



2011

Roads and Transportation Asset Management Plan – Part A

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1 Executive Summary

1.1 Introduction

The management of the roads and transportation assets needs to evolve as budgets and the economy change. Past practices have been restrictive, which has caused the physical activities to be reactive rather than proactive. Best for network decision making processes will form the basis for the development of maintenance and forward work programmes. Working in conjunction with the contracting firms will blend management decisions with physical restraints of construction, providing the best outcomes for the ratepayer.

1.2 The Activity

The activity includes:

- Pavements - sealed and unsealed
- Bridges - including culverts with a waterway larger than 3.4m²
- Traffic Services – street lighting, pavement marking, signage and traffic controls
- Stormwater – surface water tables, kerb and channel and culverts with a waterway less than 3.4m²
- Pedestrian facilities – footpaths and pedestrian accessways
- Vegetation Management – berms, verges and street trees

The activities are broken down differently in the LTP. There are two activities listed in the LTP, being roads and bridges and footpaths and street lighting. This AMP covers the activity at a more detailed level and defines the separation between higher and low expenditure activities.

The separation in the plan is shown through the higher expenditure activities being more detailed.

1.3 Strategic Environment

The roads and transportation asset is facing some major changes at present. This is going to place additional stresses on the physical asset and budgets. The move to bigger and heavier vehicles plus and the resurgence of logging traffic are having a detrimental effect on the network. Additional effort is going into maintaining roads which were not constructed to handle this level of loading. Therefore the HPMV routes and forestry blocks are going to partially drive the rehabilitation project forward work programme.

While the population is in a period of decline, the road network is still required in its current length and will require gradual improvement to meet rural needs. With the decline in population, the district will rely even further on its rural economy to remain strong and the roading network will need to facilitate this.

The Financial Assistance Rate (FAR) provided by the New Zealand Transport Agency (NZTA) is a vital source of income. Maximising the FAR will become even more crucial as fewer rate payers will be available to fund the maintenance of the network.

Executive Summary

1.4 The Services We Provide

The Roads and Transportation network is managed and maintained in accordance with agreed levels of service. The key drivers are based around strategic outcomes for the community and economic growth.

The network is maintained to a level where travelers have minimal interruption on their journey and achieve suitable travel times.

Improving road safety is a primary consideration when planning, implementing and completing work on the road network. Reducing or eliminating accidents caused by the road network is a consideration during all decision making.

1.5 Activity Management Practices

The activity is managed by in-house staff, employed through the shared services agreement. The shared service provides staff for both strategic contract management practices.

Physical works associated with the activity are encompassed into three contracts.

- Road structural and corridor maintenance. The contract covers the majority of the work relating to road maintenance and construction. The road maintenance contract is run in a collaborative manner. The management structure is positioned to draw knowledge and expertise from both the Council and Contractors staff. Decisions on forward work programmes are based on achieving best for network actions.
- Parks and Towns contract, which covers CBD cleaning and berm mowing.

Street Light Maintenance. This contract covers all work associated with street and under veranda lighting maintenance and renewals. Council's in-house staff monitor the daily physical work actions and approve monthly programmes and claims. While Council staff are working collaboratively with the contractor, they also ensure there is tension in the decision making process to guarantee responsible expenditure of ratepayer funds.

1.6 Pavements – Sealed and Unsealed

Maintenance

	Rural km	Urban km	Total km
Sealed Roads	693	90	783
Unsealed Roads	452	2	454
Totals	1145	92	1237

The way in which maintenance money is spent for the term of this plan is changing and developing as:

- The new management regime gains a better understanding of the network and
- The decision making processes change for the physical works contracts.

Early completion of pre-reseal repairs will allow lower cost repair options to be used. This will also allow a wider spread of the maintenance budget. This will also enable the contractor to reduce costs through efficiencies in the way the programme work. Reduced costs to the contractor will be reflected in reduced costs to the ratepayer. The overall

Executive Summary

target is to reduce costs to the rate payer wherever possible, to make the maintenance of the roading network more affordable.

Renewals

Renewals (indicative)	Total (estimated)
AWPT	annual 10 – 14 km
Resurfacing to Roads (Chip seal, Asphaltic Concrete)	annual 60 – 70 km

Programmes for renewal activities are based on individual sites meeting the criteria set out by NZTA for funding. While there is a three to five year indicative programme, there is only certainty for the first two years, as the rate of pavement deterioration changes with the change in loading and stresses.

Rehabilitation work in the future may be based around damage caused to the network by forestry traffic. While this will not be strategically focused on the districts economic growth, it will develop a stronger network for future growth needs.

While resealing is classed as renewal, it works as heavy maintenance. Resurfacing provides water proofing of the pavement, which stops water from damaging the pavement layers and requiring expensive maintenance treatment.

1.7 Bridges

The Rangitikei district has 222 bridges, which includes culverts with a water area greater than 3.4 m². The bridge asset is critical in terms of access for the community.

Routine and ordered maintenance of the bridge stock is vital, to ensure the useful life of each bridge is maximized and where possible extended. The cost to replace a bridge structure is significant and increasing each financial year. While innovative construction options are being continually developed, the costs are still going to place unneeded strain on the already restrictive budgets. There is only one bridge which is planned for replacement within the next five years. This is Wylies Bridge, which is a boundary bridge with Wanganui District Council, who will contribute 50% of the replacement costs.

Bridge inspections are carried out by professional structural engineers, who review the maintenance needs for each bridge. Use of specialist experts will continue and become more crucial as the bridge stock ages.

1.8 Traffic Services

Traffic services covers signage, traffic controls, street lighting and pavement marking. All of these items are managed solely under a maintenance regime. We do not assign useful lives or programme replacement for any of these items.

These items are all related to the safety of the road user. Currently within the district we have a relatively high standard. However, NZTA safety audits are indicating that the use of edge delineation and standardize pavement marking should be increased throughout the district. The traffic services component of the network will be upgraded in stages and as the need arises to improve safety.

1.9 Stormwater

The stormwater activity includes culverts, rural open water channels and urban kerb and channel. The routine maintenance of these items is based

Executive Summary

around eliminating or reducing flooding risk across the district. Routinely flushing out culverts ensures the flow of stormwater and reduces the risk of road washouts.

The main contributing factor to pavement failure is water. Therefore it is important to continue with routine inspections and planned maintenance, district wide. During periods of heavy rain fall both council and contractor staff carry out additional inspections, in order to maintain the integrity of the stormwater network.

1.10 Pedestrian Facilities

Pedestrian facilities are made up of 79 km of footpaths and access ways. The policy on footpaths within the district is to have a footpath on one side of every street. The physical parameters change close to central business districts and other busy pedestrian areas, where there are footpaths on both sides of the street. The issue of safety for pedestrians is also a factor when considering appropriate locations for new footpath construction.

Maintenance on footpaths is limited to cleaning in the CBD's and removing trip hazards in all urban areas. A strategy is being developed to deal with the numerous minor footpath issues. Repeated repairs to trip hazards caused by tree roots will be addressed properly through a long term programming. Footpaths do not attract an NZTA subsidy and are therefore 100% rate payer funded.

1.11 Vegetation Management

The maintenance of urban berms and rural verges, along with rural and urban trees is covered under this activity. There are no programmes for new, the maintenance of or removal of trees.

Work within this activity is carried out either as routine mowing or vegetation and tree trimming. Tree removal is carried out on a case by case basis and only when other network components require protection from invasive tree roots.

2 Introduction

2.1 Objective of the Plan

Asset management plan review process

- The plan was first written in 1998.
- The plan has been reviewed by several different parties in the past. GHD, who were the district's professional services provider, completed the initial review. The most recent review and gap analysis was completed by MWH.
- The plan was last adopted by Council in June 2009: 09/RDC/017
- The current plan has been revised to meet the requirements of the new format. The information contained within the AMP is substantially complete and up to date. With the document being used on a day-to-day basis the information will change to meet the districts changing needs.

A fundamental objective throughout the preparation (and future review) of this asset management plan will be to identify potential opportunities for reductions in asset lifecycle costs.

2.2 Scope of the Plan

The scope of the assets covered by this plan is listed in the below table:

Asset Description	Quantity	Indicative Replacement Cost
Pavements	1237 km	\$328,617,281
Bridges	222	\$101,638,259
Traffic Services	Signs, Markings & Street Lights	\$6,451,733
Stormwater Facilities	Culverts, kerb and channel and open water tables	\$35,949,393
Pedestrian Facilities	79 km Footpaths	\$18,367,781
TOTAL		\$490,024,447

Introduction

The plan is divided into two parts-

Part A	Asset Management Planning
Section 2 The activity	What the activity provides to the community in terms of services. Why Council is delivering these services Significant negative effects of the activity Significant changes planned to the activity (if any).
Section 4 Strategic environment	The Council Vision, and how the Roads and Transportation supports its achievement The AM strategy adopted to achieve the required activity outputs. Future demand drivers, the impact on the Roads and Transportation activity and how they are addressed in the plan. Risk issues, and how they are addressed in the plan.
Section 5 Level of service	What Council aims to deliver; the service standards adopted for the Roads and Transportation activity in consultation with the community Information on how well Council is doing in providing these service standards
Section 6 AM plan assumptions	Statement of assumptions made in preparing the long term work programmes.
Section 7 Financial projections	Long term financial forecast for implementing the Roads and Transportation work programmes
Section 8 Continuous improvement	How Council monitors the effectiveness of its AM planning, and the programme of improvements to be implemented to enhance the quality of planning in line with its business needs.

Part B	The Assets We Manage
Asset information	The assets Council uses to deliver the Roads and Transportation activity The levels of service to be adopted in order to achieve the required community outcomes The current condition and performance of these assets The financial expenditure The life cycle AM strategies applied to manage assets Asset lives and values including assessment of remaining life and depreciation) The long term operational, maintenance, renewal and capital development programmes prepared to deliver the required service standard,

2.3 Relationship with Other Plans

Refer to Corporate Requirements.

2.4 Key Relationships

Rangitikei District is the main provider for the Roads and Transportation activity in the district.

The Roads and Transportation activity is managed strategically and operationally by in-house resources. The network is managed through two maintenance contracts. One contract is for street lighting, with the remainder of the assets managed under one inclusive contract. External professional services are contracted in to complete the following services:

- Surveying
- Road Design
- Valuations
- Safety Management System Management
- Independent Safety Audits
- Bridge Inspections
- Geotechnical Engineering
- Structural Design

Rangitikei District adjoins areas administered by Manawatu, Wanganui and Ruapehu District Councils.

The Management of the Roads and Transportation network is managed under a shared services agreement by the Infrastructure Group of the Manawatu District Council.

Council maintains relationships with Infrastructure Group staff of the other Councils to facilitate the exchange of information, management practices

The Rangitikei District Council Roads and Transportation asset attracts a 59% subsidy from NZTA for maintenance and capital expenditure for all rural road activities and for kerb to kerb activities in urban areas.

The Activity

3 The Activity

The activity provides a roading network throughout the district, combining road pavements, bridges, culverts, stormwater drainage.

The activity also provides a footpath and street lighting network throughout the district, combining concrete, asphaltic concrete and un-surfaced footpaths, street lights, under veranda lighting, Festive decorations and commemorative flags.

3.1 Effects of the Activity on Community Wellbeing

Contributing to the district's economic and social well-being by providing safe, convenient and orderly road transportation throughout the district. Allows people to easily go about their activities in a safe, convenient, efficiently and timely manner. Provides links throughout the district and to other regions, including strategic and efficient links to State Highways and inter-regional networks.

Community Well-being	Positive	Negative	Significant effect Yes/No	Current mitigation method
Social	Efficient travel times to town centres and inter-regional routes	Road deaths	Y	Undertake crash reduction studies
Environmental	Provides organized flow throughout the District, limiting the impact on sensitive environments	Stock effluent, Emissions from road transport, Traffic noise and vibration	Y	Provisions for stock effluent disposal, promote alternative routes, surface treatments to minimize noise
Economic	Reduced travel times from production sites to major centres. (from the farm gate to the factory)	Natural geographic features and erodible soils in the central and northern parts of the district are susceptible to slips, which close roads and isolate rural communities	Y	Close monitoring of the network. Close contact with land owners ensures an immediate response to events and restoring access.
Cultural	A safe and caring community Supports strong communities	The need for roads may compromise the preservation of cultural sites	N	Historical and cultural values taken into account when building or modifying roads

3.2 Significant Changes for the Activity

The Roads and transportation asset has the largest spend from Council and ratepayers, so it is important to minimise costs wherever possible. One area where costs can be further scrutinised is in the management approach to the running of contracts. An Alliance contract is one where the Council and the Contractor share risk and success. This puts a greater onus on both parties to create efficiencies and to perform to a high

standard. An Alliance contract being run in an adjacent local authority is also producing savings in the overall expenditure on their network.

The Rangitikei District Council is looking at new ways to manage its maintenance contracts in order to reduce costs to the ratepayer and provide maximum value for money.

4 Strategic Environment

4.1 Council Vision

Refer to Corporate Requirements.

4.2 Strategic and Corporate Goals

Refer to Corporate Requirements.

4.3 Statutory Requirements

The key legislation relating to the management of roads and transportation assets are listed below:

Land Transport Management Act 2003

- The purpose of this Act is to contribute to the national aim of achieving an integrated, safe, responsive, and sustainable land transport system.

Transport Act 1962

- Controls aspects of road and traffic operations, including Traffic Regulations, bylaws, enforcement.

New Zealand Transport Strategy (NZTS)

The Strategy's objectives are to:

- assist economic development
- assist safety and personal security
- improve access and mobility

- protect and promote public health
- ensure environmental sustainability

Regional Land Transport Strategy

- It's about providing them regional links to provide an affordable, integrated, safe, responsive and sustainable land transport system.

4.4 Asset Management Strategy

Refer to Corporate Requirements.

4.5 Future Demand

4.5.1 Growth

Refer to Corporate Requirements.

4.5.2 Impact of Trends

A summary of the impact on the management of Roads and transportation assets by the above issues is shown in the following table.

Issues	Impact on assets
Demographic trends	<ul style="list-style-type: none"> • Less mobility especially for older persons • Greater emphasis on facilities for older people- including provision for mobility scooters in townships
Economic trends	<ul style="list-style-type: none"> • With a growing proportion of people living on low incomes, RDC will need to ensure that the facilities provided are affordable. • Ability to “cash up” and retire with a nest egg to the District, may increase the number of retired people moving into District • More reliance on public transport
Social trends	<ul style="list-style-type: none"> • The community will seek Council services that support a community that looks after its own and is “safe and caring”. • Higher public demand for energy efficiency, conservation and protection of the environment will limit the options that the community may accept for the management of roads in the future, e.g. use of chemicals. • Some existing roads may be used less, others may carry greater volumes
Other trends	<ul style="list-style-type: none"> • Affordable recreation opportunities may increase visitor numbers to the District thus impacting on existing roads and the associated infrastructure

4.6 Demand Management Plan

Refer to Corporate Requirements.

4.6.1 Identifying Demand Management Options

Refer to Corporate Requirements.

4.6.2 Current Asset Management Techniques for the Activity

The current demand management techniques used by Council for this activity are outlined below:

Strategic Environment

Demand component	Method	Example of specific application
Operation	<ul style="list-style-type: none"> Local Area Management 	<ul style="list-style-type: none"> Encourage use of arterial rather than local roads.
Regulation	<ul style="list-style-type: none"> Road Use Restrictions Speed Controls Parking Restrictions 	<ul style="list-style-type: none"> Restrict heavy vehicle entry into residential areas. Control speed of traffic in certain areas. Ration use of road space by parked vehicles.
Incentives	<ul style="list-style-type: none"> Parking Levies 	<ul style="list-style-type: none"> No charges for parking in central business districts.
Education	<ul style="list-style-type: none"> Safety Publications 	<ul style="list-style-type: none"> Publication of safety messages in conjunction with NZ Police and Horizons Regional Council.
Demand substitution	<ul style="list-style-type: none"> Use of other forms of transport 	<ul style="list-style-type: none"> Support private bus companies in the provision of school buses

4.6.3 Future Options for Demand Management Techniques

The use of further demand management techniques for this activity is largely limited to further extension/development of the existing techniques. Opportunities that exist include:

- Supporting Horizons Regional Council in the provision of facilities to support a public bus service to and from Palmerston North
- Introducing parking restrictions in townships to encourage walking and use of buses.
- The use of weight/width restrictions on future bridge replacement/upgrades to limit the roadways available to heavy transport vehicles.

4.7 Taking a Sustainable Development Approach

Refer to Corporate Requirements for Asset Management Plans.

4.7.1 Environmental Management Initiatives

Environmental initiatives for this activity are listed below

- Control of silt
- Control run off of bitumenous materials
- Minimise the spread of plant pests through the use of river aggregates
- Compliance with other industry standards and requirements

4.7.2 Energy Management

Further energy management initiatives for this activity are listed below

- Introduction and expanded use of energy efficient street lighting
- Initiatives from Contractors that promote the lower use of diesel fuels.

4.8 Risk Management

4.8.1 Risk Management Framework

Refer to Corporate Requirements for Asset Management Plans.

4.8.2 Risk Management Context

Refer to Corporate Requirements for Asset Management Plans.

4.8.3 Risk Management Process

Refer to Corporate Requirements for Asset Management Plans.

4.8.4 Corporate Risks

Refer to Corporate Requirements for Asset Management Plans.

4.8.5 Activity Risk Management

Routine inspections, a proactive maintenance regime and detailed reporting are used to mitigate risk within the roads and transportation activity. Continued routine inspections monitor the condition and ongoing performance of the network. The management of the maintenance contracts is based on reducing risk and providing the agreed levels of service.

The following table identifies the risk management for the Roads and Transportation activity:

Strategic Environment

Strategic Performance Measure	Failure Indicator	Asset Group	Cause	Environmental	Safety & Health	Corporate Image	3rd Party Property Damage & Losses	Loss of Service	RDC Business Cost	Likelihood	Risk Severity	Existing	To Develop
	Traffic Delays	Pavements/Roads	Slips	Low			Low			Likely			
			Flooding	Low			Low			Moderate			
	Loss of Structure	Bridges/Culverts	Structure Failure	Moderate			Low			Rare			
			Earthquake	Low			Moderate			Rare			
			Significant Accident	Moderate			Moderate			Unlikely			
	Loss of Route	Bridges/Culverts	Structure Failure	Low			Low			Rare			
		Pavements/Roads	Flooding	Low			Low			Likely			
			Dropouts	Low			Low			Likely			
	Loss of Services	Bridges/Culverts	Structure Failure	Low			Moderate			Rare			
	Accident/Fatality	Pavements/Roads	Significant Accident	Moderate			Low			Rare			
	Environmental Damage	Pavements/Roads	Accident Causing Spill	High			Low			Unlikely			
		Bridges/Culverts	Sealing Failure	High			Low			Unlikely			
	Customer Complaints	Pavements/Roads	Trench Sediment	Low			Low			Almost Certain			
		Bridges/Culverts	Expansion Joint Failure	Low			Low			Unlikely			
			Vandalism and Unsightly Appearance	Low			Low			Almost Certain			

5 Services We Provide

5.1 Introduction

The key drivers of the levels of service are:

Community expectations –

- A roading network which allows people to travel from A to B on a mixture of sealed and gravel roads, maintained to the current standard.
- A functional road network that provides access to residential, commercial and retail premises with some beautification of road reserves.
- The level of service balances the public / private benefit.
- Increased asset length and footpath renewal programme.
- Continual upgrade of streetlight components. The level of service increases as technological advances creates efficiencies

Community outcomes –

- A buoyant District economy
- Enjoying life in the Rangitikei

5.2 Customer Profile

Refer to Corporate Requirements.

5.2.1 What Customers and Stakeholders Want

Refer to Corporate Requirements for Asset Management Plans.

5.2.2 How We Engage With Customers

Refer to Corporate Requirements for Asset Management Plans.

5.2.3 Key Findings from Surveys

The results indicate that the percentage of those “very or fairly satisfied” has increased for Council Roads and footpaths and stayed the same for Street lighting, between 2007 and 2010.

Generally there was a high level of residents “very or fairly satisfied’ with the existing services but there were also some key messages and areas for improvement identified for some activities. These are discussed in detail in Part B of this plan.

Peer Group Comparisons

The comparison of the percentage of residents not very satisfied for Rangitikei, against the Peer Group and/or National Averages, was favourable for Rangitikei District for street lighting, where the result of 8% was considerably lower than the peer group average of 14% and the National average of 14%. Rangitikei performs on a par with like Local Authorities and/or Local Authorities nationwide on average for the level of dissatisfaction with Council roads and footpaths.

	Rangitikei 2010		Rangitikei 2007	
	Very/fairly satisfied %	Not very satisfied %	Very/fairly satisfied %	Not very satisfied %
Council Roads excluding State Highways	76	22	70	28
Footpaths	71	22	61	27
Street Lighting	83	8	81	9

Services We Provide

5.3 Key Levels of Service Drivers

5.3.1 Customer Drivers

Refer to Corporate Requirements for Asset Management Plans.

5.3.2 Legislative Requirements

The table below details the statutory requirements and other guidelines that are relevant for setting service standards for the activity.

Land Transport Management Act 2003	The purpose of this Act is to contribute to the national aim of achieving an integrated, safe, responsive, and sustainable land transport system. Determines level of funding assistance that may not align with network condition.
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5.3.3 Asset Constraints for Levels of Service

Refer to Part B of the Roads and Transportation Asset Management Plan.

5.3.4 Impact of Drivers on Future Levels of Service

The levels of service delivered by the assets covered in this plan, is largely constrained by the physical limitations of the existing assets. There has been significant investment in these assets by both the Council and NZTA. Community needs are changing and NZTA funding is becoming increasingly difficult to secure. The community may be unwilling or unable to pay for changes to levels of service.

Legislation has a large influence on determining levels of service for this activity, it largely prescribes the level of service that the community may be able to secure external funding for.

5.4 Levels of Service

Refer to Corporate Requirements for Asset Management Plans.

5.4.1 Key Target Levels of Service

Refer to Corporate Requirements for Asset Management Plans.

5.5 Identified Level of Service Gaps

The research undertaken has identified gaps in terms of delivering the Levels of Service. In summary these gaps are:

- Maintained smoothness on unsealed roads during periods of continued dry weather
- Maintaining specified grass heights during prolific growth periods
- Maintaining the district wide maintenance regime during and immediately following heavy rain storms

To address these gaps and provide the Target Levels of Service identified in the above tables, the following key points are noted.

The roading team is working on improving the standard of the network, in order to reduce maintenance costs. Part of the above process is to work innovatively, in order to develop new maintenance techniques, which will require less frequent routine maintenance. Continued monitoring of the network will facilitate opportunities for improvements.

5.6 Future Changes to Levels of Service

Refer to Corporate Requirements for Asset Management Plans.

6 Activity Management Practices

6.1 Introduction

Refer to Corporate Requirements for Asset Management Plans.

6.2 Organisational Structure and Asset Responsibilities

Refer to Corporate Requirements for Asset Management Plans.

6.2.1 Infrastructure Group Structure

Refer to Corporate Requirements for Asset Management Plans.

6.2.2 Asset Management Planning Group

Refer to Corporate Requirements for Asset Management Plans.

6.2.3 Procurement of External Services

Refer to Corporate Requirements for Asset Management Plans.

6.2.4 Asset Management Information

Data Management and Information Systems

Council maintains its core Roading asset data within the RAMM System.

The software allows for the data to be viewed in a variety of forms. It has extensive and advanced searching functions, as well as tabular and graphical reporting of search results.

Customer Requests: There is no direct link between RAMM and the customer request system. Council are currently reviewing the system that manages customer requests. The system Council has chosen has the ability to communicate directly with RAMM. Once the system is operational the linkage between the two systems will be investigated and implemented.

Financial Data: The actual costs of renewals are entered against the appropriate asset component within RAMM.

A valuation is carried out every year by an external valuer, using the RAMM data.

6.2.5 Organisation / Commercial Strategies

Contract management

Bridge inspections, emergency works supervision, design and survey services are also contracted out.

Project management is provided by the Professional Services Unit (PSU) of the Infrastructure Group.

The role of the Asset Manager is to identify the outcomes to be delivered and manage the budget; the PSU specify, procure, manage and monitor the delivery of the agreed outcomes.

Activity Management Practices

The Asset Manager - Roading also has responsibility for the management of the service level agreement to the Community. This is covered in more detail in Part B.

The PSU roading team manages the maintenance contracts, which also include renewal and capital works.

The contracting strategies are generally well developed and effective external contracts are in place with physical works and professional services providers.

The procurement strategy was used to determine the procurement process for the maintenance contracts, which were let in 2010. A registration of interest process, followed by an invited tender process was used. As the focus of this contract is largely quality.

However, the Rangitikei District Council was not considered an approved organisation by NZTA at the time of tendering, so price was still weighted at 70% in the tender evaluations.

Asset Accounting/Costing

Valuation

The valuations are based on RAMM Data. The basis of valuation and all assumptions are well documented in the asset management plan. The valuation is undertaken by a suitably qualified independent valuer every year.

The RAMM software has provision for assigning modern equivalent asset (MEA) rates to components. In combination with age, condition and

performance data, these rates are used to value the assets and to develop renewals forecasts

Whole of life costs

Cost information is held in the financial system at the major activity level. Maintenance and renewal activity expenditure is also held within RAMM. Forward work programmes are also being developed within RAMM, which will allow future maintenance and construction costs to be accurately estimated.

A future improvement is to assign capital expenditure to assets within RAMM.

The RAMM system can produce reports for any section of the roading network, which will show ages, material types, maintenance and renewal work and dates. The report will show whole of life costs as well as costs incurred to date.

Asset Management Plan Assumptions

7 Asset Management Plan Assumptions

7.1 Corporate Assumptions

Refer to Corporate Requirements for Asset Management Plans.

7.2 Activity Assumptions

Forecasting assumptions relating to the Roads and Transportation Activity:

Forecasting assumption	Risk	Level of uncertainty	Reasons and Financial Effect of Uncertainty
Activities- Council will not exit any of the activities covered by this plan during the term of the asset management plan	Council may chose to exit activities due to constrained finances	Low	Council has listed the assets covered by this plan as strategic assets, demonstrating its intention to continue with them
Lives of assets- predictions contained in the Asset Management Plans are realistic	Asset lives are over stated and assets fail to deliver levels of service earlier than forecast	Low	Asset lives are reviewed regularly as part of condition assessment process
Levels of service – predictions of demand trends form a sound basis for the upgrading of assets	Council may renew or build new assets which do not meet user needs	Low	Council keeps regularly abreast of National and International transportation trends

Financial Projections

8 Financial Projections

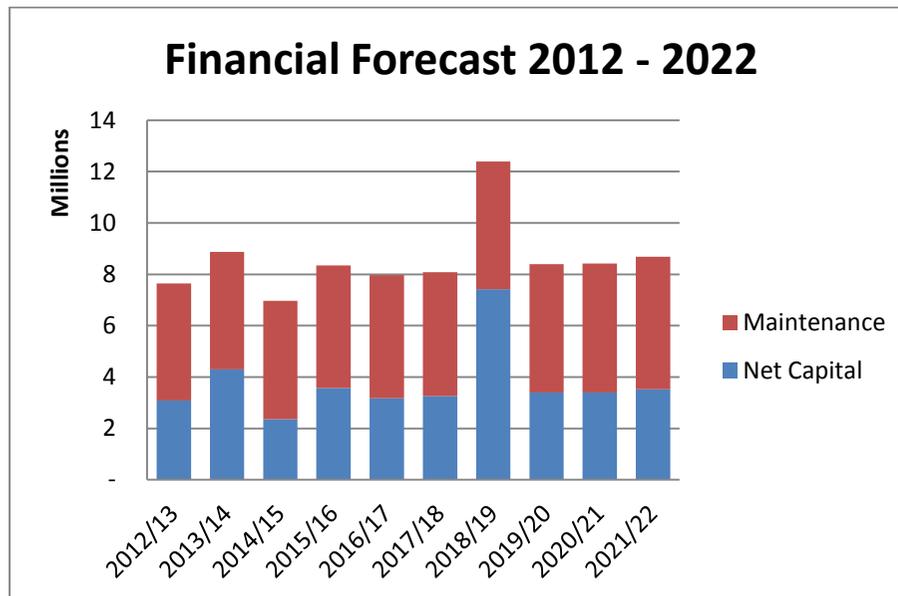
8.1 Introduction

Refer to Corporate Requirements for Asset Management Plans.

8.2 Financial Statements and Forecasts

The 10-year cash flow forecasts for this Activity is presented on the next page. Detailed financial worksheets are presented in the Appendices

8.2.1 Expenditure Forecast



Financial Projections

Prospective Roading Budgets for 2012-2022

	BUDGET 2012/13	BUDGET 2013/14	BUDGET 2014/15	BUDGET 2015/16	BUDGET 2016/17	BUDGET 2017/18	BUDGET 2018/19	BUDGET 2019/20	BUDGET 2020/21	BUDGET 2021/22
Renewal Expenditure	7,179,007	8,262,014	6,965,514	7,383,207	7,236,408	7,239,926	11,368,953	7,523,297	7,527,436	7,797,903
Capital Expenditure	720,990	653,150	655,315	680,950	682,930	685,106	712,161	714,848	717,408	745,717
Total Capital	7,899,997	8,915,164	7,620,829	8,064,157	7,919,339	7,925,032	12,081,114	8,238,145	8,244,845	8,543,620
less Govt Subsidy	- 4,809,717	- 4,617,154	- 5,257,648	- 4,486,683	- 4,749,179	- 4,660,221	- 4,660,221	- 4,840,699	- 4,840,699	- 5,016,535
Net Capital	3,090,280	4,298,010	2,363,181	3,577,474	3,170,160	3,264,811	7,420,893	3,397,446	3,404,146	3,527,085
Maintenance	4,559,789	4,581,067	4,603,227	4,771,708	4,796,240	4,819,901	4,967,842	4,995,005	5,023,514	5,158,458
Total	7,650,069	8,879,077	6,966,408	8,349,182	7,966,399	8,084,712	12,388,735	8,392,450	8,427,660	8,685,542

Financial Projections

8.3 Funding Strategy

External Funding

The roads and Transportation asset attracts a subsidy from Central Government. The subsidy is from the NZ Transport Agency and is called a Financial Assistance Rate (FAR). The base FAR, for maintenance, is 58%, which extends to 69% for capital and renewal work.

8.4 Valuation Forecasts

Refer to Corporate Requirements for Asset Management Plans.

8.4.1 Basis of Valuation

Refer to Corporate Requirements for Asset Management Plans.

8.4.2 Scope of Valuation

This valuation encompasses:

Data Sources

The District's roading assets information is held on the Road Asset Maintenance Management (RAMM) system. The system records completed and forward work items, including both maintenance and construction activities. Both routine and programmed maintenance activities are recorded in RAMM, with a zero dollar value placed against routine works.

The Rangitikei District Council contracted GHD Limited to complete the valuation on the entire roads and transportation network.

The valuation included all components of the roads and transportation asset. Each component has a calculated value (replacement cost), depreciation and depreciated value.

8.4.3 Significant Assumptions

Data Verification

Given that most of the data has come off as-built plans and that day-to-day operations has not highlighted major concerns with the integrity of the data, it can be safely assumed that the data is materially correct. Where errors have been identified they have been corrected. Procedures are in place to collect verification data during routine maintenance work.

RAMM holds fields for recording data accuracy against each asset. Summary information for each scheme can be found in Part B

Useful Lives

The following process was followed in determining the standard useful lives and useful lives adopted.

The standard useful lives for the assets has been guided by Table 5.3.1 in the NZ Infrastructure Asset Valuation and Depreciation Guidelines, but has been adjusted and aligned with the customised asset component hierarchy used by the asset management system

Quality Assurance Processes

The databases used in this valuation are continually being updated as part of the normal day to day operations. As such their integrity and robustness is continually being enhanced. Up until now random informal quality assurance checks have been made, which included checks with as built data and with the assets in the field. It is proposed that this will continue. Asset attributes are cross referenced with asset repair sheets filled in by operational staff and contractors as part of their service level agreements with the Infrastructure Group.

The following assumptions have been made when preparing the valuation related to asset registers:

- A section of road pavement has a replacement value of \$0 when reconstruction work starts on that section
- The deterioration rate will be constant across the entire network. While this is not physically accurate, the rate of deterioration will change throughout the district and will not vary greatly between locations.
- Minor asset items are generally replaced under the maintenance activity and therefore do not have a replacement programme or estimated useful life

Unit Rates

The following assumptions have been used for the establishment of unit replacement rates.

Materials

- Replacement cost for materials does not increase significantly over the term of the plan and not consistently with the cost of inflation.
- The cost of bitumen does not fluctuate unreasonably within financial years and over the term of the plan.

Location

- The location of maintenance and construction works is evenly spread throughout the district so transportation costs do not increase significantly.

Pricing

- Costs based on latest known material prices (including discounts) and installation costs from contracts where applicable. Prices also include all design and supervision rates.
- Comparison of unit rates with other local authorities
- No discount rate has been applied. It is considered that the volume of replacements would not be significant or in sufficient quantities that could generate savings.

8.4.4 Valuation Process

Data Verification

Given that most of the data has come from on-site inspections and that day-to-day operations have not highlighted major concerns with the

Financial Projections

integrity of the data, it can be safely assumed that the data is materially correct. Where errors have been identified they have been corrected. Procedures are in place to collect verification data during routine maintenance work.

RAMM holds fields for recording data accuracy against each asset. Each attribute that has a degree of uncertainty about its accuracy is recorded on a 1-5 scale.

8.4.5 Depreciation Forecasts

Refer to Corporate Requirements for Asset Management Plans

Improvements to Asset Management Planning

9 Improvements to Asset Management Planning

9.1 Overview

Refer to Corporate Requirements for Asset Management Plans.

9.2 Current Asset Management Practice

Asset management practice relative to appropriate practice. The assessment of current practice is based on the 2010 MWH report results, taking into account improvements in practice made since the review.

Data

Asset Management Activity	Current Practice	Appropriate Practice
Asset Classification	All asset components are classified adequately within the parameters of RAMM One core record per Land ID	Adequate classification has been achieved
Asset Identification	Most assets have been identified uniquely and are input into the RAMM database Some newer assets are yet to be entered	Asset data collection is an ongoing process. Data records are accurate
Asset Attributes, Textual Data	An adequate description of asset component details has been input into RAMM Some updating is needed	Relevant and up-to-date attributes recorded for all assets. As new assets are installed the descriptions are updated.
Asset Attributes, Spatial Data	An adequate description of asset component details has been input into RAMM Some updating is needed	GIS link for each asset All special data is up to date and accurate

Improvements to Asset Management Planning

Asset Management Activity	Current Practice	Appropriate Practice
Condition and Performance Data	Condition data is being loaded into RAMM	All asset records include condition and performance ratings
Maintenance Data	Information is input directly into RAMM RAMM Contractor is used extensively within the maintenance contract.	Relevant and up to date maintenance data is in the database
Future Prediction Data	Growth and demand data prepared corporately, and updated three yearly	Growth and demand data prepared corporately, and updated three yearly
Lifecycle Costs	Replacement costs are recorded from recent renewal and upgrade projects or from the Rawlinson's Construction Handbook	Current life cycle costs are known for all significant asset types

Information Systems

Asset Management Activity	Current Practice	Appropriate Practice
Asset Database	A comprehensive asset database in place in the form of RAMM RAMM software produces all the necessary reports and graphs needed for management of the facilities assets	Comprehensive asset data in stored in RAMM RAMM software produces all the necessary reports and graphs needed for management of the facilities assets
Financial System	The current financial system is entirely separate from the RAMM database All costs (operation, maintenance, capex) are recorded by the manager against appropriate cost codes in the financial system Valuation is carried out every three years by an external valuer. The values are input into Council's Fixed Asset Register and depreciation is calculated on a straight-line basis	A formal process is in place to ensure that capital costs (renewals or new assets) are recorded as capital expenses in the financial system A formal process is in place to ensure that these same capital expenditures are transferred into RAMM against the appropriate asset location and also that replaced assets are removed from RAMM This updating of the RAMM database is carried out at least quarterly An electronic system is in place to record maintenance costs against individual assets

Improvements to Asset Management Planning

Asset Management Activity	Current Practice	Appropriate Practice
		Valuation is carried out every two years by an external valuer. RAMM is used to estimate future renewals budgets
Maintenance Management	Pocket RAMM and RAMM Contractor are used extensively for the maintenance contract.	Maintenance work on non- land assets is captured RAMM links maintenance details to relevant asset components and enables tracking of work history. Critical and non-critical assets flagged in RAMM.
Contract Management	Contract management is carried out by the Professional Services Unit Contract performance is monitored monthly to ensure levels of service are delivered	A system is in place to ensure maintenance and renewal work is recorded accurately in RAMM.
Customer Enquiries	Customer enquiries are directed to the contractor is routine works, and to the PSU Staff if outside scope of contract	Current system is considered appropriate for Roads and Transportation Assets
Work Planning	Work is programmed by asset managers based on site visits and condition surveys RAMM renewal projections are based on life and condition.	RAMM is used to form first indication of renewal projections and maintenance budgets
Risk Management	Risk register is complete Critical assets have not been tagged in RAMM	Critical components identified Risk register kept up to date and risks managed
Plans and Records	Most design plans and some as-built plans are kept in hard copy form in the Professional Services Unit plan room	Effective plan/document management system to validate/capture as-built data All plans and records included in the RAMM database as attachments.
GIS	Property Land ID numbers are currently used with Council's GIS system	This current practice is considered appropriate

Improvements to Asset Management Planning

Processes

Asset Management Activity	Current Practice	Appropriate Practice
Governance and Asset Management	Council, Executive, and Asset Managers understand the need for transparent asset management and are in the process of implementing comprehensive AMPs	Asset management planning team drive asset management processes across organisation Managers use the AMP as a working tool beyond simply compliance with governance requirements
Integrated Decisions	Asset management planning processes and plans are standardised across Council and driven by Asset management planning team	This current practice is considered appropriate
Levels of Service (LOS)	LOS have been defined based on existing practice, past service reviews and identified community outcomes LOS are stated in both customer-focused and technical terms Performance measures for meeting targets are identified LOS are linked to the LTP	Ongoing development of consultation process for setting and reviewing LOS Define current cost and actual level of service provided
Link Community Outcomes to Activities	Council Community Outcomes are identified through consultation The published LTP outlines how Council will work towards achieving the outcomes The LTP includes linkages between outcomes and the activity levels of service	This current practice is considered appropriate
Knowledge of Assets	There is a good understanding of all significant assets, and the relevant information is now held in the RAMM database Some as-built plans are held in the Professional Services Unit plan room Other as-built plans are held in the Building Services Unit	RAMM database is functioning with processes in place to recognise data accuracy and data gaps Ongoing review of strategy for collecting/improving asset data Data accuracy needs defined and appropriate validation processes in place
Condition Assessment and Monitoring	Condition assessment of all assets undertaken in 2011 to component level. Rudimentary assessment of performance of all assets undertaken in 2011.	Condition and performance assessments undertaken at least two yearly, with higher frequency for assets with high criticality and /or nearing end of life

Improvements to Asset Management Planning

Asset Management Activity	Current Practice	Appropriate Practice
Financial Accounting	<p>Manager signs off all expenses against set Operations, Maintenance, Renewals cost codes as invoices are paid</p> <p>Actual costs of renewals are entered against the appropriate asset component within RAMM.</p> <p>RAMM used to forecast renewals based on asset age</p> <p>3-yearly external valuation (Fair Market Value method) and Council's Fixed Asset Register for valuations</p>	<p>All CapEx costs recorded against individual assets within RAMM</p> <p>Valuation of assets possible using RAMM.</p> <p>RAMM used to project renewals budgets, based on age, condition and performance</p> <p>Yearly internal audit reconciling CapEx costs in financial accounting system with costs input in RAMM</p>
Asset Utilisation/Demand Modelling	<p>Good knowledge of demand</p>	<p>Formalised system for recording utilisation and demand against assets in RAMM</p>
Risk Management	<p>Risk assessment as been completed, and all risks assessed and managed in line with Corporate Risk framework Strategy</p> <p>Risk strategies documented in risk management plan</p>	<p>All critical assets monitored, and failure modes investigated</p> <p>Business continuance plan in place</p>
Operations	<p>Standard operations procedures are recorded and adhered to in order to take into account customer service, policy and legal requirements</p>	<p>Standard operating practices are reviewed regularly</p>
Maintenance	<p>Maintenance is carried out in accordance with Council contract documents</p> <p>Larger maintenance tasks are planned</p>	<p>An adequate system is in place for recording maintenance history of all assets</p>
Performance Monitoring	<p>Performance measures and levels of service are linked</p> <p>Monitoring and reporting of performance against measures occurs on at least an annual basis</p>	<p>Performance measures and levels of service are linked</p> <p>Performance standards are fully documented</p>
Optimised Renewal Strategy	<p>10 year forward capital works programme is based on asset condition and age and used as the basis for funding decisions</p> <p>Some renewals based on response to breakages or failures</p>	<p>This current practice is considered appropriate</p>

Improvements to Asset Management Planning

Asset Management Activity	Current Practice	Appropriate Practice
Creation of New Assets	<p>The design of new assets is carried out by Professional Services Unit or external consultants</p> <p>Project management procedures are in place</p> <p>Lifecycle costs are considered as part of decision process</p>	<p>This current practice is considered appropriate, plus checks in place to ensure new projects deliver in terms of outcomes and LOS</p>
Quality Assurance/ Continuous Improvement	<p>Audit NZ annually audits performance measures reported in annual report</p> <p>Asset Manager monitors asset management plan preparation, review and improvement</p>	<p>This current practice is considered appropriate</p>
Asset Management Processes	<p>Asset management plans used by asset managers</p> <p>Asset management plans drive budget process</p> <p>Asset management plans are public documents</p> <p>Plans are adopted by Council as the first step in the development of the draft LTP</p> <p>Council has a clear timetable- through the asset planning group, for asset management processes</p>	<p>Asset Management Plans are live documents with extensive use by:</p> <ul style="list-style-type: none"> Governance Executive Management Operations Finance Public <p>Plans have overall Council buy-in and executive buy-in</p>
Audit and Review	<p>The AMP is reviewed and audited at least every 3 years as a base document underpinning the LTP</p>	<p>This current practice is considered appropriate</p>

Improvements to Asset Management Planning

9.3 Asset Management Improvement Process

Refer to Corporate Requirements for Asset Management Plans.

9.4 Asset Management Improvement Programme

The following table shows the improvement actions arising from 2010 MWH review:

Task No	Improvement action(s)	Person to complete the Task	Anticipated/ Completion Date	Comments
1	Improve the linkage and integrated planning with other activity areas	Benita Engelsma	25-Feb-11	Task is completed and included in AMP
2	Document Asset Management Plan development process			
3	Update Asset Management Plan			Currently being updated
4	Review the use of consultants vs. in-house staff	Ross l'Anson	28-Feb-11	Resources brought back in-house, other than specialist consultants
5	RAMM Data Review	Benita Engelsma	21-Apr-11	Task is completed and included in AMP
6	Review of status and collection processes for road attribute data	Ross l'Anson	30-Jun-11	Task is completed and included in AMP
7	Review requirements for condition and performance data	Ross l'Anson	8-Mar-11	Additional data collected and frequencies determined
8	Ensure every line in the financial forecast is explained in the lifecycle section and assumptions noted	Ross l'Anson	31-Jul-11	Task is completed and included in AMP
9	Incorporate a robust sensitivity analysis of the financial projections and show graphically as an expenditure envelope	Ross l'Anson	31-Jul-11	Task is completed and included in AMP
10	Review and further development of the asset renewals strategy	Ross l'Anson	31-Aug-11	

Improvements to Asset Management Planning

Task No	Improvement action(s)	Person to complete the Task	Anticipated/ Completion Date	Comments
11	Level of Service Review: Evaluate service level review options and document preferred process - timing, cost, methodology (e.g. focus groups, questionnaires, etc.), key performance indicators, and responsibilities. This is a corporate activity. Ongoing Consultation (corporate activity and cost).	Ross l'Anson	30-Oct-11	
12	Develop alternative service level options and costs (i.e. using dTIMS) to be used in consultation with key customers. Ensure consistency with forecasts, renewal program etc and integrate results into road asset management plan (task 1).	Asset Manager - Roothing	30 Apr-12	
13	Review and update LOS. (Pavement LOS measures based on roughness and defects. NZTA audit suggests opportunity to reduce renewals investment. Vegetation control LOS needs review and further definition.	Asset Manager - Roothing	30 Apr-12	
14	LOS: review and development of improved performance measures	Asset Manager - Roothing	30 Apr-12	
15	Information systems strategies: Review of the RFS system to ensure functionality and alignment with activity data management systems	Benita Engelsma	4-Mar-11	Task is completed and included in AMP
16	Asset Data: Review asset data management systems including ADMS, RAMM, dTIMS	Benita Engelsma	21-Apr-11	Task is completed and included in AMP
17	Provide improved justification for the useful lives used for asset valuation and renewal model based improved data and analysis, i.e. dTIMS.	GHD	30-May-11	Task is completed and included in AMP

Improvements to Asset Management Planning

Task No	Improvement action(s)	Person to complete the Task	Anticipated/ Completion Date	Comments
18	Asset renewal strategies - develop asset renewal strategies for each asset group which identifies: appropriate intervention criteria/levels of service, asset life expectancies, understanding of failure modes, lowest long-term cost options (materials, etc), backlog works, and long term renewals costs	GHD	30-May-11	Task is completed and included in AMP
19	Asset renewal strategies – Road and Pavements	GHD	30-May-11	Task is completed and included in AMP
20	Review appropriateness of dTIMS implementation	GHD	31-Aug-11	
21	Implement data improvement programme. Focus on drainage, signs, bridges, footpath data- add in missing data and improve quality of existing data.	Ross I'Anson	31-Mar-11	Data is being collected and information is being held in RAMM. Bridge Inspections to follow same process.
22	Identify alternative service standards and discuss cost implications based on improvement projects such as dTIMS	Ross I'Anson	30-Nov-11	
23	Incorporate the best asset condition and performance information being collected from improvement tasks and carry appropriate analysis to provide robustness to management strategies and financial forecasts	Ross I'Anson	30-Nov-11	
24	Review dTIMS implementation	Asset Manager - Rooding	30-Apr-12	
25	Review decision making processes and improve linkage between data interrogation and the development of strategies and activities	Ross I'Anson	Continuous	This work is being completed continuously.
26	Assess impact of new legislation, eg truck weight changes	Ross I'Anson	31-Jul-11	Task is completed and included in AMP
27	Update the improvement program	Benita Engelsma	25-Feb-11	Task is completed and included in AMP
28	Update the AMP to include the status, conclusions and outputs of improvement tasks initiated since the last plan	Benita Engelsma	4-Mar-11	Task is completed and included in AMP

Improvements to Asset Management Planning

Task No	Improvement action(s)	Person to complete the Task	Anticipated/ Completion Date	Comments
29	Document AM Plan development process. To prepare and document the process for preparation of RDC's asset management plan and a template for the format of the plan. To co-ordinate the programme for developing and updating other documents which supporting the overall asset management planning process.	Benita Engelsma	11-Mar-11	Task is completed and included in AMP
30	AM plan development. To update the asset management plan in accordance with the development process, incorporating improvements identified in discussion with MDC staff and the independent peer review report	Ross l'Anson	Continuous	This work is being completed continuously.
31	Review and improve asset management assumptions	Ross l'Anson	Continuous	This work is being completed continuously.
32	Develop a risk register for the RDC road network	Benita Engelsma	1-Apr-11	Task is completed and included in AMP
33	Continue to develop the current high level asset risk register drilling down into the specified extreme and high risks.	Benita Engelsma	1-Apr-11	Task is completed and included in AMP
34	Review and update Risk registers and ensure risk is included in asset management strategies	Benita Engelsma	21-Apr-11	Task is completed and included in AMP
35	Identify critical assets through screening projects, and assign criticality ratings in asset registers	GHD	30-May-11	Task is completed and included in AMP
36	Update Risk register and incorporate risk	Ross l'Anson	31-Jul-11	Task is completed and included in AMP
37	Develop a risk strategy consistent with the New Zealand Risk standard tailored to meet the needs of RDC	Ross l'Anson	31-Jul-11	Task is completed and included in AMP
38	Review improvement tasks brief, to ensure that high priority improvement actions are identified in the risk register are addressed	Ross l'Anson	31/03/2011	Task is completed and included in AMP

Improvements to Asset Management Planning

9.5 Asset Management Plan Review

Refer to Corporate Requirements for Asset Management Plans.