EFFICIENCY	✔	44.8	▲	0 9 18 27 36 45
	Traffic Estimates	ESTIM1	Network has traffic estimates	Completeness	High	AMENITY, COST EFFICIENCY	✔	99.9	—	95 96 97 98 99 100
		ESTIM2a[3]	Traffic estimates are maintained (High Volume to Arterial)	Timeliness	High	AMENITY, COST EFFICIENCY	✔	100.0	—	5 24 43 62 81 100
		ESTIM2b[3]	Traffic estimates are maintained (Primary and Secondary Collectors)	Timeliness	High	AMENITY, COST EFFICIENCY	✔	100.0	—	20 36 52 68 84 100
		ESTIM2c[3]	Traffic estimates are maintained (Access including Low Volume)	Timeliness	High	AMENITY, COST EFFICIENCY	✔	99.8	—	15 32 49 66 83 100
		ESTIM3	Traffic estimates updated following counts	Accuracy	High	AMENITY, COST EFFICIENCY	✔	97.6	—	65 70 75 80 85 90 95 100
		ESTIM4	Considered traffic loading	Completeness	High	AMENITY, COST EFFICIENCY	✔	100.0	—	30 44 58 72 86 100
Crash	Crash Data	CRASH1	Crash data is recent	Timeliness	Moderate	SAFETY	✔	0.0	NEW	0 2 4 6 8 10
		CRASH2	Crash records with valid location	Accuracy	Moderate	SAFETY	✔	99.4	—	95 96 97 98 99 100

Notes:

1 - Metric references denoted with a letter at the end are subsets of the same indicator (eg CWAY2a and CWAY2b). Their results are aggregated to report as a single indicator in the charts on page 1.

2 - Trend indicators show the relative change in metric results compared to the previous annual report. An up arrow represents an improvement in the metric of at least 5%, a down arrow for a decrease of at least 5%, and a no change indicator if the result change is between a decrease of 5% and an improvement of 5%. An indicator of "New" is displayed for metrics that had no reported result last year, even if the current year's result is 0.0.

3 - Some metrics may not be applicable to a network, ie no new carriageways have been added to the network in the reported period. These will display a result of "NA" and will not be coloured in line with the grading ranges. These also do not contribute to the results on page 1.

4 - A result of "NA" is shown when either the achieved quantity recorded in TIO or the as-built quantity recorded in RAMM is NULL or zero. "NA" results will not be coloured in line with the grading ranges and do not contribute to the results on page 1.

10.6 Improvement Plan Items

TO BE UPDATED TO REFLECT PROGRESS AND NEW 2021 IMPROVEMENT ITEMS ON COMPLETION

Insert New Compiled Improvements Plan