

# SUMMARY: LAND TRANSPORT ASSET MANAGEMENT PLAN

## Introduction

This Asset Management Plan (AMP) for Land Transport Network 2012 describes in detail how the District's land transport network will be managed to support the Council's Vision and Strategies for the South Waikato District, particularly over the next 10 years as encapsulated in the Long Term Plan 2012 – 22. The strategies will also include National and Regional Land Transport strategies including National and Regional Land Transport programmes and Government Policy Statement.

Chapter 1 – INTRODUCTION: describes how the AMP is a “tactical” management tool within Council's strategic framework of planning processes. The purpose of the AMP is to ensure that assets are operated and maintained in a sustainable and cost effective manner, so that they provide the required level of service for present and future customers. A description of the Land Transport Network activity is provided and issues that may arise during the 10-year planning horizon are identified.

Chapter 2 – CONTRIBUTION TO THE COUNCIL OUTCOMES: explains how the Land Transport Network activities undertaken over the next 10 years will contribute to Council's goals and strategies in terms of the Social, Economic, Cultural and Environmental well beings and the justification for Council's involvement in the activity.

Chapter 3 – CURRENT LEVELS OF SERVICE: sets out the levels of service the Council provides within the land transport network for the community and how these were determined, including statutory requirements, service gaps and how they are met or improved.

Chapter 4 – PLANNING FOR FUTURE NEEDS: looks at the current capacity of the land transport network service, compares this with estimated future demands and addresses how these will be met in a reliable and sustainable way.

Chapter 5 – LIFECYCLE MANAGEMENT PLANS: provides a detailed description of the Land Transport Network assets, the maintenance and operation plan for the assets and future programmes for renewal and new works.

Chapter 6 – QUANTIFYING AND MANAGING RISK: describes Council's risk management strategy and profiles the risk in this activity. It identifies any critical assets that deserve special consideration and actions taken or to be taken to mitigate those risks.

Chapter 7 – FINANCIAL FORECASTS: sets out the budget projections for the 2012-22 Long Term Plan periods with estimated costs of operation and maintenance, renewal and new assets based on the lifecycle management plans in Chapter 5.

Chapter 8 – ASSET MANAGEMENT SYSTEMS AND PROCESSES describes the systems and processes that are used by the assets managers for the South Waikato District.

Chapter 9 – MONITORING AND IMPROVING ASSET MANAGEMENT: identifies the improvements that have been made to asset management over the last three years, an assessment of current practice and future improvements that are intended to be made over the next three years.

## WHAT WE DO

The South Waikato District Council (SWDC) is in the business of owning, operating and maintaining the roading network (excluding State Highways) because

- The provision of roads is vital to the needs and aspirations of all who live in the District. They provide the primary means of safe access to residents homes, schools, and businesses 24 hours a day, 365 days a year
- Through Council, local communities have representation regarding their transportation needs and the regional road corridors

- The existing road network is a community asset which should be controlled by Council for the reasons above

## Contribution to Council Outcomes

(AMP Chapter 2)

Council's Land Transport Network services are provided for the benefit of the community to ensure that the Vision of "Healthy people thriving in a safe, vibrant and sustainable community", as expressed in the Long Term Plan, is achieved.

Following an extensive community consultation process, Council developed a number of Outcomes and Strategies that took a balanced approach to the four well beings (economic, social, environmental and cultural), which together are intended to support the Vision through delivering sustainable, long term growth and development.

To ensure that transport is underpinned by the principles of sustainability and integration, transport policy will need to focus on improving the transport system in ways that enhance economic, social and environmental well-being, and that promote resilience and flexibility. It will also need to take account of the needs of future generations, and be guided by medium- and long-term costs and benefits.

## Levels of Service

(AMP Chapter 3)

The Council has adopted a series of measures which are intended to indicate how well the road network infrastructure contributes to the community's well-being. Both Customer Service Levels and Technical Standards are used. Some of the measures are reproduced below. New measures will be monitored and achievements reported in future AMPs.

Council has adopted a series of Customer Service Levels with related Technical Standards and Performance indicators that are monitored and reported to indicate how well the infrastructure supports the Council Outcomes. The key performance targets address road quality, service response, safety and financial management.

## Planning

(AMP Chapter 4)

The focus for the previous six years (2006 – 2012) has been the successful initiation and development of asset management practices associated with:

- Improved knowledge of the assets
- Ensuring the asset register continues at the appropriate standard
- Continuity of the asset knowledge within Council
- Consultation framework and implementation

Council's emphasis for the period 2012 to 2022 for the Land Transport Activity will be focused on

- Meeting changing NZTA requirements out lined in the 2012 Government Policy Statement
- National and Regional transport network co-ordination
- Long term sustainability associated with Asset Management, including Risk Management practices and procedures and Renewals requirements within the Land Transport Network.
- Sustainability focus to enable long term options to be considered
- Continued modelling of network performance, asset serviceability and appropriate funding requirements.
- NZTA and Legislative Compliance

- Road safety through Safer Journeys taking a safe systems approach
- District Land Transport Strategy which is a guiding document for the South Waikato Land Transport System for the next 30 years

The following issues have been identified within the 10 year planning horizon:

- NZTA funding allocation (financial assistance) for subsidised roading
- Government emphasis on National and Regional priorities
- Cost impact arising from the introduction of the Emission Trading legislation
- Upgrading roads to accommodate High productivity motor vehicles

### Resident Population Trends

Due to the 2011 Census being deferred as a result of the Canterbury earthquakes, Council has concluded that the conclusions of the 2008 report on population projection, which indicated a relatively stable population, remained valid for the next decade.

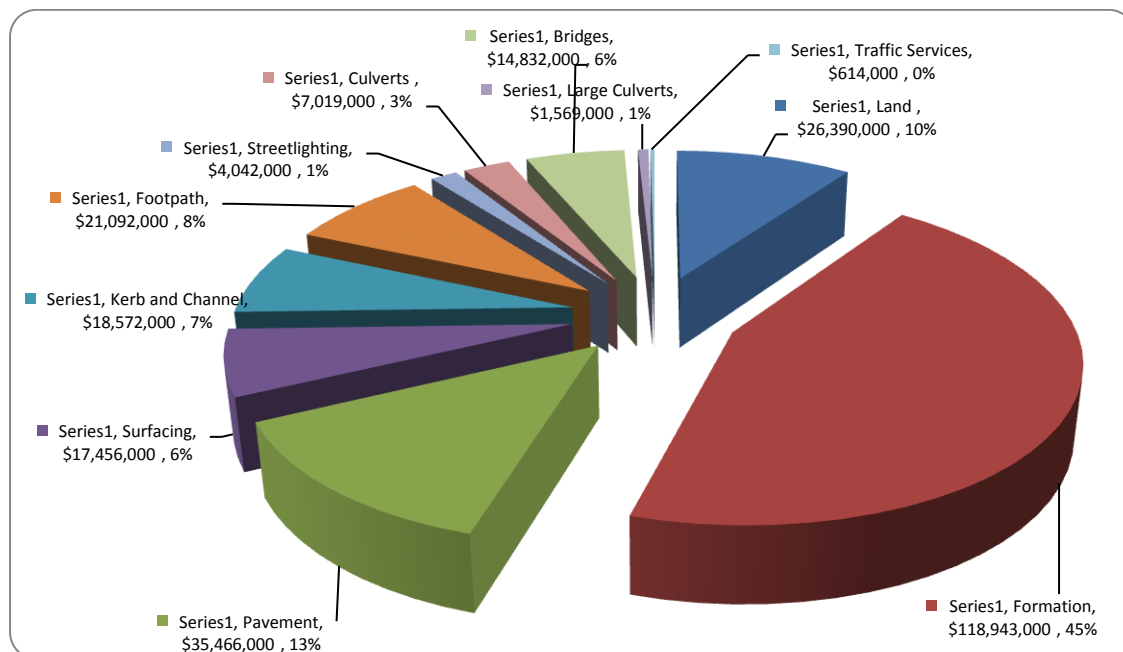
## Lifecycle Management

(AMP Chapter 5)

South Waikato District Council’s 538 kilometres of road network, if laid end-to-end, would reach from Tirau to Wellington. The surface area totals about 3.55 million square metres – equivalent to 330 rugby fields. The extent and distribution of road assets is shown below, based on replacement cost using today’s methods and materials (i.e. ‘optimised’).

A significant proportion of the assets are not visible to motorists. The following table highlights the current (30/06/11) value of Land Transport components:

### Replacement Value Total \$266 Million



- **Earthworks:** this represents the shaping and strengthening of the natural ground forming the lowest foundation layer of the road when originally constructed or when road width is increased, alignment is re-graded to reduce steep sections, or lines of sight are improved by cutting back roadside banks

- **Pavement:** this is the crushed rock material which is compacted over the finished earthworks. It provides the increased strength required to support traffic
- **Drainage:** Sometimes visible as formed earth channels (in urban areas, concrete kerb and channel) on either side of the roadway. Less obviously, reinforced concrete culvert pipes which allow water to cross under the road rather than running over it
- **Surfacing:** Represents the top skin of the road, usually crushed rock sealing chip bonded to the road with bitumen, which is a by-product of the refining of crude oil into fuel and lubricants. Surfacing seals the pavement from damage caused by the combination of water and traffic wheel abrasion and creates the required skid resistance. It is the condition and shape of the pavement which determines the smoothness of the road and its ability to carry loads without losing its shape.

Details of these assets are recorded in a nationally-used management software system named Road Assessment and Maintenance Management ('RAMM'). This enables the individual components to be tracked including size, age, depreciated and replacement value, and reports can be produced to predict theoretical replacement requirements.

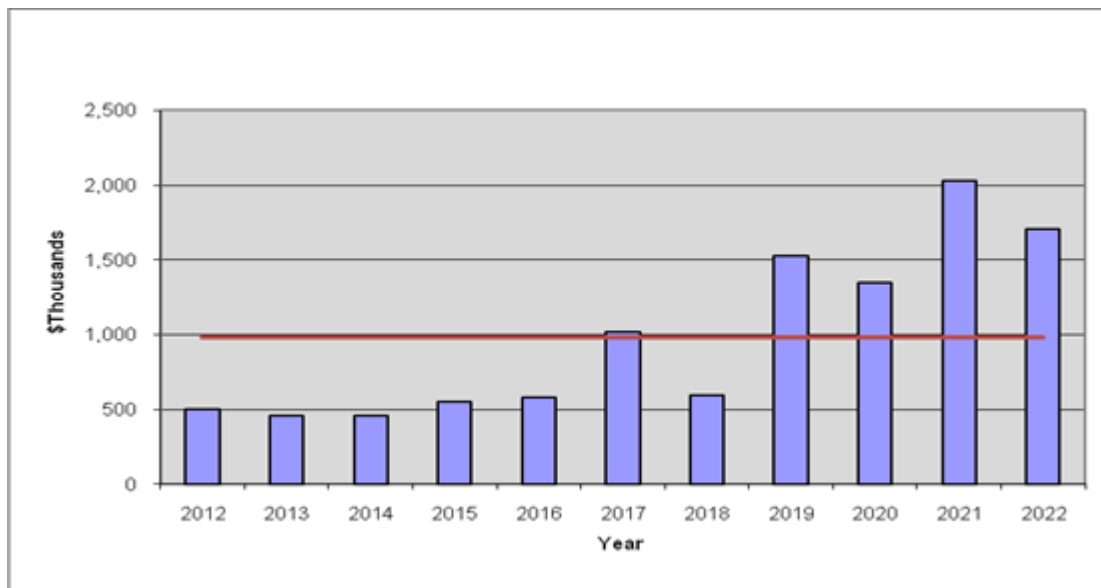
The bulk of maintenance on local roads is carried out under a three-year, competitively-tendered contract for approximately \$1,800,000 per year. Signs, roadmarking and lighting maintenance are carried out by specialist Contractors for about \$30,000, \$212,000 and \$270,000 per year respectively. The current Contracts will expire in 2012 but allowance was made to extend for a further two years.

Council's asset manager engages in discussions with NZ Transport Agency and prepares justification reports to support subsidy applications for maintenance, renewals, capital improvements, and Community Focused activities. Funding is approved on a three year rolling programme, therefore the projected 10 year budgets are indications only, and cannot be confirmed over the planning period. Council receives approximately 50% of subsidised funding from the NZTA for its annual roading programme. The level of this subsidy is reviewed by the NZTA on a three-yearly basis. Currently our Maintenance subsidy is 49%, Improvements 59% and Community Coordination (road safety education) 75%. The level of base assistance takes into account the size of Council's roading programme and the net equalised land value (NELV). Council has been informed by NZTA through the review of the funding assistance rate that the base rate has increased by 1%. This will come into effect in the next three year programme starting in 2012/13 and while there is a 1% increase across both maintenance and renewals there is a significant drop to the community coordination subsidy. There is a reduction of 15% and Council will fund the shortfall to continue with the planned programme.

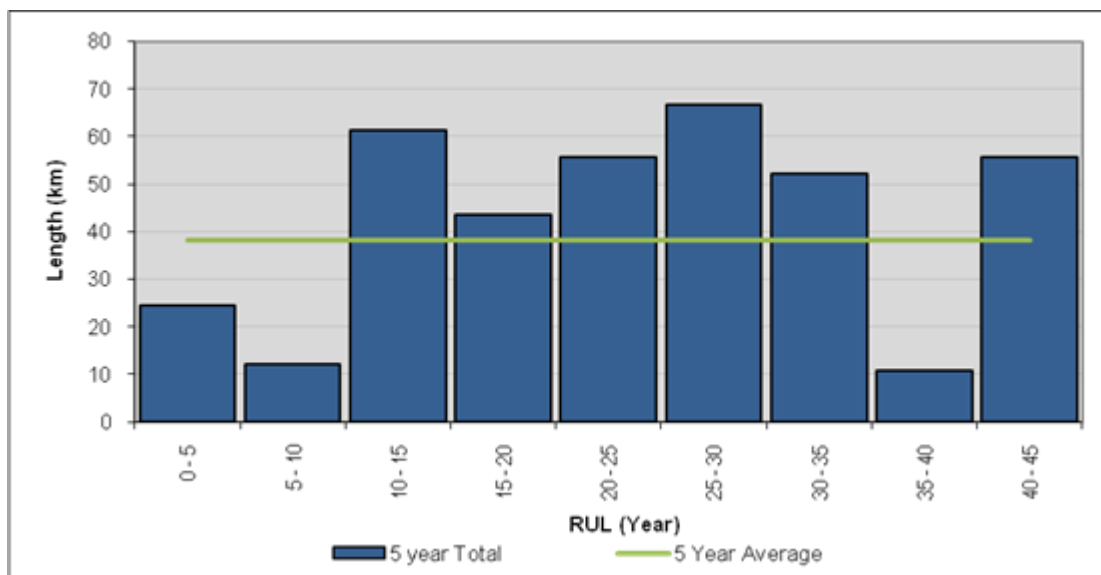
Major road renewal works are subdivided into five main categories:

- "Pavement Rehabilitation" (full width rebuilding of pavement and surfacing) \$868,000 projected for 2011/12
- "Drainage Renewals" (renewal of culverts and kerblines) \$148,000 projected for 2011/12
- "Sealed Road Resurfacing" (applying new layers of chip seal or asphalt over the existing surface) \$1,036,800 projected for 2011/12
- "Traffic Services Renewals" (Signs, marker posts, and carriageway lighting) \$212,000 projected for 2011/12
- "Associated Improvements" (Minor improvements, seal widening carried out with associated road renewal activities) \$157,000 projected for 2011/12. Although this activity has been on-going over a number of years, Council as a result of the review of budgets during the Long Term Plan process has opted to remove the Associated Improvements over the next three years starting in 2012/13 and hopes to resume the activity in the Fourth year of the Long Term Plan.

### Surfacing: Age-based Replacement Costs in AMP Period



### Total Pavement Remaining Life vs. Length in 5 year blocks effective 30th June, 2011



The figures above indicate the tools available in "RAMM" to project asset renewal needs over a long period of time. In these two examples "resurfacing" (sealing) shows an increasing need over the next 10 year planning period. In the second example "pavements" indicates the need to renew an average of 35km for each 5 year period throughout the 45 years. Asset management activities include re-prioritising the predicted requirements to achieve a smooth investment programme, extending the life of some road sections and bringing forward others which may be deteriorating faster than projected.

"Minor Improvements" planned for the next ten years are estimated at \$2.7 million, and the activity is designed for "low cost/ low risk" improvements to the network with individual projects limited to a maximum value of \$250,000. These are mostly rural road seal widening projects, intersection improvements, visibility improvements, minor safety improvements etc. The increase

of dairy farming in the district will generate milk tanker traffic, including use of roads which were not constructed with sufficient width to allow other vehicles to pass oncoming tankers without one or both pulling partially off the sealed road pavement.

## **Risk**

(AMP Chapter 6)

Sustainable and reliable delivery of the Land Transport Network service requires careful consideration of the various types of risk associated with the service.

The major risks addressed in this Asset Management Plan include:

### **Business**

The Corporate Risk Management Policy addresses the four well beings, vision statement and strategic themes. Full details can be found in the South Waikato Risk Register and Risk Profile, which ranks the risks and includes control measures, where they exist.

### **Asset management**

The 2007 Asset Criticality and Risk Assessment report addressed the consequences of infrastructure failure in terms of the four well beings (with assumed weightings) and identified the critical assets that required further investigation in order to ensure that they would continue to perform reliably delivering the agreed Levels of Service.

### **Insurance**

Council is a member of the LAPP fund, which is provided by local authorities to provide funds for reconstruction following major catastrophic events. This type of cover is not available through private insurance providers. Membership requires that all participants undergo a full risk management assessment.

### **Risk Pool**

Council is a member of Risk Pool, which is provided by local authorities for long term legal and professional liability.

### **Civil Defence**

Council participates in a region wide Civil Defence Emergency Management Group, as required by legislation. The scope includes co-ordinated planning, training, public awareness and response to major events that affect the safety of its residents.

### **Waikato Engineering Lifelines Group**

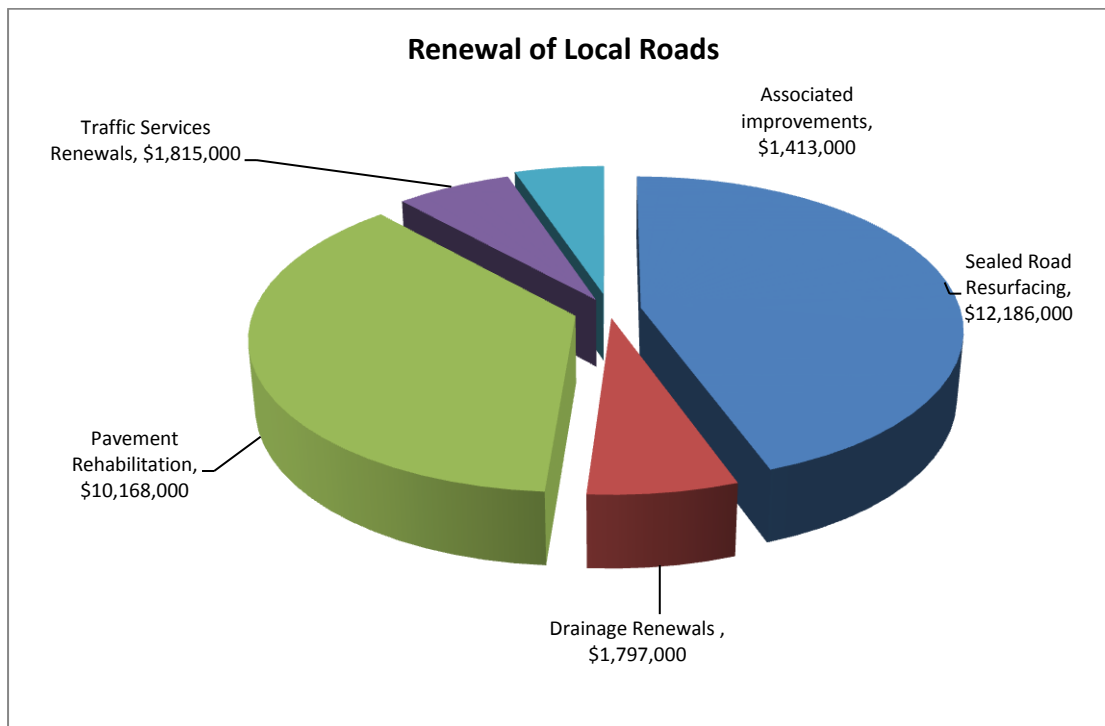
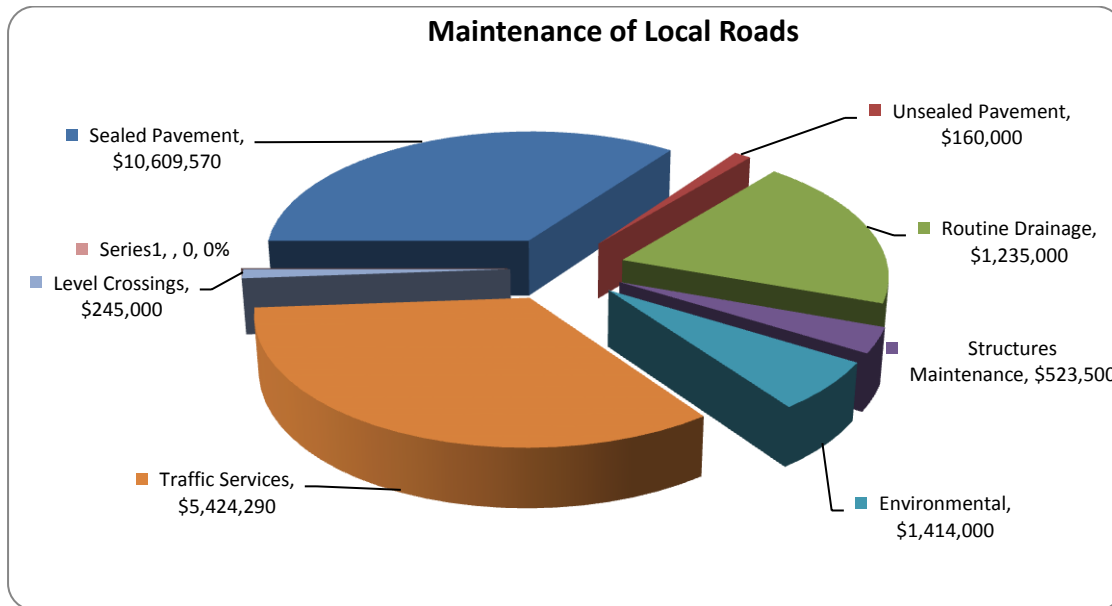
Council participates in the co-ordinated assessment of risks and responses to events that are likely to affect a range of services, some of which are not Council's responsibility, such as communications and energy utilities.

### **Business Continuity**

Council is developing Business Continuity Plans that address the continuation of service delivery, such as fire at its head office or Watermark depot.

# Financial Forecasts

(AMP Chapter 7) *(this is what it will cost over the next 10 yrs)*



Expenditure components are as follows:

- Improvement Works: Capital investment is required to widen roads and for minor safety improvements. Both types of work increase the service level, providing additional safety for road users. The Council’s share of costs is generally funded from loans
- Renewals: This capital cost is for replacing signs, lighting, surfacing, pavement and other assets which deteriorate due to use and weather exposure. In contrast to water and drainage pipes, the roads assets (excepting bridges) have all completed at least one life-

cycle, meaning that there is a stable level of replacement work required over the planning period as various roads require attention according to their age, and condition The Council's share of renewal work costs is funded by drawing from the depreciation reserve

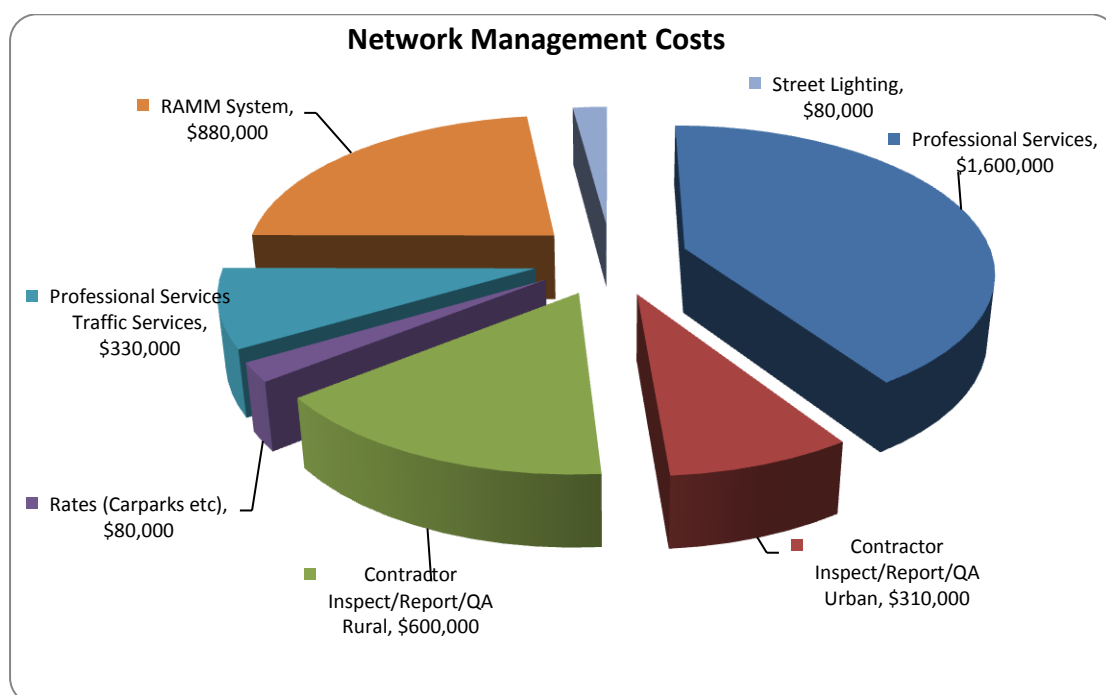
- Depreciation: To ensure that renewal funds are available when needed, depreciation is charged as an expense and accumulated over the useful life of each asset. Base lives are tabulated in Chapter 7, and vary depending on many factors:

Different components have different life expectancies

Historical installation standards, and service conditions such as culverts, also affect lives

Surfacing has varying "useful lives" depending on traffic use

- Interest and Principal: The Council's share of new works costs may be funded by borrowing. These items cover the cost of the loans
- Support: This item covers the share of corporate support costs apportioned to the Roads activity



- Direct Costs: The composition of this major expense is illustrated in the 'pie' chart above. It covers the direct costs of managing the network; including all the cyclic maintenance tasks, data gathering, contract administration, streetlights, invoicing, payments, reporting by "SouthTech" and a limited number of external consultants. By contrast all renewal, and improvement

'Network Management' includes oversight of operational contracts, design, planning and external assistance.

Renewal of ageing infrastructure is funded from the depreciation reserves, based on the projected replacement costs and depreciated values have been derived from the Council's current fixed asset register. Analysis shows the escalating replacement cost of the assets and their depreciated value with age. The projected value of the assets is approximately keeping pace with their total replacement cost. This represents an equilibrium situation with the average condition of most assets less than that of brand-new ones, but performing safely and adequately.



Since road asset lives are well established through observation of their entire life cycle, Council believes it is taking a correct position regarding the level of depreciation funding, maintaining its ability to construct replacement roads that will sustain the service to the district. Further work, identified in the improvement plan, will be carried out to ensure the projected depreciation account balance will be adequate in the future.

## **Systems And Processes**

(AMP Chapter 8)

The Group Manager Assets is responsible for all the activities described in the Asset Management Plans, while the Group Manager Corporate is responsible for corporate risk management.

The Land Transport Network activity uses Road Assessment and Maintenance Management ('RAMM') for recording all relevant information regarding the individual infrastructure items and is updated regularly to include all additions and deletions. The information is used for regular reporting on depreciation and revaluations.

Accounting is processed via Council's NCS financial system.

Geographic data is managed electronically, using Council's GIS software.

Various other information flows and processes are used to develop the Long Term Plans, establish service agreements, and manage contracts, update standard operating procedures, monitor performance and report on resource consent compliance.

## **Improvement**

(AMP Chapter 9)

Council's asset management target is to achieve the "core plus" level, which is considered to be appropriate for an organisation of its size. Following guidance from the Office of the Auditor General and the NAMS manual, a number of Improvement Plans have been developed and implemented historically, while others are ongoing.

Further improvement proposals are based on a review of the current status of compliance with the requirements of "core plus" and the recently updated IIMM, which refers to "intermediate" rather than "core plus".

The 2015 AMP's are planned to be completely restructured to make them more useful and to streamline their structure and content.

## **Further Reading**

Where necessary, the reader is encouraged to refer to the full Asset Management Plan document for further discussion and information on the topics in this summary.