

**Ashburton District Council**

**Transportation Network  
Activity Management Plan**

**Version 1**

**2012**

# PLAN STATUS

<b>1. Overall Responsibility for the Co-Ordination of all Matters in this Plan</b>		
<b>Date</b>	<b>Name</b>	<b>Designation</b>
March 2012	Brian Fauth	Roading and Street Services Manager

<b>2. Prepared / Reviewed / Updated By</b>		
<b>Date</b>	<b>Name</b>	<b>Designation</b>
March 2012	Brian Fauth	Roading and Street Services Manager, Ashburton District Council

<b>3. Council Consideration</b>		
<b>Date</b>	<b>Minute No.</b>	<b>Reason / Decision</b>

<b>4. Public Consultation</b>	
<b>Date</b>	<b>Form Of: (See Appendix 'U' for Details)</b>

<b>5. Plan Update and Review by Management</b>	
<b>Date</b>	<b>Record Of</b>

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# Transportation Network Activity Management Plan

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# Transportation Activity Management Plan

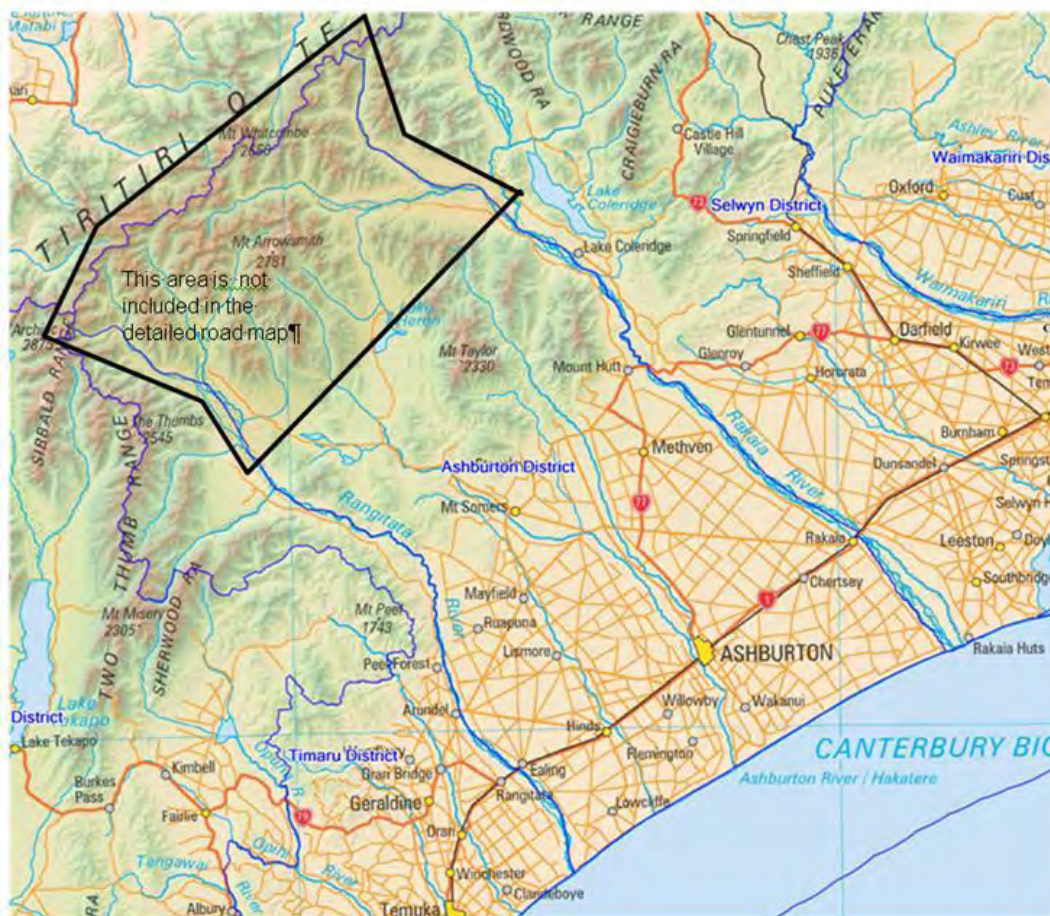
# Network

## 1 Introduction

### 1.1 Background and Rationale for the Council's Involvement

This plan describes Ashburton District Council's transportation network, the rationale for the Council's involvement in it and the reasons why this plan has been prepared. A glossary of terms, acronyms and abbreviations used in this plan are at Annex IX.

The Ashburton District is bounded in the west by the Southern Alps and on the east by the Pacific Ocean. Its northern boundary, with the Selwyn District is along the Rakaia River, it then runs through mountainous country to the top of the Main Divide, its southern boundary, with the Timaru and Mackenzie Districts, is the Rangitata River and from those headwaters to the top of the Main Divide.



The Ashburton District Council's formed roading network has a total length of 2,643 km, of which 1,485 km are sealed, and the remaining 1,157 km are unsealed. 97% of urban roads and 53% of rural roads are sealed. This is the fourth-largest local authority network in New Zealand; there is also

significant length of unformed legal roads owned by the Council. In addition to this the District is well served by State Highways<sup>1</sup> with SH1 providing a north-south arterial route through the eastern portion of the District, SH77 an east-west route between Ashburton and Mt Hutt, and thence to the Rakaia Gorge and the Selwyn District. A map of the portion of the network on the Canterbury Plains is at Annex II

Each road in the network has been categorised into a roading hierarchy based on the road's purpose and level of use. The hierarchy of road network and the purpose of the various levels of road within the hierarchy are discussed in more detail in Appendix B.

The Ashburton District Council has no direct role in the provision of public passenger transport, a function allocated under the Land Transport Management Act to regional councils, but it does have an advocacy role.

This plan covers roading, footpaths and car parking. It covers all assets associated with transport services and includes reference to related matters which may be provided by others, such as road safety education and enforcement, passenger transport, and car parking enforcement

A basic role of local authorities is to supply core services that meet the needs of their communities. The specific services that are provided, and how they are provided, depend on the level of service required by the community.

Roading has been fundamental to society since its beginnings. It allows people to move beyond their property boundaries, to obtain food, water and clothing, to interact with other people and to obtain medical assistance as necessary. It is therefore generally regarded as one of the most essential services in enabling the district to achieve its strategic outcomes.

The Council's role, with respect to roading and transportation is to:

*Providing effective and efficient core Council infrastructure that meets the district's needs  
Advocating for effective and efficient transport<sup>2</sup>*

The Council intends to continue with its present involvement in roading activities. This Activity Management Plan (AcMP) has been developed on the basis of continuing Council ownership of the assets.

## 1.2 Purpose of the Plan

The goal of infrastructural asset management is to *meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers<sup>2</sup>*. This plan adopts this purpose; its purpose is to be ...

*a statement of how agreed services will be provided to defined standards at least cost through the management of assets in a way which is sustainable in the long term and which complies with statutory requirements*

The purpose of this plan, and the factors that influence the need, priority and scope for improved AM practices within the Council, are summarised as follows:

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<sup>1</sup> State Highways are owned by the Crown and managed and maintained on its behalf by the NZ Transport Authority.

<sup>2</sup> ADC LTP

<sup>2</sup> International Infrastructure Asset Management Manual —2011

- ◆ to demonstrate responsible management,
- ◆ to communicate and justify funding requirements and
- ◆ to comply with regulatory requirements.

It also has a number of other functions:

- ◆ It ensures that the factors required to deliver the agreed levels of service on the roading network at the lowest long term cost to the community are identified, documented and included in financial forecasts;
- ◆ It documents the Council's asset management, financial and engineering practices for roading infrastructure and identifies opportunities for reductions in asset life cycle costs.
- ◆ It forecasts planned changes to these over the next 20 years;
- ◆ It uses this detail to support the roading aspects of the Council's Long Term Plan.

This AcMP will be used by the Council's officers to combine management, financial, engineering and technical processes and procedures to ensure the agreed levels of service are provided to present and future customers.

This AcMP is influenced by a number of statutes and documents with statutory authority. It is also influenced by and influences many of the Council's plans and strategies. The principal links to other documents are outlined in Figure 1 below.

### 1.3 Demonstrating Responsible Management

To meet its objectives and responsibilities the Council has established a three-committee structure, with each committee discharging responsibilities in a particular area. The committee structure is shown in Figure 2 below. The transportation network lies within the jurisdiction of the Operations Committee.

The Council's responsible management is demonstrated by:

- ◆ improved understanding of service levels and standards.
- ◆ clear justification of forward works programmes and funding requirements.
- ◆ improved accountability.
- ◆ increased customer satisfaction and improved public perception of the Ashburton District Council.
- ◆ overcoming institutional memory loss.
- ◆ ensuring a proactive approach to asset management.
- ◆ prolonged life of the assets.
- ◆ meeting the principles of sustainable management.
- ◆ showing that necessary maintenance work will be undertaken.
- ◆ prevention or the reduction of risk of system failure.
- ◆ providing basis for customer consultation over the price/quality trade-offs resulting from alternative levels of service
- ◆ monitoring changes in the service potential of assets and identify deferred maintenance
- ◆ managing environmental and financial risks associated with asset failure

The staff structure that supports these committees and manages the network under delegated authority from the Council and its committees is outlined in Annex III.

Figure 1 Activity Management Plan Influences

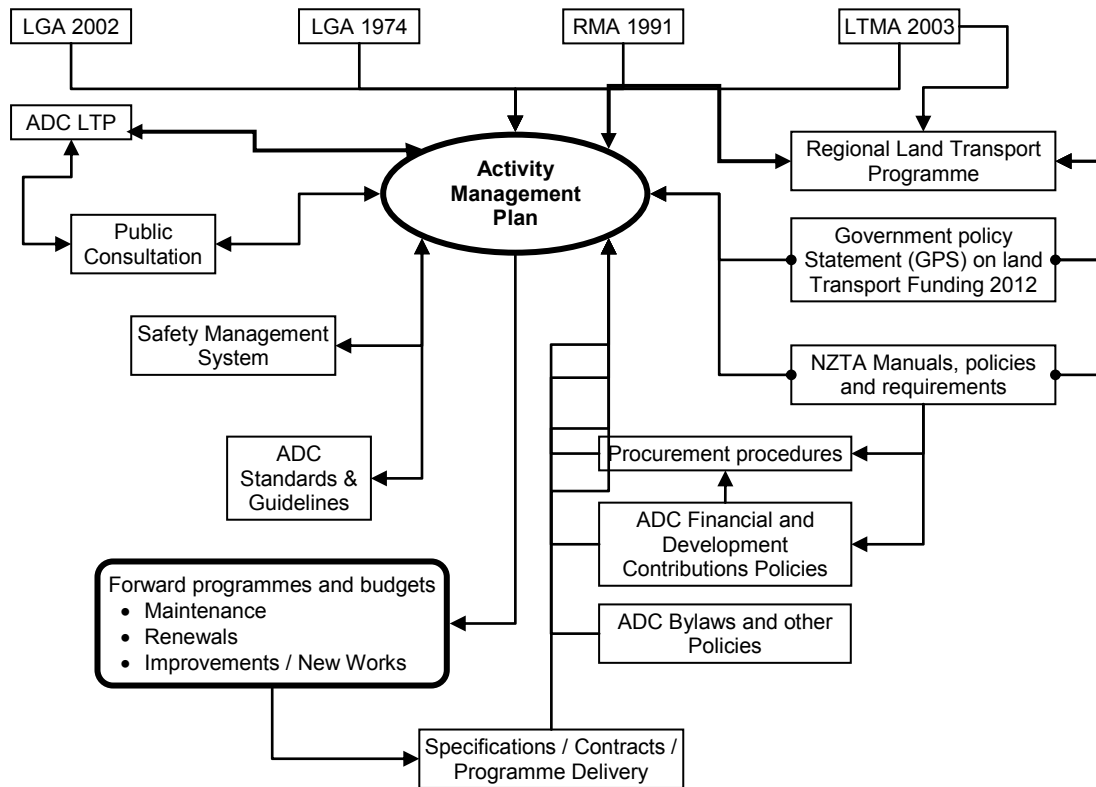
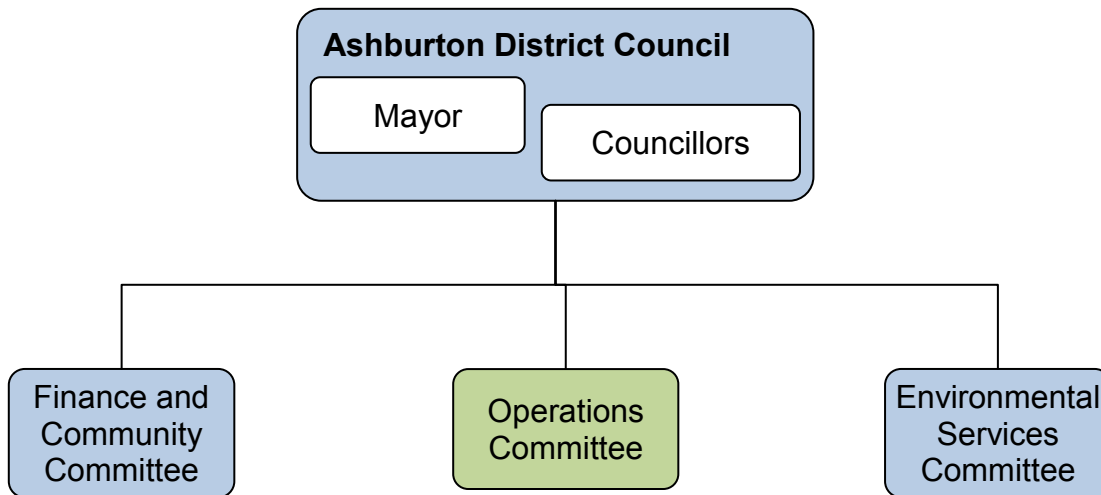


Figure 2 Council Structure



### 1.4 Funding Partners

The Council is supported in its management, operation and maintenance, and to a lesser extent development, of the road network by central government. This assistance is in the form of “Financial Assistance” for selected maintenance, renewal and improvement works, which must meet specified criteria to gain the assistance offered.



The current “base rate” of financial assistance is 47% but this is to change to 46% commencing the 2012/13 financial year. Technically it is called the Financial Assistance Rate (FAR) but the term “subsidy” is more commonly used.

The Council’s funding partner is the NZ Transport Agency, which was formed on 18 July 2008. However, the NZ Transport Agency has existed under a number of names for a long time. Its evolution is summarised in Figure 3 below.

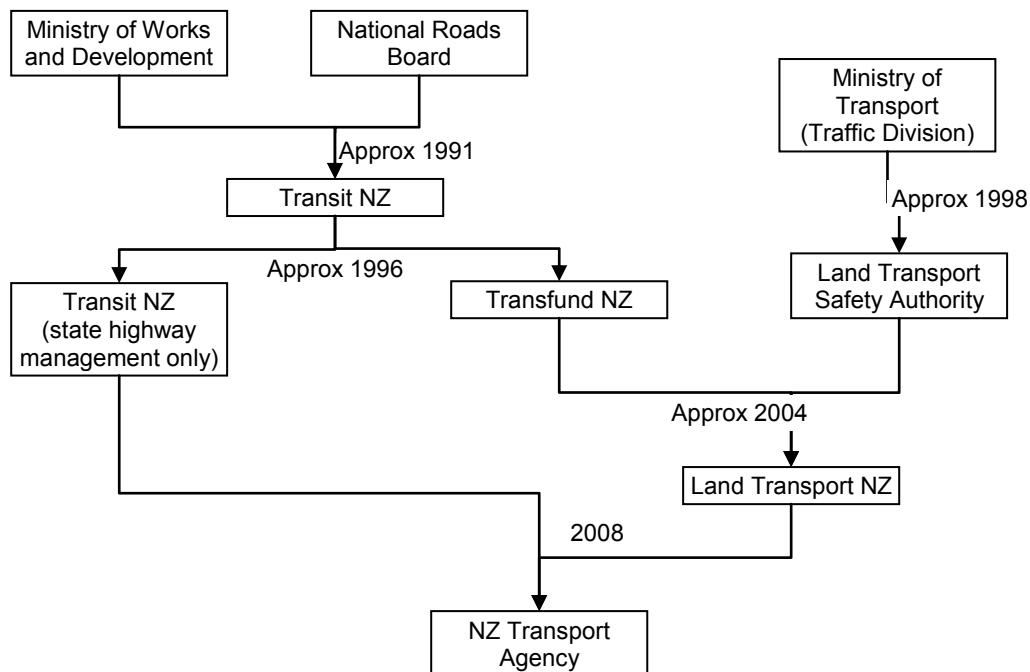
### 1.5 Communicating and Justifying Funding Requirements

Funding requirements are communicated and justified by:

- ◆ minimum life cycle (long term) costs being identified for agreed levels of service.
- ◆ better understanding and forecasting of asset related management options and costs.
- ◆ improved decision making based on cost benefit analysis.
- ◆ achieving savings by optimising lifecycle work activity
- ◆ supporting the Council’s long term financial planning

AcMP’s outline optimal life cycle management strategies and provide details of the associated costs. This identification of future needs, management options and cash flow provides the ability to even out peak funding demands and account for asset depreciation and loss of service potential.

Figure 3 Government Funding Agencies I



## 2 Community Outcomes to which the Activity Contributes

The relevant community outcomes and strategic objectives to which the Transportation activity primarily contributes are:

**Table 1 Community Outcome Linkages to this Activity**

Community Outcome (ADC LTP)	Strategic Objectives	How the Transportation Activity Contributes
<p><b>Outcome 1</b>            A thriving and diverse local economy.</p>	<p>A community with access to quality infrastructure (roading, water, footpaths, wastewater and stormwater) that is efficient and reliable.</p>	<ul style="list-style-type: none"> <li>•The roading network is an essential element in the local economy and provides access throughout the District to allow economic activity to grow.</li> <li>•Footpaths are an integral part of the networks which link the various sectors of the Community</li> </ul>
<p><b>Outcome 2</b>            Sustainable natural and built environments</p>	<p>Water, land and air are managed sustainably.            Towns and rural areas are developed in a way that respects the local environment and meets the needs of the community.            Our community understands the need to protect our natural environment and acts to do so.</p>	<ul style="list-style-type: none"> <li>•The roading network has been developed to provide access to all parts of the District to allow residents to enjoy the environment.</li> <li>•The roadside environments are enhanced by the formation of kerb and channels and footpaths.</li> </ul>
<p><b>Outcome 3</b>            An enjoyable place to live</p>	<p>A district that has a strong sense of identity and people who participate in community life.</p>	<ul style="list-style-type: none"> <li>•The roading network acts as a vital link between all the elements to allow people to fully involve themselves.</li> <li>•Footpaths are an essential link between communities.</li> </ul>
<p><b>Outcome 4</b>            A safe and healthy community</p>	<p>Healthy, active people with good access to health services.            Good systems are in place to plan for, and respond to, emergencies.</p>	<ul style="list-style-type: none"> <li>•The roading network is essential to allow travel between the various communities for normal people interaction, and provides access to all parts of the District to allow individuals to pursue their preferred activity.</li> <li>•Footpaths provide a platform for recreational activity and exercise, and provide good access to homes and properties throughout the District. The paths and kerb and channel also provide a clear delineation between road users and foot traffic to enhance the safety between these two groups.</li> <li>•ADC have prepared a walking and cycling strategy (June 2008).</li> </ul>
	<p>A range of agencies work together to create a safe environment</p>	<ul style="list-style-type: none"> <li>•Council assists in educating the public on various safety focused programmes and form part of the local road safety group.</li> </ul>

These will be achieved by planning for, providing and maintaining a sustainable, safe, convenient, comfortable and cost effective transport system that meets the district's needs and expectations.

## 3 Levels of Service, Performance Measures, and Relationship to Community Outcomes (Appendix R)

### 3.1 Activity Goals and Principal Objectives

The Council's goals for transportation are:

- ◆ To provide a network of roads that provide access to all properties from the main entry locations in the District
- ◆ To maintain all roading, footpath and parking assets to an appropriate standard to allow this access
- ◆ To minimise the duration when access is not available during emergency events
- ◆ To ensure that all customers can use transportation assets in a safe and efficient manner
- ◆ To ensure the transportation assets are safe to use, and are used, in a safe manner

The Council's **principal objectives** are:-

- ◆ To maintain transportation assets in accordance with nationally agreed and accepted standards
- ◆ To upgrade transportation assets where this is necessary due to changed use, or agreed changes to levels of service.
- ◆ To allow the extension of the transportation assets to occur through the construction of additional infrastructure
- ◆ To manage the maintenance, extension and upgrade of transportation assets within an identified budget structure that ensures that there is no reduction in value of these assets and to forecast the future cost of doing so
- ◆ To maintain an improving level of safety on transportation assets in line with nationally set objectives for accident reduction, by improving the standard of the network, and educating the users in the safe and efficient use of the roads
- ◆ To put in place a sound management regime for all matters relating to the maintenance, extension and upgrade of all transportation assets
- ◆ To work closely with the NZ Police, the NZ Transport Agency, and its other road safety partners to improve road safety in the District. A road safety management system will be prepared and reviewed annually and a road safety action plan prepared
- ◆ To implement a road safety programme that works towards a continuing reduction in the number of injury crashes that occur in the District and in accident contributing behaviour.

### 3.2 Service Targets and Performance Measures

The following targets and measures will be used to monitor the achievements of the activity in relation to future outcomes. These service targets have been incorporated into various Council contracts for transportation management and operation.

Analysis has identified increasing pressure on the roading network as a result of changing land use, and in a number of areas, this changing use has been occurring faster than the Council's ability to upgrade the network to cater for this change. This has been compounded by the restriction on the availability of the finance necessary to meet this upgrade work, both nationally and locally.

The Council has commenced a comprehensive upgrade programme for those assets identified as being below the desired standard based on the intensity of use. This programme will continue for the next decade. Assets are maintained to an established set of standards, and the Council will continue to monitor and report its actual performance against these standards.

**Table 2 Service Level, Performance Measures and Targets**

<b>TRANSPORTATION</b>			
<b>Rationale for Service Delivery</b>	<b>Level of Service</b>	<b>Performance Measure</b>	<b>Target</b>
To enable efficient travel throughout the District to support economic activity and social interaction	The standard of Council's roads meet the needs of our residents	Residents are satisfied with the standard and safety of Council's roads	80%+
		Residents are satisfied with the standard and safety of Council's unsealed roads	60+ (target increasing incrementally each year to 65%)
		Residents requests that require action from the Maintenance contractor are met	At least 85% of customer service requests are completed within the specified contract response times
	Our roads are accessible for heavy vehicles	The number of weight and speed restricted bridges in Ashburton District reduces	2012/13 – 2 bridges are replaced. 2013/14 – 2 bridges are replaced 2014/15-2018/19 – 1 bridge is replaced per year.
	We promote safe use of our roads	Road safety education projects are delivered to the community <sup>1</sup>	4 projects are delivered
	Our roads are smooth, safe and reliable	Number of fatal crashes due to road factors	No fatal crashes due to road factors.
		Annual capital renewal projects programme completed or underway by 30 <sup>th</sup> June	100% of annual capital renewal projects are completed or underway by 30th June.
		Vehicle kilometres travelled on sealed roads classified as smooth <sup>2</sup>	Rural ≥ 95% Urban ≥ 75% Overall ≥ 80%
	We have quality, smooth footpaths	Area of total footpath resurfaced each year	Overall 4%
		Residents are satisfied with footpaths in the District	85%+

<sup>1</sup> To a standard approved by the NZTA and Road Safety Committee

<sup>2</sup> As defined in the NZTA maintenance guidelines for urban and rural roads

## 4 The Existing Situation Described (Appendix B)

The District has a total roading network of 2,643 km, of which 1,485km are sealed, and the remaining 1,157km are unsealed but with base course formation. This provides an interlinked network of roads which all generally lead within a short distance to sealed roads which in turn lead to collector, principal and arterial roads throughout the network.

The Council also has a footpath network of over 210 kilometres in the various towns and villages throughout the District.

The District road network (excluding the state highways) is the responsibility of the Council, as the Road Controlling Authority. The roading network is broadly described as a grid, where access from one location to another can be gained by a number of alternate routes. The grid tends to have a number of distinct focuses, or origin-points, these all broadly fit into two categories, crossings of major rivers and long-established towns and villages. Modern development of the network has been directed so that the distance that users drive on unsealed roads is minimised, with a sealed road

within a reasonable proximity of all properties. These sealed roads in turn will lead to the main collector, principal and arterial roads, and the state highways.

When much of the District's roading network was constructed, it was acceptable to build roads on the existing land formation with minimal structure and foundation. This is no longer desirable and distress, due to insufficient strength to carry the loads currently being applied, has developed at different locations over the last ten years, or so. These sites are restored by renewing the road pavements.

The effects of changing land use, and particularly dairy farming, have resulted in significant increases in heavy traffic use on our roads, causing noticeable deterioration of the roading network in a number of areas.

In 2000/2001 Council adopted a strategy to improve the District's unsealed roading network, with a focus on the more heavily trafficked roads in the District, as existing roads had lost a large part of their structure. This strategy involved the deferral of seal extensions in favour of unsealed road rebuilding. The initial programme of work was completed in 2006. It was being followed by a programme of seal extension work, however this has been curtailed as the roads do not meet the criteria necessary to qualify for a subsidy. Seal Extension work will only proceed if Council provides all of the funding. The rebuilding of these roads included the placing of a 70mm thick wearing course that has a finite life. This wearing course must be continually replaced to maintain the strength gains achieved through the rebuilds and suitable funding will be sought for this in the operational budget.

State Highways are managed by The NZ Transport Agency and are not part of the Council's road network. They are, however, important links in the overall roading network as far as road users are concerned. The Council works closely with The NZ Transport Agency and the Regional Land Transport Committee to ensure appropriate roading strategies are implemented.

Additional roads are added to the District roading network each year, usually from the development of subdivisions. Although the Council becomes the owner, operator and maintainer of this additional infrastructure, the cost to develop it is met by the relevant developer. Once vested in the Council, normal maintenance costs and activities are met by it. Information about the Council's roads and footpaths is summarised below:

**Table 3 Network Summary**

Network Structures	Description	Number or length
Roads	Sealed roads urban	159.948 km
	Unsealed roads urban	4.463 km
	Sealed roads rural	1,324.425 km
	Unsealed roads rural	1,148.363 km
	Service lanes	0.900 km
Bridges	Council owned bridges	158 bridges, 3,219 m
	Jointly owned boundary bridges	1 bridge, 332 m
	Private bridges	24 bridges, 469 m

Major Culverts	Arched	1 structures; 25 m
	Box	8 structures; 91 m
	Circular	7 structures; 93 m
Road Signs	Regulatory	1683
	Regulatory parking	290
	Permanent Warning	1193
	Special	18
	Street/road name blades	2849
	Miscellaneous signs etc	1804
	Temporary Warning	44
	Information	1291
Kerb and channel	Flat Channel	25.168 km
	Deep Dish Channel	3.444 km
	Asphalt-lined channel	0.073 km
	Other types	186.877 km
Drainage	Box culverts	104 culverts; 1,061 m
	Circular	1,393 culverts; 17,323 m
	"D" pipes	1,723 culverts; 16,859 m
	Sumps	1,466
	Siphons (included in culverts above)	43 siphons; 431 m
Street Lights	Lights	2605
	ADC-owned poles	1895
Footpaths	Total	229.722 km
Misc	Parking meters	
	Features	

Source: ADC TptAcMP Overview Tables v1.0.0.xlsx] Network Summary > \$A\$7

The current provision of the footpaths detailed in Table 3 is:

**Table 4 Footpath Summary**

Community	Path both sides (path-metres)	Path one side (path-metres)	No Path - metres) (centreline
Ashburton	57,708	133,300	12,401
Chertsey	48	968	2,397
Fairton	31	1,147	1,014
Hinds	364	1,699	4,202
Lake Hood	542	1,084	2,734
Mayfield	355	1,443	520
Methven	3,384	13,211	3,884
Mt Somers	250	1,239	2,300
Rakaia	1,877	7,459	12,115
Rural sector	51	1,875	n/a
Tinwald	11,892	28,046	3,487
<b>Totals</b>	<b>76,502</b>	<b>191,471</b>	<b>45,054</b>

Source: ADC TptAcMP Overview Tables v1.0.0.xlsx] Network Summary > \$A\$39

The footpaths in the rural sector are generally paths in areas on, or close to, the edges of towns.

Vehicle crossings are essential parts of footpaths, providing access for vehicles between roadways and private properties. Property owners select the location where these vehicle crossings are constructed, but this site must be approved by Council. The cost of installing crossings is met by the property owner. The Council's policy is to allow residential properties to have up to two crossings which combined do not exceed 7 metres. Once vehicle crossings have been constructed they are maintained by Council.

## 5 Maintenance and Operations (Appendix E)

### 5.1 Ownership and Management

All the Council's Transportation network assets are owned by the Council. For a number of years the Council has outsourced roading works carried out in the District, apart from some of the supervision and internal asset management. Contracts are normally multi-year in order to establish a partnership with the service provider.

The Council intends to continue to manage and maintain the footpaths in the District. Maintenance standards have been established and are delivered through a contract to ensure that footpaths continue to meet the agreed needs of users and the condition of the asset is maintained at a suitable standard.

Council will continue to evaluate the method of service delivery for transportation services and to make decisions based on an assessment of whether contracting out works or using another approach will be the most cost effective and beneficial to the community.

### 5.2 Cost Forecasts

All physical works contracts for maintaining and operating roads and footpaths are tendered and evaluated in compliance with the NZ Transportation Agency's requirements as part of the agreement between the Council and the Agency

The NZ Transport Agency Ltd subsidises roading costs at a financial assistance rate (FAR) which is normally determined from year to year and is based on a formula involving the Council's roading budget and the District's Equalised Land Value, which is designed to result in an average national subsidy base-rate of 50% for all Road Controlling Authorities.

The FAR applicable for 2011/2012 is 47%. The NZ Transport Agency and the Council have agreed to hold the FAR at the current rate for 3 years until 2012/13 when it will be decreased to 46% . For planning purposes the 46% rate is assumed to continue indefinitely.

The FAR is a subsidy on spending, rather than a grant. Work on footpath maintenance is fully funded from rates. The projected operation and maintenance spending for roading and footpaths for the next 10 years is shown in Annex IV to this section.

### 5.3 Emergency Management

The Council has significant obligations under the Civil Defence Emergency Management Act 2002, which defines every entity operating a roading network as a lifeline utility. Section 60 of this Act requires that:

60. *Every lifeline utility must ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency*

Local arrangements are documented in the Regional Civil Defence Emergency Management Plan, which recognises the critical importance of the ADC roading network for emergency response. Maintenance contractor responses in an emergency event are documented in the maintenance contracts.

## 6 Renewals Expenditure and Depreciation

Renewals Expenditure and Depreciation are discussed in detail in Appendix I and Appendix J, respectively.

### 6.1 Future Renewals Needs

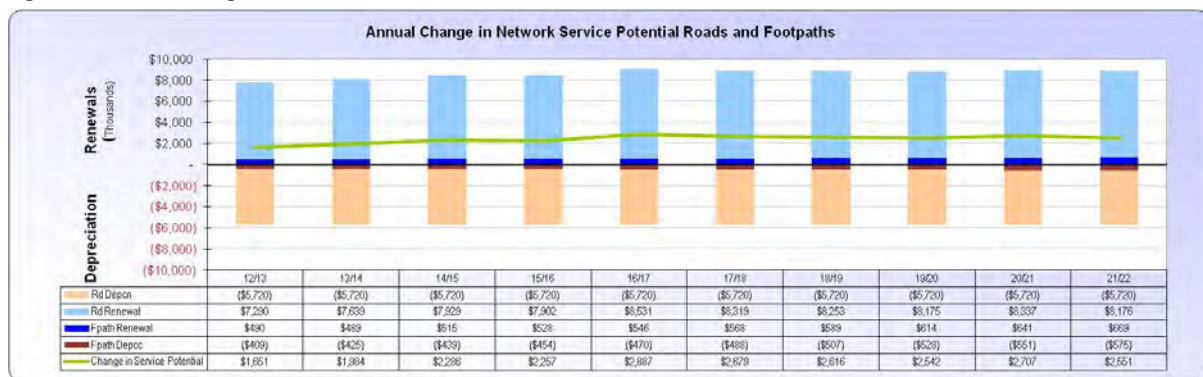
Renewals are works necessary to restore assets, such as footpaths or roads, to their current condition and/or capacity rather than the construction of new infrastructure.

The forecast Renewal Programme for the next ten years is shown in the table at Annex V to this section. Where the works, except reseals, are to be carried out in the first three years in the table the specific projects are detailed in the table. Reseal sites are selected on an annual basis depending on condition rating and specific inspections; they are not included in detail because the lists are too long and their inclusion would serve no useful purpose. Further detail on resealing and other renewals is in Appendix I.

All transportation assets, whether new or existing are depreciated annually to provide an annual fund from which both renewal and new capital work is funded (see Appendix D and Appendix J).

Comparison between the annual depreciation charges and the total annual cost of renewals provides a measure called “*Change in Service Potential*”, which can be useful in assessing the adequacy, or otherwise of renewal rates and depreciation rates in the long and short terms. The historical and forecast changes in Service Potential of the network is illustrated in Figure 4 and Figure 5 below.

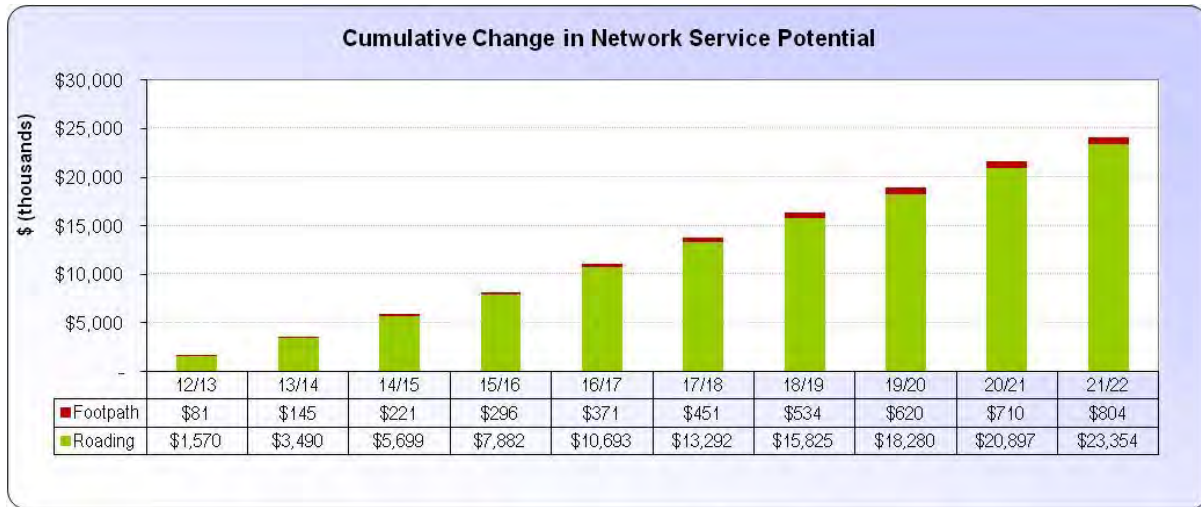
**Figure 4 Annual Changes in Network Service Potential**



Source: [2012-22 LTP Roding Budget AcMP Version v1.0.xlsx] DpcnFcst > \$A\$33



**Figure 5 Cumulative Change in Network Service Potential**



Source: [2012-22 LTP Rooding Budget AcMP Version v1.0.xlsx] DpcnFcst > \$C\$64

Currently the total amount of renewals does not match the value of depreciation being charged, this has been occurring for some time, and is forecast to continue. The potential reasons for this disparity are:

- ◆ The assets are at stages in their life-cycles that do not require renewal expenditure
- ◆ Expected useful lives used in calculation of depreciation are significantly shorter than those being achieved in practice
- ◆ Renewals are being deferred

In reality, the most likely reason is a combination of all of these reasons; the Asset Management Improvement Plan (Appendix X) contains an item to investigate this matter and has allocated it a high priority.

## 6.2 Renewals Funding

Renewal work such as reseals, overlays, major drainage work, and traffic services work of a cyclic nature is treated by the Council as renewal and are funded by the NZTA at the base-rate currently 47%. Bridge renewals are funded at the construction rate, which is 10% higher.

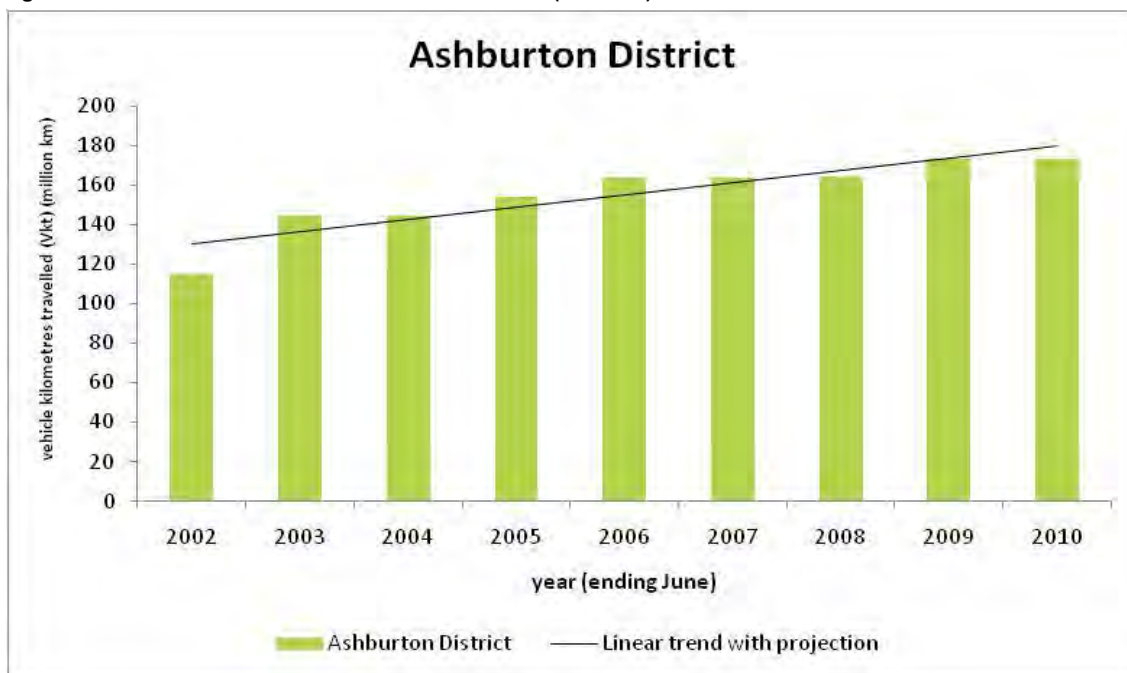
# 7 Future Demand

Future demand for the network and its services is discussed in detail in Appendix F.

The present road network was established many decades ago and has been gradually upgraded to the present standard. It is evident that the community expects an increase in the level of service and that this will require the ongoing development of the roading network.

Use of the network as a whole is increasing, as illustrated by the following chart

Figure 6 Vehicle Kilometres Travelled on Local Roads (ex NZTA)



Source: ADC TptAMP Overview Tables v1.0.0.xls >Network Summary> \$B\$54

The need to upgrade roads to meet the changes in land use, especially conversion from dry-land sheep farming to irrigated dairying, has been recognised as one of the most significant issues driving future demand on the network.

The trend to more lifestyle blocks has also changed the expectations of the travelling public in the rural sector. These roads are no longer used only by local landowners, but now have a much wider range of users who see the smoothness of the road surface and the condition as being increasingly important.

Future demand is therefore expected to arise from land development and land use changes which occur in the district, although there are other factors which also influence demand. The District Development Plan provides information on where demand may arise in the future.

The Council also conducts testing to help identify which footpaths need work to maintain their current condition or require an improved standard by users.

The Development Plan forms the basis for the planning and design of roading, water, stormwater and wastewater services, policy directions that feed into the LTP, and some changes in the District Plan.

## 8 New Works and Improvements

New Works and Improvement Works are included in the discussion at Appendix F

The Council monitors, and plans for, the communities changing expectations. Current plans to meet these expectations include:

- ◆ seal extension
- ◆ improvements to unsealed roads
- ◆ improved maintenance
- ◆ possible widening of some arterial, principal and collector roads in the District

All these developments will require funding and this has been recognised in the 10 year financial forecast for this activity.

Future demand for new footpaths is mainly expected to arise from subdivisions where the paths are part of the development. Improvements are also planned for footpaths in industrial areas, and to provide a second footpath on some streets which currently only have a footpath on one side of the road.

The current level of footpath upgrading is intended to provide footpath assets that meet the current and long-term expectations of users; this level of service is not expected to change in the next 10 years. However, there may be a need to consider providing footpaths at some locations in selected rural areas to provide for growth in pedestrian traffic especially around the perimeters of urban developments.

The table at Annex VI to this section presents new works scheduled over the next 10 years. New work refers to:

- ◆ development of new and improved infrastructure, such as new cycleways, roads, footpaths, seal extensions,
- ◆ provision of sealed surfaces on unsealed roads, and
- ◆ widening and similar improvements to existing roads, which result in improved levels of service

but does not cover upgrades or maintenance of existing assets.

## 8.1 Funding of New / Improvement Works

The local share of costs needed to complete projects that receive a subsidy from NZ Transport Agency can, theoretically, be from any of the following sources:

- ◆ Rates
- ◆ Loan funding
- ◆ Developer contributions
- ◆ Contributions from local property owners who may gain advantage from the project planned.

However, the Council's policy is not to fund transportation work from loans. Nevertheless, there are some earlier loans that require servicing and provision for repaying these is included in the financial forecasts for this activity.

Development of additional residential and industrial land in and around Ashburton and the townships included in the Council's Small Towns Development Plan is likely to require part-funding by the Council. The extent to which any required works would be funded by rates or Development levies has yet to be instigated or considered.

Future debt is likely to be required for the development of the NE Ashburton Business Estate. At this stage, this has not been included.

The November 2005 review of the Funding Policy also required that the capital cost of kerb and channel be shown as part of this activity (non-subsidised), with an internal contribution from the various footpath cost centres.

The Council intends to fund the net cost of new and improvement works (after any NZTA financial assistance) first by utilising the funds received from financial contributions and / or development contributions, and funding the balance from rates. Currently financial contributions are received in relatively minor amounts from individual developers.

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To obtain subsidy from the NZ Transport Agency a project must achieve the Agency's funding criteria, which include financial efficiency (benefit cost ratio) along with the non-financial requirements set out in the Land Transport Management Act 2002. The NZTA's funding criteria are detailed in its Planning, and Investment Knowledge Base. A consequence of this system is a degree of uncertainty which may lead the Council to delay work for one or more years in order to obtain the subsidy in a later year.

The FAR for minor works and new works is currently set at 10% above the base rate. All footpath capital works are funded from rates.

## 8.2 New Works Forecast

The forecast new works programme is at Annex VI to this section.

## 9 Asset Disposals and Occupation of Roads

These are not significant items in terms of expenditure but decisions made in relation to them can be significant to users of parts of the network. The issues around these two topics are discussed at Appendix W.

There are currently no planned asset disposals.

## 10 Land Transport Management Act 2003 Matters

Land Transport Management Act 2003 (LTMA) matters are discussed in detail in Appendix O.

The Land Transport Management Act 2003 underwent significant change in July 2008 as a result of Land Transport Management Amendment Act 2008. The Amendment Act made significant changes to the way the National Land Transport Programme is prepared and managed. In particular, it delegated specific responsibilities and duties to newly constituted and formed Regional Transport Committees (RTCs). The Council, as a road controlling authority, is no-longer directly required by the Act to produce an annual Land Transport Programme (LTP); however, there is an indirect requirement to do so as the RTC cannot meet its obligations without the Council's input. The Council has a representative on the RTC in accordance with section 105 of the Land Transport Management Act 2003.

The LTP is divided into a number of categories, the ones relevant to the District are:

**Table 5 Relevant NZTA Activity Classes and Work Categories**

<b>Activity NZTA Work Category Class</b>	
1.	Transport Planning 002 Studies and Strategies 003 Activity Management Plans
2.	Demand Management and Community Programmes 421 Demand Management 432 Community Programmes
3.	Walking and Cycling Facilities 451 Pedestrian Facilities 452 Cycle facilities
5.	Public Transport Infrastructure 531 Passenger Transport Infrastructure 532 Passenger Transport Road Improvements
8.	Maintenance and Operation of Local Roads 111 Sealed Pavement Maintenance 112 Unsealed Pavement Maintenance 113 Routine Drainage Maintenance 114 Structures Maintenance (includes bridge maintenance) 121 Environmental Maintenance (includes snow clearing, ice control, mowing and street cleaning) 122 Traffic Services Maintenance 123 Operational Traffic management 124 Cycle Path Maintenance 131 Level Crossing Warning Devices 141 Emergency Reinstatement 151 Network Asset Management
10.	Renewal of Local Roads 211 Unsealed Road Metalling 212 Sealed Road Resurfacing 213 Drainage Renewals 214 Sealed Road Pavement Rehabilitation 215 Structures [sic] Components Replacements 221 Environmental Renewals 222 Traffic Services renewals 231 Associated Improvements 241 Preventative Maintenance
12.	New and Improved Infrastructure for Local Roads 321 New Traffic management facilities 322 Replacement for Bridges and Structures 323 New Roads 324 Road Reconstruction 325 Seal Extension 332 Property Purchase (local roads) 333 Advance [sic] Property Purchase 341 Minor Improvements

Work carried out in these categories does not necessarily align with an individual asset group presented in the AcMP. However, each sub-category from the LTP is identified in this Plan in the most logical place.

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## 11 Funding the Annual Net Cost

Likely Future debt requirements are discussed in Appendix K, the Summary of Overall Future Financial Requirements is at Appendix L and the Council's Funding policy, Fees and Charges matters are discussed in detail in Appendix M.

The Land Transport Programme provides for the maintenance, renewal and replacement of existing assets and the provision of new assets to nationally set guidelines. The District Land Transport Programme is forwarded to the NZ Transport Agency for inclusion into a national document which contains the programmes of all Road Controlling Authorities, including that of The NZ Transport Agency.

The current Land Transport Programme is included in Appendix O. LTMA Matters.

The Councils share of the Land Transport Programme funding is provided through its LTP.

The process of reviewing these programmes is carried out to the end of June of the financial year prior to that which the budget applies, allowing for change arising from the Council's consideration of its Annual Plan and Budget or Long Term Plan.

The LTP is also under continual review during the budgeted year. This allows for justification for new works (in order to obtain subsidy), and for reviewing all maintenance activity spending on a monthly basis to determine if surplus funds can be released or to seek additional funds if extreme or emergency events have had a serious affect on approved budgets.

### 11.1 Statement of Financial Performance

The Statement of financial performance for the road network is at Annex VII to this section

### 11.2 Funding Policy

The Funding Policy is "owned" by the Council's Finance Manager, who also holds the master copy of the Policy.

The current Revenue and Funding Policy has been reviewed in conjunction with the 2012/22 LTP consultation processes.

The Council's contribution to the Roding activity is now funded from the following:

- ◆ Capital Value Targeted Rate            100%
- ◆ Uniform Annual (Roding) Charge    0%

A Capital Value rating mechanism is considered appropriate to reflect property related benefit, stakeholder community interest and the ability to pay.

The 2012 review confirmed no changes in the funding formula for footpaths.

The footpath activity is funded from the following:

- ◆ Capital Value General Rate            30%
- ◆ Capital Value Targeted Rate          70%

Current funding policy is to use the balance of Depreciation, after renewals have been funded, for new works.

### 11.3 Schedule of Fees and Charges

Fees are generally set on a cost-recovery basis. Current fees and charges are detailed in Appendix M, Funding Policy, Fees and Charges.

## 12 Resource Consents / Property Designations

Consents currently held by Council are detailed in Appendix H. In summary:

- ◆ Consents are obtained for specific projects, and where appropriate relinquished on completion of the work,
- ◆ No "global consents" are held.

Prior to the issue of Environment Canterbury's draft Natural Resources Regional Plan (NRRP) in 2005, there were limited resource consents requirements for transport work. The NRRP as notified will require resource consents to be obtained more frequently than in the past – for example consents now need to be obtained for routine maintenance work in river beds, and the installation of culverts.

The Council is currently (2012) completing the review of its District Plan with the intention of releasing its decisions in the latter part of 2012. From a Transportation Network viewpoint the review will include consideration of designations for new roads required by the Ashburton Development Plan, review of traffic management policies, methods and rules and a similar review of minimum roading, and roading-related, standards.

## 13 Demand Management & Sustainability

Demand Management & Sustainability are included in the discussion at Appendix N

The theoretical capacity of a good two-lane two-way road in flat terrain is 1,800 vehicles/hour in both directions, or around 18,000 vehicles/day. The busiest District road (excluding State Highways) is East St which was recorded as carrying 10,113 vehicles /day in 2011<sup>3</sup>, far less than this theoretical maximum. The average volume<sup>4</sup> is 503vehicles/day and 146 road sections carry less than 10 vehicles/day

The Council does not have any specific demand management policies. Many roads do not carry large traffic numbers, and there are no issues relating to congestion or lack of capacity on these roads or footpaths. In the last five years the number of vehicles in the district has grown by 14% (based on the number of registered vehicles), and although there are some minor delays at peak traffic times, these are well within tolerable levels.

The issue of designated heavy traffic routes in and around Ashburton and Methven has been considered by the Council, and detailed in the District Bylaws following the June 2008 Bylaw review. Transportation demand in the rural sector varies significantly depending on the adjacent land use activity. Harvest times and impacts for various agricultural activities can vary from significant heavy traffic loads daily (dairying) to short periods of very intense heavy vehicle activity for local harvest of

<sup>3</sup> Latest counts as at 14 March 2011

<sup>4</sup> =SUM(latest traffic counts)/count(counting sites)

crops such as potatoes. In between these times, most District roads have low traffic counts (less than 200 vehicles per day), for which the standard of the roading network is adequate.

The District can be regarded as the “seed bowl” of NZ; it produces a significant proportion of the country’s commercial small-seeds and crop seeds. The effect of this production, which is continually increasing, is to put very high peak demands on otherwise lightly-trafficked parts of the network over very short periods. These rapid changes require careful monitoring and a review of normal maintenance and renewal practices and new works needs.

There are a number of development trends that have associated transportation issues requiring management. The recent changes from cropping / sheep farming to dairying has brought with it a significant growth in the number and size of heavy vehicles on rural roads, the effect of which is to accelerate deterioration and increase the maintenance requirements of the roads they are travelling.

The development of additional industrial land will also put additional pressures on the roading network.

The NZTA has issued changes to the Dimensions and Mass Rule that allow the total mass (weight) of heavy goods vehicles to increase from 44 to 53 tonnes gross or greater. As the District is still addressing the consequences of the increase to 44t in about 1989 it is likely that the change to 53t will have an effect on reducing the expected life of the network.

## 14 Significant Effects of the Network

Significant Effects of the Network are included in the discussion at Appendix P

The network lies at the core of the District’s prosperity and the communities’ abilities to provide for their material, cultural and other needs. However, it does have some negative effects, which include:

- ◆ Stormwater, potentially carrying pollutants, discharging from roads into adjacent watercourses or groundwater layers;
- ◆ The economic and social costs to the community from increasing road congestion in specific places;
- ◆ The traumas and direct costs of road crashes;
- ◆ Growth in heavy vehicle numbers on rural roads, particularly where the width is narrow, as this leads to driver discomfort for other roads users (e.g. motorists and recreational cyclists) and potential adverse safety effects;
- ◆ The close proximity of rail traffic to the central business area of Ashburton — the interface between rail shunting operations and road traffic movements, coupled with some 22 train movements per day, has significant negative effects on access across the rail corridor (railways are a Crown asset managed by On Track and Kiwi Rail and are not included in this plan);
- ◆ Excessive noise from busy roads, in particular that caused by truck-and-trailer units;
- ◆ Air pollution from motor vehicles;
- ◆ Dust caused by vehicle movement on unsealed roads<sup>5</sup>;
- ◆ State Highway traffic impacts on the Ashburton, Methven and Hinds town centres. (State highways are a Crown asset managed by the NZTA and are not included in this plan.)

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<sup>5</sup> While stock movement can also cause these problems, it is relatively rare and not an issue.



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## 15 Risk Management

Risk management is discussed at Appendix Q.

The areas of risk in the transportation network are addressed in detail in Appendix Q. The highest risk areas are seen to be where roads cross streams and rivers via fords and bridges, and in particular the four main river crossings at the North and South boundaries of the District. Three of these bridges are on State Highways and are not under the Council's control.

The Council faces appreciable risk on some of its bridges that have significant weight or speed restrictions imposed on them, because of their condition. These risks are associated with vehicles exceeding the posted limits deliberately crossing the bridge and the structure failing unexpectedly.

The loss of even small bridges is assessed to have significant effects on road users in some cases. Other risks identified relate to flooding and snow, and procedures are in place to minimise the impact of these events.

A risk management framework based on AS:NZS4360 has been developed and is used in the risk assessment process. A draft risk register has been developed and is included at Appendix Q. This draft, which requires review and adoption by the Council details high and extreme risks and develops action plans to manage unacceptable levels of risk.

A lifelines assessment has been initiated and is progressing, but it has not been accorded undue priority.

## 16 Significant Forecasting Assumptions, & Uncertainties

Significant forecasting assumptions and uncertainties on the network are included in the discussion at Appendix R

The Transportation Network budget has been prepared based on the following assumptions:

- ◆ There is a continuous and open-ended necessity for provision and maintenance of a road-based land transport network to meet the communities' needs for communication, commerce, essential services, tourism and recreation in the District and beyond.
- ◆ The Council will continue to be involved in the provision of transportation services within the District.
- ◆ The District's main business activities will continue to be rural agricultural activity and service to the agricultural sector
- ◆ Demand for roading from tourism activity will be mainly concentrated in specific areas, generally along the foothills
- ◆ There will be pockets of industrial development which will only have direct effects on roads in and adjacent to these areas
- ◆ Existing residential areas will be "ring fenced" with buffer zones to control their spread
- ◆ Land use changes will occur gradually, with similar change on transportation network assets
- ◆ The need to provide for different modes of transport such as cycles and motorised vehicles will continue
- ◆ The Council will continue its efforts to make the transportation network as safe as practical for all its users
- ◆ The true value of transportation assets, and the amount that has to be set aside annually for depreciation, can be expected to become more accurate as the Council's knowledge of these assets improves

- ◆ The financial assistance presently available (2012) from the NZ Transport Agency will decrease to 46% for maintenance, 56% for Construction and Community Safety projects from 2012/13.
- ◆ All expenditure is stated in dollar values as at the time of preparation (usually July and updated to September before submission to the Land Transport Plan and LTP / Annual Plan budget rounds), with no allowance made for expected inflation over the 10 year planning period.
- ◆ The forecasts are based on the best available knowledge of asset condition and performance, and on the levels of service that are shown in this Plan.
- ◆ The forecasts include allowance for costs such as corporate administration charges, interest costs, and other indirect overheads
- ◆ Planned upgrades to be carried out over the next 10 years are based on a local economy that will continue to grow and continue to diversify.
- ◆ Renewal costs have been established based on historical costs, condition data and trends, and compared to the depreciation provision and funding.
- ◆ All new loans will be able to be raised at an interest rate (fixed for at least the next three years) as established in the LTP.
- ◆ The Council will receive from sub-dividers and developers financial contributions at the level shown in this Plan. If that is not the case, some of the programmed capital works may not be necessary (because development will not be occurring at the rate or perhaps in the manner envisaged) and may be deferred.
- ◆ Replacement Cost, Depreciated Replacement Cost and Annual Depreciation are calculated for a 10-year period. The Council uses the straight-line depreciation method for calculating depreciation. The following formulae are used for calculating the values in ensuing years:
  - ◇  $RC(\text{year } y) = RC(\text{yr } y-1) + \text{new works}(\text{yr } y)$
  - ◇  $DRC(\text{yr } y) = DRC(\text{yr } y-1) + \text{new works}(\text{yr } y) + \text{renewals}(\text{yr } y) - \text{Depreciation}(\text{yr } y)$
  - ◇  $\text{Depreciation}(\text{yr } y) = RC(\text{yr } y) / \text{Average Asset Life}$ ,

Where:

RC	= Replacement Cost or Optimised Replacement Cost
DRC	= Depreciated Replacement Cost or Optimised depreciated Replacement Cost
Year y (yr y)	= the year for which the depreciation DRC / RC is being calculated
Average Asset Life	= $RC(\text{last valuation}) / \text{Depreciation}(\text{last valuation})$ .

- ◆ The standards of work comply with nationally recognised designs. To this end Council has adopted the design guides of "Austroads" standards as produced by the Australian Road Research Board.
- ◆ In Methven and Rakaia new footpath work will be delayed until every street has kerb and channel installed. New footpaths will then be constructed on one side only until all streets have at least one footpath
- ◆ All footpaths resurfacing on District footpaths will be carried out using asphaltic hotmix material.

New footpaths will be constructed with asphaltic concrete surface, or in concrete. Except in some very localised areas these assumptions are not expected to require changes to the standards adopted for maintenance, renewal and development of the transportation network.

## 17 Bylaws and Policies

The Council's bylaws, policies and standards, as they affect the network, are discussed at Appendix U.

The Council has a number of bylaws that regulate the types of road use that are safe and acceptable, such as the stock-droving and -crossing roads. The Council was required to review all existing bylaws

prior to 2008 and has completed this process; with new bylaws being adopted. The Council also has a number of polices which are designed to ensure the transport network is safe and well maintained.

## 18 Public Consultation

Council's knowledge of customers' expectations and preferences are discussed at Appendix V and is based on:

- ◆ consultation on previous AMP's, the current LTP, and other planning documents
- ◆ public meetings
- ◆ feedback from elected members
- ◆ feedback from service providers
- ◆ analysis of customer service requests and complaints
- ◆ consultation with beneficiaries of proposed works
- ◆ consultation via the annual plan process
- ◆ annual customer satisfaction survey
- ◆ focus groups and working parties

Further knowledge will be obtained through enhanced public consultation.

The Land Transport Management Act 2002 also requires the Council to specifically consult specified organisations or persons when preparing its land transport programme – with the proviso that it does not have to do so about any matter that it has already consulted whilst preparing the current LTP.

Consultation has to generally be carried out with regard to the principles detailed in the Local Government Act 2002, which requires all consultation on the Long Term Plan (or LTP) with land transport users, providers, affected communities, Maori, or the public, to follow the Act's special consultative procedure.

It is the Council's intention that consultation required under the Land Transport Management Act be covered by consultation on the LTP and Annual Plan and Budget.

The public and interest groups will be consulted over all proposed renewals and new works to ensure input from stakeholders is considered. This project-level consultation is not mandated or controlled by the Local Government Act 2002 but the principles of the Act will be followed where applicable.

This Activity Management Plan will be continuously reviewed and updated in the period between LTPs with all revisions being completed in coordination with the LTP preparation and planning processes on a three yearly basis, prior to compilation of the LTP.

## 19 Asset Management Improvement

This plan includes an Asset Management Improvement Plan, at Appendix X. The Improvement Plan details the actions identified to raise the Council's asset management performance, costs these, and allocates staff resources to them.

The costs of the Asset Management Improvement Plan are included in the forecast costs of professional services, both internal and external.

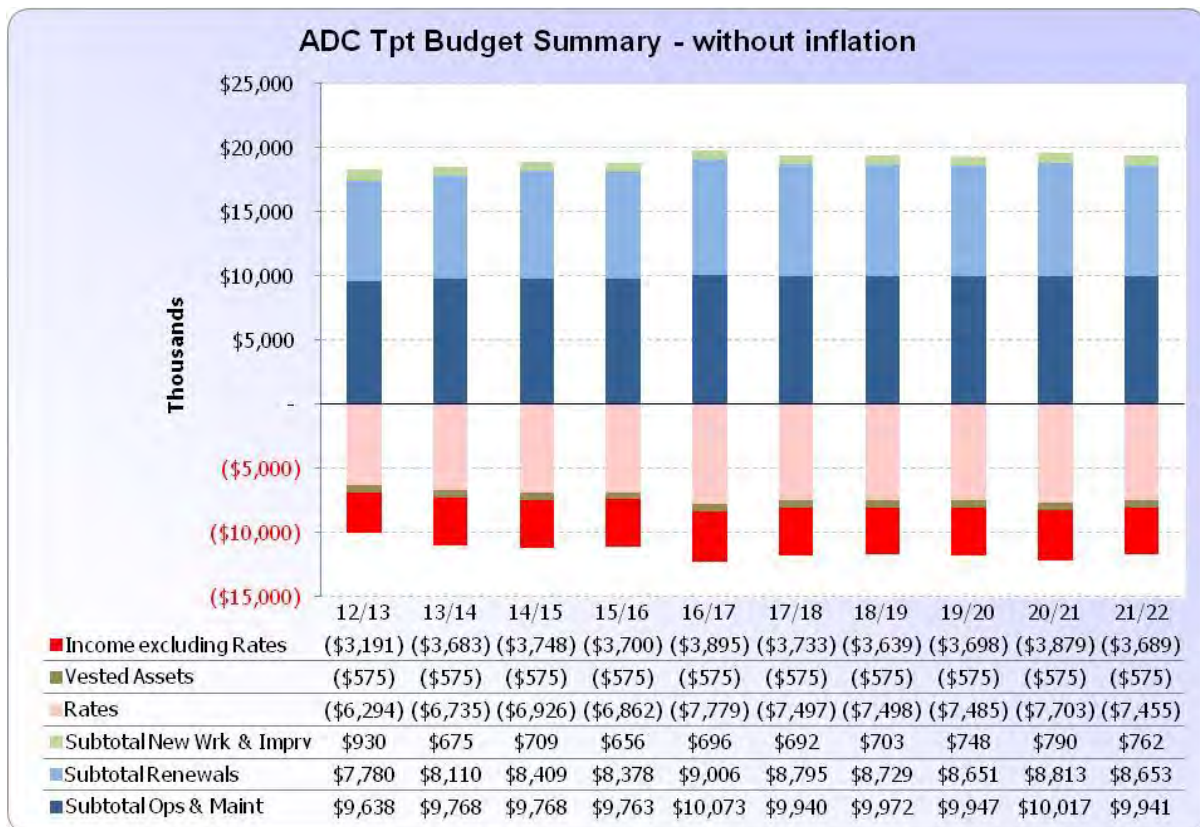
## 20 Conclusion

This activity management plan identifies increasing pressure from growth and development and the need for Council to proactively assess the current and future impacts of this growth.

This document also identifies capital programmes that will ensure the ongoing provision of service at its current level, and programmes to cater for future growth and address environmental concerns.

As can be seen in the following diagram, real costs are expected to steadily increase over the 10 year period, and all cost forecasts in this plan exclude inflation.

**Figure 7 Summary Financial Forecast**



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx] AMP FinFcst Charts > \$A\$3

An important part of this plan and Council's commitment to sound management is the contents and implementation of the improvement programme identified in Appendix X of this plan.

Completing these tasks will assist the Ashburton District Council in managing the transportation assets and services soundly in perpetuity for current and future stakeholders alike.

- Annex I List of Appendices & Annexes**
- Annex II District Road Network Map**
- Annex III Staff Structure**
- Annex IV Forecast Maintenance & Operating Expenditure**
- Annex V Forecast Renewals Expenditure**
- Annex VI Forecast New Works Expenditure**
- Annex VII Statement of Financial Performance**
- Annex VIII Associated Documents List**
- Annex IX Glossary of Terms**

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Appendix B Description of the Transport Network	Annex I – Inspection Reports
Appendix C Safety Management	Annex I –Road Safety Issues Report
Appendix D Asset Valuation	Annex I – Latest Valuation Report Annex II – Standard Asset Lives, Annex III – Unit rates, Annex IV – Forecast Asset Value Annex V – RAMM Valuation Methodology
Appendix E Maintenance and Operations	Annex I – ADC Period Contract Commitments Annex II – Transportation Network Policies Annex III – Maintenance Intervention Adjustments Annex IV – Maintenance Programmes Annex V – Financial Summary Annex VI – Emergency-Routes map
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Appendix Z	Glossary of Terms	



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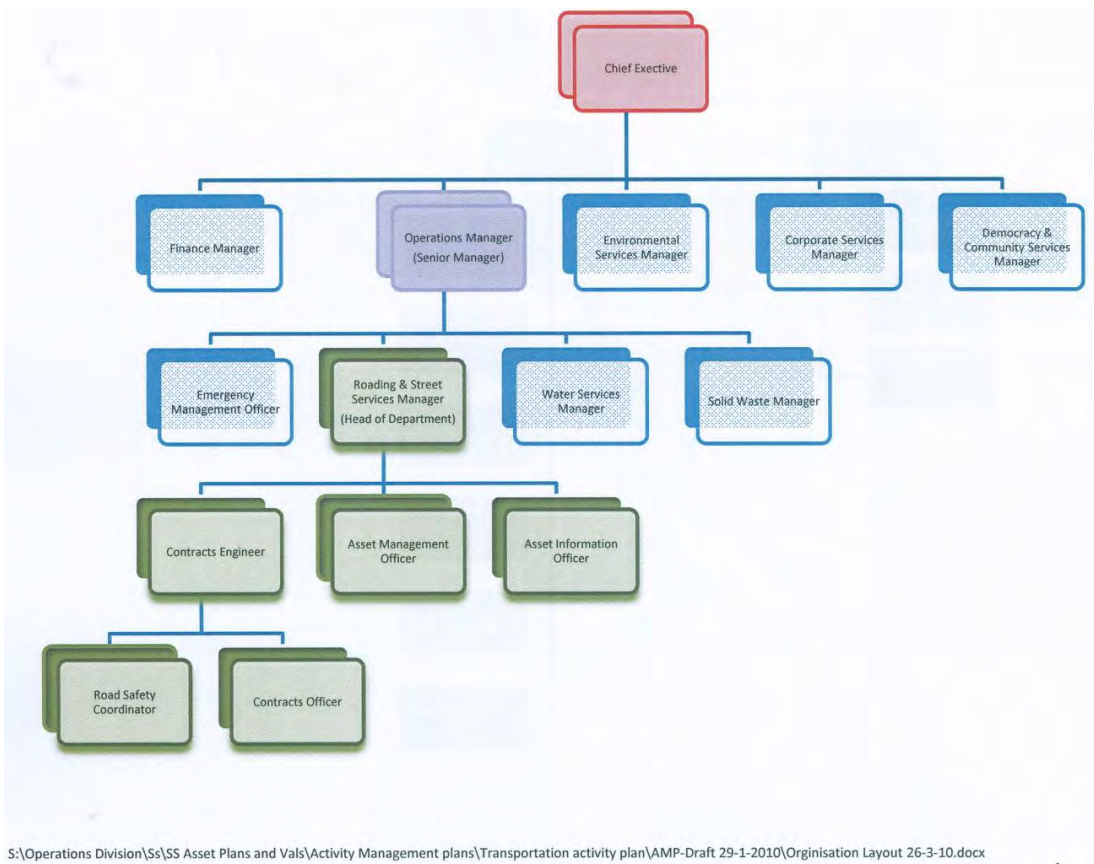
## Annex II District Road Network Map

The road map is on the following pages. It was prepared separately from this plan and does not necessarily follow its formatting and other conventions.

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# Annex III Staff Structure



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# Annex IV Forecast Maintenance & Operating Expenditure

The forecast expenditure uses the BERL inflation figures accumulated over the 10 year period.

The forecast is detailed on the following pages which are not necessarily formatted as part of the AcMP.

Maintenance and Operating only Roading and Footpaths	Year 1 12/13	Year 2 13/14	Year 3 14/15	Year 4 15/16	Year 5 16/17	Year 6 17/18	Year 7 18/19	Year 8 19/20	Year 9 20/21	Year 10 21/22
<b>Subsidised M&amp;O</b>										
Pavement	1,347,541	1,532,136	1,542,182	1,594,676	1,652,060	1,713,184	1,780,060	1,854,847	1,934,667	2,019,808
Drainage	101,423	140,928	150,519	155,642	161,243	167,209	173,736	181,035	188,826	197,136
Traffic Services	706,204	731,604	780,098	806,652	835,679	866,598	900,427	938,257	978,633	1,021,701
Cyclepath	700	1,037	1,072	1,109	1,149	1,191	1,238	1,290	1,345	1,404
Bridge	92,000	46,115	49,787	51,482	53,334	55,307	57,466	59,881	62,458	65,206
Streetscape	515,610	549,921	585,497	605,427	627,213	650,419	675,809	704,202	734,506	766,830
Professional Services	496,721	594,128	644,238	666,167	690,139	715,673	743,610	774,852	808,196	843,764
Studies & Strategies	0	0	48,261	66,528	0	53,604	18,566	58,037	0	84,264
Activity Management Plans	110,773	75,053	104,013	58,073	60,163	115,546	64,825	67,548	130,484	73,555
Road Safety	108,890	112,992	116,941	120,758	125,204	130,006	134,908	140,566	146,777	153,123
<b>Non Subsidised M&amp;O</b>										
Professional Services	65,875	310,066	543,468	783,413	1,037,735	1,317,854	1,618,079	1,960,773	2,328,246	2,709,988
Street Cleaning	221,258	1,039,910	1,820,949	2,628,539	3,511,357	4,451,701	5,480,549	6,631,088	7,859,067	9,168,912
Traffic Signals	11,000	51,700	90,530	130,680	174,570	221,320	272,470	329,670	390,720	455,840
Carriageway Lighting	75,000	352,500	617,250	891,000	1,190,250	1,509,000	1,857,750	2,247,750	2,664,000	3,108,000
Township Mtce	12,711	59,744	104,615	151,012	201,730	255,753	314,862	380,961	451,509	526,761
Footpath	721,527	818,832	841,210	863,456	1,248,066	1,133,374	1,214,738	1,230,022	1,373,426	1,323,685
Parking										
<b>Total Maintenance &amp; Operations</b>	<b>4,587,234</b>	<b>6,416,666</b>	<b>8,040,630</b>	<b>9,574,614</b>	<b>11,569,892</b>	<b>13,357,741</b>	<b>15,309,091</b>	<b>17,560,777</b>	<b>20,052,861</b>	<b>22,519,977</b>

Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx] ActivityFcstData > \$P\$21

## Annex V Forecast Renewals Expenditure

The forecast is detailed on the following pages which are not necessarily formatted as part of the AcMP.

Activity	Year 1 12/13	Year 2 13/14	Year 3 14/15	Year 4 15/16	Year 5 16/17	Year 6 17/18	Year 7 18/19	Year 8 19/20	Year 9 20/21	Year 10 21/22
<b>Roading - Subsidised Physical Works</b>										
<b>Asset Renewals</b>										
Unsealed Road Metalling	1,105,852	1,132,404	1,205,265	1,232,986	1,277,356	1,324,617	1,221,614	1,272,939	1,327,719	1,386,151
Sealed Road Resurfacing	2,300,472	2,750,684	2,876,069	2,973,968	3,080,986	3,194,977	3,319,697	3,459,169	3,608,028	3,766,811
Drainage Renewals	460,229	492,057	524,355	542,203	561,714	582,497	605,235	630,663	657,803	686,752
Sealed Road Pavement Rehabilitation	2,260,209	2,424,962	2,717,927	2,810,442	2,911,575	3,019,299	3,137,161	3,268,964	3,409,638	3,559,691
Structures Component Replacement	66,961	31,110	42,892	33,264	34,461	47,648	37,131	38,691	53,808	42,132
Environmental Renewals	5,500	0	5,362	0	0	5,956	0	0	6,726	0
Traffic Services Renewals	115,008	140,825	148,160	153,203	161,506	207,188	218,359	184,542	195,916	204,538
Associated Improvements	77,004	80,467	83,206	86,038	89,135	92,432	96,041	100,076	104,382	108,976
Preventive Maintenance	125,000	129,625	134,038	138,600	143,588	148,900	154,713	161,213	168,150	175,550
<b>Total Renewals</b>	<b>6,516,235</b>	<b>7,182,133</b>	<b>7,737,273</b>	<b>7,970,704</b>	<b>8,260,320</b>	<b>8,623,514</b>	<b>8,789,950</b>	<b>9,116,256</b>	<b>9,532,171</b>	<b>9,930,601</b>
<b>Footpaths</b>										
<b>Asset Renewals</b>										
Ashburton	459,840	467,188	483,069	500,125	517,828	537,392	557,944	581,727	606,493	633,484
Methven	13,794	14,304	12,326	12,746	13,204	13,693	14,227	14,825	15,463	16,144
Rakaia	9,210	7,178	7,422	7,686	7,957	8,259	8,574	8,940	9,320	9,735
Rural	7,472	0	12,371	7,686	6,892	8,259	8,574	8,940	9,320	9,735
<b>Total Renewals</b>	<b>490,316</b>	<b>488,671</b>	<b>515,189</b>	<b>528,243</b>	<b>545,882</b>	<b>567,602</b>	<b>589,318</b>	<b>614,432</b>	<b>640,595</b>	<b>669,098</b>
<b>Total All Asset Renewals</b>	<b>7,006,551</b>	<b>7,670,804</b>	<b>8,252,462</b>	<b>8,498,948</b>	<b>8,806,202</b>	<b>9,191,116</b>	<b>9,379,268</b>	<b>9,730,688</b>	<b>10,172,766</b>	<b>10,599,699</b>

Source: [2012-22 LTP Rooding Budget AcMP Version v1.0.xlsx] Chart Data > \$P\$82



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## Annex VI Forecast New Works Expenditure

The forecast is detailed on the following pages which are not necessarily formatted as part of the AcMP.

Activity	Year 1 12/13	Year 2 13/14	Year 3 14/15	Year 4 15/16	Year 5 16/17	Year 6 17/18	Year 7 18/19	Year 8 19/20	Year 9 20/21	Year 10 21/22
<b>Roading - Subsidised Physical Works</b>										
<b>Asset Additions</b>										
New Traffic Management Facilities	0	0	0	0	0	0	0	0	0	0
Replacement of Bridges and other Structures	0	0	0	0	0	0	0	0	0	0
New Roads	300,000	0	0	0	0	0	0	0	134,520	140,440
Road Reconstruction	0	0	0	0	0	0	0	0	0	0
Seal Extension	0	0	0	0	0	0	0	0	0	0
Minor Improvements	622,374	643,451	738,938	704,689	730,047	757,058	778,875	811,598	846,524	883,778
Pedestrian Facilities	0	0	0	0	0	0	0	0	0	0
Cycle Facilities	0	56,050	21,446	22,176	22,974	0	0	12,897	0	14,044
<b>Total New Assets</b>	<b>922,374</b>	<b>699,501</b>	<b>760,384</b>	<b>726,865</b>	<b>753,021</b>	<b>757,058</b>	<b>778,875</b>	<b>824,495</b>	<b>981,044</b>	<b>1,038,262</b>
<b>Roading - Non subsidised Physical Works</b>										
<b>Asset Additions</b>										
Subdivision Contribution	110,000	517,000	905,296	1,306,796	1,745,700	2,213,211	2,724,692	3,296,715	3,907,195	4,558,387
Miscellaneous Work	89,446	138,433	242,461	349,905	467,427	592,743	729,571	882,773	1,046,404	1,220,616
New kerb & Channel - Ashburton	0	0	0	0	1,532,206	0	0	0	2,837,569	0
New kerb & Channel - Methven	0	0	0	0	1,150,127	679,799	0	1,648,525	1,142,320	1,450,093
New kerb & Channel - Rakaia	0	0	0	0	0	1,017,208	2,689,560	1,849,902	2,458,599	2,382,259
New kerb & Channel - Rural	0	0	0	0	2,289,177	1,983,552	2,728,496	2,387,088	3,103,956	4,290,759
Seal Extension	58,893	276,877	484,906	699,809	934,854	1,185,487	1,459,142	1,765,455	2,092,808	2,441,275
<b>Total New Assets</b>	<b>258,339</b>	<b>932,310</b>	<b>1,632,663</b>	<b>2,356,510</b>	<b>8,119,492</b>	<b>7,672,000</b>	<b>10,331,461</b>	<b>11,830,458</b>	<b>16,588,851</b>	<b>16,343,389</b>
<b>Footpaths</b>										
Ashburton	7,598	0	0	0	0	0	0	0	0	0
Methven	0	0	0	0	16,635	30,905	91,355	109,091	82,184	31,353
Rakaia	0	0	0	0	0	0	0	0	0	0
Rural	0	0	0	0	29,668	36,039	0	31,650	0	0
<b>Total New Footpaths</b>	<b>7,598</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46,303</b>	<b>66,945</b>	<b>91,355</b>	<b>140,741</b>	<b>82,184</b>	<b>31,353</b>
<b>Total All Asset Additions</b>	<b>1,188,311</b>	<b>1,631,811</b>	<b>2,393,047</b>	<b>3,083,375</b>	<b>8,918,815</b>	<b>8,496,002</b>	<b>11,201,691</b>	<b>12,795,694</b>	<b>17,652,079</b>	<b>17,413,003</b>

Source: [2012-22 LTP Rooding Budget AcMP Version v1.0.xlsx] Chart Data > \$P\$108

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# Annex VII Statement of Financial Performance

The forecast is detailed on the following pages which are not necessarily formatted as part of the AcMP.

Roading	LTP Year 1 2012/13	LTP Year 2 2013/14	LTP Year 3 2014/15	LTP Year 4 2015/16	LTP Year 5 2016/17	LTP Year 6 2017/18	LTP Year 7 2018/19	LTP Year 8 2019/20	LTP Year 9 2020/21	LTP Year 10 2021/22
<b>Income</b>										
Petroleum Tax	274,768	274,768	274,768	274,768	274,768	274,768	274,768	274,768	274,768	274,768
Land Transport Assistance	1,748,186	1,831,879	1,900,342	1,886,473	1,841,473	1,900,213	1,851,429	1,873,929	1,865,169	1,885,179
Contributions	52,439	52,435	52,432	52,436	53,789	53,730	53,947	53,717	53,601	53,837
Non Operating Income (Vested Assets)	515,000	515,000	515,000	515,000	515,000	515,000	515,000	515,000	515,000	515,000
Sundry Income	113,183	113,212	113,230	113,204	113,041	113,073	113,022	113,051	113,087	113,043
Internal Fees	0	0	0	0	0	0	0	0	0	0
Internal Recoveries (Rates)	63,722	63,722	63,722	63,722	63,722	63,722	63,722	63,722	63,722	63,722
Internal Recoveries (Gen fund int)	255,356	235,783	228,901	200,600	191,072	181,978	174,606	167,235	159,863	152,492
Funds Transfer from Reserves										
	<b>3,022,654</b>	<b>3,086,798</b>	<b>3,148,395</b>	<b>3,106,201</b>	<b>3,052,865</b>	<b>3,102,484</b>	<b>3,046,494</b>	<b>3,061,422</b>	<b>3,045,209</b>	<b>3,058,040</b>
<b>Expenditure</b>										
Operating Costs	3,172,952	3,307,983	3,312,553	3,312,244	3,311,934	3,311,625	3,311,315	3,311,005	3,310,696	3,310,386
Interest	13,376	9,577	5,777	1,783	0	0	0	0	0	0
Depreciation	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300
Overhead Costs	1,092,519	1,133,618	1,243,689	1,201,322	1,140,113	1,244,175	1,155,675	1,185,664	1,198,579	1,201,429
	<b>9,993,147</b>	<b>10,165,478</b>	<b>10,276,319</b>	<b>10,229,649</b>	<b>10,166,347</b>	<b>10,270,100</b>	<b>10,181,290</b>	<b>10,210,968</b>	<b>10,223,575</b>	<b>10,226,115</b>
<b>Operating Deficit</b>	<b>6,970,493</b>	<b>7,078,680</b>	<b>7,127,924</b>	<b>7,123,448</b>	<b>7,113,482</b>	<b>7,167,616</b>	<b>7,134,796</b>	<b>7,149,547</b>	<b>7,178,366</b>	<b>7,168,075</b>
Loans Raised	129,000	0	0	0	0	0	0	0	0	0
Loans Repaid	63,323	68,483	71,739	34,878	5,160	5,160	5,160	5,160	5,160	5,160
Capital Expenditure	1,695,713	1,387,906	1,369,522	1,368,901	1,995,432	1,714,785	1,780,123	1,745,416	1,979,970	1,844,700
Cyclic Renewals	6,516,235	6,925,876	7,215,586	7,188,586	7,191,016	7,239,350	7,101,842	7,068,509	7,086,062	7,071,063
DISP Funding available	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300
Increase (Decrease) in Sep Res										
<b>Rate Requirement</b>	<b>9,402,464</b>	<b>9,746,645</b>	<b>10,070,471</b>	<b>10,001,513</b>	<b>10,590,790</b>	<b>10,412,610</b>	<b>10,307,621</b>	<b>10,254,331</b>	<b>10,535,258</b>	<b>10,374,698</b>
Subsidised	5,307,794	5,696,150	5,881,148	5,831,491	5,826,385	5,885,569	5,776,969	5,783,417	5,854,662	5,847,389
Unsubsidised	538,849	477,143	475,906	469,507	1,062,770	803,031	873,535	829,138	974,625	828,318
Road Safety	41,824	39,973	38,008	37,861	37,863	38,006	37,866	37,858	37,979	37,898
<b>Rates Required</b>	<b>5,888,467</b>	<b>6,213,266</b>	<b>6,395,062</b>	<b>6,338,860</b>	<b>6,927,019</b>	<b>6,726,606</b>	<b>6,688,370</b>	<b>6,650,413</b>	<b>6,867,266</b>	<b>6,713,606</b>

Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx]StateFinPerf > \$B\$2

Footpaths	LTP Year 1 2012/13	LTP Year 2 2013/14	LTP Year 3 2014/15	LTP Year 4 2015/16	LTP Year 5 2016/17	LTP Year 6 2017/18	LTP Year 7 2018/19	LTP Year 8 2019/20	LTP Year 9 2020/21	LTP Year 10 2021/22
<b>Income</b>										
Vehicle Crossing fees	7,657	7,657	7,657	7,657	7,657	7,657	7,657	7,657	7,657	7,657
Interest - Income	8,329	7,866	7,703	7,034	6,809	6,594	6,421	6,248	6,074	5,901
Vested Assets	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
	75,986	75,523	75,360	74,691	74,466	74,251	74,078	73,905	73,731	73,558
Internal Recoveries	30,260	29,288	28,945	27,540	27,067	26,615	26,248	25,881	25,516	25,149
<b>Total Income</b>	<b>106,246</b>	<b>104,811</b>	<b>104,305</b>	<b>102,231</b>	<b>101,533</b>	<b>100,866</b>	<b>100,326</b>	<b>99,786</b>	<b>99,247</b>	<b>98,707</b>
<b>Expenditure</b>										
Operating Costs	211,315	211,300	211,300	211,300	211,300	211,300	211,300	211,300	211,300	211,300
Interest internal	71,601	68,880	66,162	63,444	60,726	58,170	55,452	52,734	50,016	47,299
Decline in Service Potential	409,400	409,400	409,400	409,400	409,400	409,400	409,400	409,400	409,400	409,400
Internal Charges	79,233	78,569	79,618	78,744	391,836	263,415	297,356	275,177	348,571	274,892
<b>Total Expenditure</b>	<b>771,549</b>	<b>768,149</b>	<b>766,480</b>	<b>762,888</b>	<b>1,073,262</b>	<b>942,285</b>	<b>973,508</b>	<b>948,611</b>	<b>1,019,287</b>	<b>942,891</b>
Operating Surplus / (Deficit)	-665,303	-663,338	-662,175	-660,657	-971,729	-841,419	-873,181	-848,825	-920,040	-844,184
Capital Income	0	0	0	0	0	0	0	0	0	0
Loans Raised	0	0	0	0	0	0	0	0	0	0
Loans Repaid	45,298	45,298	45,298	45,298	45,298	45,298	45,298	45,298	45,298	45,298
Cyclic Renewals	430,316	411,235	420,452	416,410	415,217	416,496	416,140	416,415	416,208	416,430
Capital Expenditure	7,598	0	3,230	0	97,374	92,665	77,043	157,341	146,145	66,490
DISP Funding	409,400	409,400	409,400	409,400	409,400	409,400	409,400	409,400	409,400	409,400
Transfer to Special Reserves										
Transfer from Special Reserves										
Increase / (Decrease) of Separate Reserves										
Rates Required	-739,115	-710,471	-721,755	-712,965	-1,120,217	-986,478	-1,002,262	-1,058,479	-1,118,291	-963,001

Source: [2012-22 LTP Footpaths Budget AcMP Version v1.0.xlsx]Summary > \$C\$97

## Annex VIII Associated Documents List

The following documents are relevant to this AcMP and contain information and data that support and directly affect it but that is not necessarily repeated in it.

**Table 6 Associated Documents**

<b>Document Name</b>	<b>File Ref</b>	<b>Council sponsor / responsible officer</b>
ADC [Transportation Network] Safety Management System		Roading and Transportation Assets Manager
NZTA Planning Programming and Funding Manual	N/A	
NZTA Economic Evaluation Manual and Funding Manual	NA	
NZTA Competitive Pricing Procedures Manual	N/A	
ADC Walking and Cycling Strategy and Action Plan		Road Safety Co-ordinator

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## Annex IX Glossary of Terms

AD	Annual Depreciation
AM	Asset Management
AMP	Asset management plan
AcMP	Activity management plan. This AcMP incorporates all the content required of an AMP by the Controller and Auditor General
DRC	Depreciated Replacement Cost
FAR	Funding Assistance Rate
LGA	Local Government Act
LTMA	Land Transport Management Act
LTP	Land Transport Programme
LTP	Long Term Plan
NE	North East
NRRP	Natural Resources Regional Plan
NZTA	New Zealand Transport Agency
ODRC	Optimised Depreciated Replacement Cost
RMA	Resource Management Act
RTC	Regional Transport Committee

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End of Transportation Network Activity Management Plan

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# Appendix A Legislative and Other Requirements

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Saved Date: Wednesday, 5 March 2014 09:13

## Contents

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A- 2	National Planning Documents and Standards	1
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# Appendix A Legislative and Other Requirements, Relationships with other planning documents and with other organisations

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*Reference / Reason: International Infrastructure Management Manual Guidelines*

Territorial Local Authorities have a responsibility to manage local roads to provide a safe and efficient network for road users. The legislative and planning requirements which the Ashburton District Council is required to comply with when carrying out roading provision, maintenance, and capital improvement activities, are extensive.

The requirements include the following:

## A- 1 Legislative Requirements

- ◆ Local Government Act 1974
- ◆ Local Government Act 2002.
- ◆ Local Government (Rating) Act 2002.
- ◆ Resource Management Act 1991.
- ◆ Land Transport Management Act 2003.
- ◆ Transit New Zealand Act 1989.
- ◆ Transport Act 1962
- ◆ Heavy Motor Vehicle Regulations 1974
- ◆ Traffic Regulations 1976
- ◆ Electricity Act 1992
- ◆ Railway Safety and Corridor Management Act 1992
- ◆ Civil Defence Emergency Management Act 2002 (Lifelines).
- ◆ Health and Safety in Employment Act 1999.
- ◆ Building Act 2004
- ◆ Public Works Act 1987.
- ◆ Telecommunications Act 1987
- ◆ Reserves Act 1977
- ◆ Infrastructure (Amendments Relating to Utilities Access) Act 2010

## A- 2 National Planning Documents and Standards

- ◆ Government's Sustainable Development Action Plan.
- ◆ NZ Accounting Standards
- ◆ NZS 4404: 2004 Land Development and Subdivision Engineering
- ◆ SNZ HB 4360:2000 'Risk Management for Local Government'.
- ◆ SNZ HB 2002:2003 Code of Practice for Working in the Road (NZUAG Roadshare).

- ◆ National Energy Efficiency and Conservation Strategy.
- ◆ The NZ Transportation Agency NZ Maintenance Guidelines for Local Roads (2002).
- ◆ Land Transport New Zealand / Ashburton District Council Level of Service Agreements (annual)
- ◆ National Land Transport Programme
- ◆ Government Policy Statement
- ◆ NZ Land Transport Strategy
- ◆ Getting There Foot and Cycle (National walking and cycling strategy)

## A- 3 Regional Planning Documents

Environment Canterbury (ECan) has adopted the following documents which are relevant:

- ◆ Regional Policy Statement
- ◆ Regional Land Transport Strategy 2008-2018
- ◆ Canterbury Regional Land Transport Freight Action Plan
- ◆ Cycling in Canterbury: Strategy for the development of a regional network of cycle routes
- ◆ Canterbury Passenger Transport Plan 2002
- ◆ Natural Resources Regional Plan (NRRP)

## A- 4 Council Planning Documents

- ◆ Ashburton District Plan
- ◆ ADC Strategic Plan 2000
- ◆ Ashburton Development Plan
- ◆ Council's Engineering Design Standards for Subdivisions and Development (adopts NZS 4404)
- ◆ Business Plans, including budgets, management strategies and performance measures
- ◆ Contract documents, specifications, service levels, and reporting requirements
- ◆ Bylaws, Standards and Policies
- ◆ ADC Walking & Cycling Strategy

Activity Management Plans support the LTP.

## A- 5 Relationships with Other Organisations

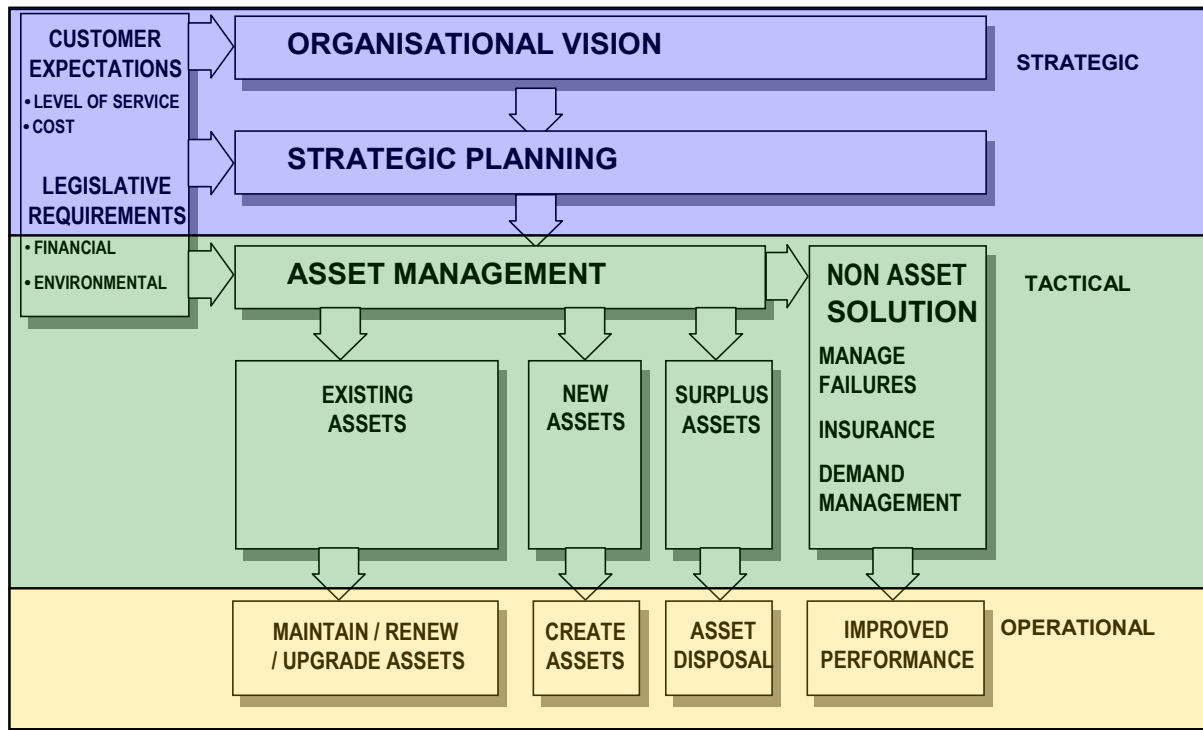
Key stakeholder organisations are listed in Appendix U. Those with whom the Council has a key relationship in terms of roading services are:

- ◆ Environment Canterbury
- ◆ The NZ Transport Agency
  - ◇ state highways
  - ◇ funding and road safety
- ◆ NZ Police – road safety delivery
- ◆ On Track – national maintenance agreement for rail crossings, schedule for ADC crossings.

## A- 6 Relationship to Asset Management

Tactical plans need to be developed for achieving strategic planning outcomes, as shown below.

Figure A-1 Asset Management Links Strategy to Operations



Asset / activity management is a key part of the planning process, linking with the following documents.

- ◆ **Strategic Plan and LTP:** Strategic plans set out broad strategic direction for the next 20 years. The LTP is designed to complement strategic plans, and replaces the Long Term Financial Strategy (LTFS). Asset management plans reflect strategies and confirm tactics to achieve strategic goals.
- ◆ **Annual Plan:** The works identified in this current Activity Management Plan (AcMP) should automatically become the basis on which the LTP and future annual plans are prepared.
- ◆ **Business/Activity Plans:** The service levels, policies, processes and budgets defined in this AcMP are incorporated into business plans as activity budgets, management strategies and performance measures.
- ◆ **Contracts:** The service levels, strategies and information requirements contained in AcMPs are translated into contract specifications and reporting requirements.
- ◆ **Legislation:** The AcMP must comply with all relevant legislation and provide the means of meeting legislative requirements.
- ◆ **Bylaws, standards and policies:** These tools for asset creation and subsequent management are needed to support AM strategies.

## A- 7 Detailed Requirements

A number of these requirements are further described below.

### **A- 7.1     Local Government Act 1974**

This Act contains particular requirements relating to the management of roads in Part XXI: Roads (other than Regional Roads), Service Lanes, and Access Ways, including:

- ◆ Formation, Alteration, Stopping, and Closing of Roads
- ◆ Limited Access Roads
- ◆ Private Roads and Private Ways
- ◆ Safety Provisions as to Roads

### **A- 7.2     Local Government Act 2002**

Significant requirements in relation to this AcMP include:

- ◆ Part 7
- ◆ Schedule 10
- ◆ The requirement to consider all options and to assess the benefits and costs of each option (see Appendix 'F').
- ◆ The consultation requirements (see Appendix 'U').

### **A- 7.3     Land Transport Management Act 2003**

The Land Transport Management Act contains particular requirements for developing and consulting on the District's roading plans prior to their adoption by the Council. The Council is an Approved Organization under the terms of this act.

This is further explained in Appendix O, LTMA Matters.

### **A- 7.4     Regional Policy Statement**

The requirements of the Resource Management Act 1991 are implemented by the Canterbury Regional Council (ECan) through the Resource Consent procedure and the *Regional Policy Statement*. This is a written statement of the principles, priorities, and courses of action proposed by ECan to deal with the resource management issues of the region. It sets out how natural and physical resources are to be managed in an integrated way with the aim of sustainable management.

Transport is addressed in Part II, Section 15. This lists the key issues as:

- ◆ The adverse effects of the provision and use of transport infrastructure on the environment
- ◆ The effects on transport infrastructure of the use, development or protection of land and associated natural and physical resources

Methods to address these issues include the Regional Land Transport Strategy and District Plan provisions.

### **A- 7.5     Regional Land Transport Strategy and Related Plans**

This strategy was adopted by ECan in June 2008. It is required by legislation, and contributes to Government vision. The RLTS identifies the region's future land transport needs, the roles of all modes of transport, and provides a direction for development of the system for the next 10 years.



The Passenger Transport Plan, Freight Action Plan and Cycling in Canterbury strategy are all components of the RLTS.

Provisions of the RLTS are further described in Appendix 'F'.

## A- 7.6 Natural Resources Regional Plan

The Natural Resources Regional Plan (NRRP) is operative and regulates the sustainable management of natural resources in Canterbury. It is complemented by catchment or location-based plans or water conservation orders.

Key issues for the roading activity are working in waterways and the disposal of stormwater.

When undertaking work in waterways, the NRRP requires resource consent whenever discolouration of water exceeds 1 hour in any 24-hour period. This has significant cost implications, particularly for low value works.

In urban areas, ADC can by right discharge run-off from road surfaces into a reticulated stormwater scheme. Under the NRRP, resource consent is required for all other new stormwater discharges.

## A- 8 Legislative Requirements – Summary

These include:

- ◆ Specific consultation requirements
- ◆ Integration of asset management with financial, statutory, and business planning
- ◆ More emphasis on financial and performance reporting
- ◆ Greater need for resource consents

## A- 9 Improvement Actions

Potential asset management improvements identified in this section are summarised below. The relative urgencies are interpreted as follows:

**Table A-1 Legislative Requirements Improvement Actions**

Legislative Requirements			
Item		Priority	Comments
A1			

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# Appendix B Description of the Transport Network

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# Description of the Transport Network

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*Legislative Background: Schedule Clause 10(2)(1)(d) Local Government Act 2002*

## B- 1 Overview

This Appendix describes the network, the rationale for the Council's involvement in roading and the reasons why this plan has been prepared.

The Ashburton District is bounded in the west by the Southern Alps and on the east by the Pacific Ocean. Its northern boundary, with the Selwyn District is along the Rakaia River then runs through mountainous country to the top of the Main Divide, its southern boundary, with the Timaru and Mackenzie Districts, is the Rangitata River and from those headwaters to the top of the Main Divide.

The Ashburton District Council's formed roading network has a total length of 2,639 km, of which 1,486 km are sealed, and the remaining 1,153 km are unsealed. 97% of urban roads and 54% of rural roads are sealed. There is also a significant length of unformed legal roads owned by the Council. In addition to this the District is well served by State Highways<sup>1</sup> with SH1 providing a north-south arterial route through the eastern portion of the District, SH77 an east-west route between Ashburton and Mt Hutt, and thence to the Rakaia Gorge and the Selwyn District.

Each road in the network has been categorised into a roading hierarchy based on the road's purpose and level of use. The hierarchy of road network and the purpose of the various levels of road within the hierarchy are discussed in more detail below. District collector and arterial roads lead to state highways that are managed by the NZ Transport Agency (NZTA) and are not part of the Council's road network. State Highways are, however, important links in the overall roading network as far as road users are concerned.

The Council works closely with the NZ Transport Agency and the Regional Land Transport Committee to ensure appropriate roading strategies are implemented.

From time to time additional roads are added to the District roading network, usually from the development of subdivisions. While the Council eventually adopts these, as additional infrastructure, the cost to develop them is carried by the developer. Once adopted as roads by Council, normal maintenance costs and activities are met by Council.

In terms of physical assets, the transport network also includes footpaths and cycle facilities in urban areas, and a number of designated areas for off-street parking.

Passenger transport is a mode of transport that also needs to be catered for in this Transportation Network AcMP. The Ashburton District Council has no direct role in the provision of public passenger transport; a function allocated under the Land Transport Management Act to Regional Councils, but does have an advocacy role. While services are identified and funded by ECan, local infrastructure such as bus stops, bus shelters and seats may be provided by the District Council.

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<sup>1</sup> State Highways are owned by the Crown and managed and maintained on its behalf by the NZTA (State Highway division)

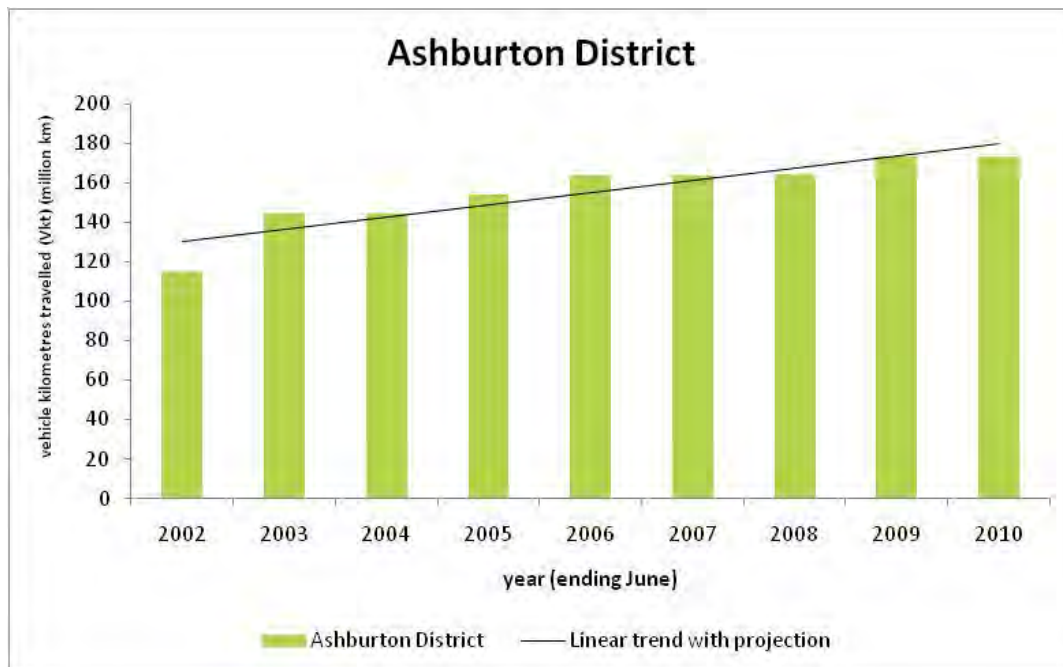
As passenger transport becomes more significant, there is likely to be more demand for local facilities, and it is possible that there could also be future pressure for the Council to support some local services.

The District is characterised by:

- ◆ Alluvial plain geology that provides a very strong road subgrade
- ◆ A flat geography that has led to the development of a road grid with a high number of intersections
- ◆ Relatively low traffic volumes
- ◆ Moderate ongoing growth at the urban / rural fringe
- ◆ Relatively few roads in mountainous areas

It can be seen from the following NZ Transport Agency data, overall travel demand (vehicle-km travelled) has been steadily increasing.

Figure B-1 Vehicle Kilometres Travelled on Local Roads (ex NZTA)<sup>2</sup>



Source: NZTA via ADC TptAMP Overview Tables v1.0.0.xls] Network Summary > \$A\$53

## B- 2 The Network in Detail

The District road network (excluding the state highways) is the responsibility of Ashburton District Council as the Road Controlling Authority. The roading network is essentially a grid based system, in which access from one location to another can be gained by a number of alternate routes. The road hierarchy has been designed so that the distance that users drive on unsealed roads is minimised with a sealed road within a reasonable proximity. These sealed roads in turn will lead to the main collector and arterial roads, and the state highway.

When much of the District's roading network was constructed, it was satisfactory to build roads on the existing geology with minimal structure. This is no longer acceptable and many of the District roads are starting to show distress due to insufficient structure to take the loads now being applied to them.

<sup>2</sup> This and similar graphs are sourced from data produced by the NZTA and published on its website at [http://www.smartmovez.org.nz/references/refs/data/road\\_network\\_condition](http://www.smartmovez.org.nz/references/refs/data/road_network_condition)

The effects of changing land use, particularly dairy farming, have resulted in significant increases in heavy traffic use on the roads, causing noticeable deterioration of the roading network in many cases.

In 2000/2001 the Council adopted a strategy to redevelop the District's unsealed roading network with a focus on the more heavily trafficked roads that had lost a large part of their structure. This strategy involved the deferral of seal extensions in favour of area wide pavement treatment to be followed by a seal extension if the particular road met NZTA's economic requirement for subsidy. This initial programme of work was completed in 2006 however no upgraded unsealed roads were sealed as none achieved the benefit/cost ratio necessary to gain subsidy. Council needs to maintain the surface wearing course of the unsealed roads rebuilt by the above strategy and has increased the level of funding for the unsealed road rehabilitation category to allow for this work.

Given the increase in loading on the unsealed network as a result of the land use changes being experienced Council will also need to continue the strategy of strengthening the more heavily trafficked roads and allowing for their continued maintenance in future budgets.

Roading assets by type, as recorded in RAMM as at 1 August 2011, are summarised below.

**Table B-1 Network Summary**

Network Structures	Description	Number or length	Last Review
Roads	Sealed roads urban	159.948 km	2011
	Unsealed roads urban	4.463 km	
	Sealed roads rural	1,324.425 km	
	Unsealed roads rural	1,148.363 km	
	Service lanes	0.900 km	
Bridges	Council owned bridges	158 bridges, 3,219 m	2011
	Jointly owned boundary bridges	1 bridge, 332 m	
	Private bridges	24 bridges, 469 m	
Major Culverts	Arched	1 structures; 25 m	2006
	Box	8 structures; 91 m	
	Circular	7 structures; 93 m	
Road Signs	Regulatory	1683	2010
	Regulatory parking	290	
	Permanent Warning	1193	
	Special	18	
	Street/road name blades	2849	
	Miscellaneous signs etc	1804	
	Temporary Warning	44	
	Information	1291	
Kerb and channel	Flat Channel	25.168 km	2010
	Deep Dish Channel	3.444 km	
	Asphalt-lined channel	0.073 km	
	Other types	186.877 km	
Drainage	Box culverts	104 culverts; 1,061 m	2007
	Circular	1,393 culverts; 17,323 m	
	"D" pipes	1,723 culverts; 16,859 m	
	Sumps	1,466	
	Siphons (included in culverts above)	43 siphons; 431 m	
Street Lights	Lights	2605	2010
	ADC-owned poles	1895	
Footpaths	Total	211.322 km	2010
Misc	Parking meters		2008
	Features		

Source: ADC TptAcMP Overview Tables v1.0.0.xls] Network Summary

**Table B-2 Footpath Summary**

<b>Community</b>	<b>Path both sides (path-metres)</b>	<b>Path one side (path-metres)</b>	<b>No Path (centreline-metres)</b>
Ashburton	57,708	133,300	12,401
Chertsey	48	968	2,397
Fairton	31	1,147	1,014
Hinds	364	1,699	4,202
Lake Hood	542	1,084	2,734
Mayfield	355	1,443	520
Methven	3,384	13,211	3,884
Mt Somers	250	1,239	2,300
Rakaia	1,877	7,459	12,115
Rural sector	51	1,875	n/a
Tinwald	11,892	28,046	3,487
<b>Totals</b>	<b>76,502</b>	<b>191,471</b>	<b>45,054</b>

Source: [Overview Tables v1.0.0.xls] Network Summary

These assets are described individually below, together with full details of the number and replacement value of components that make up the asset.

The data inventories are reviewed and checked periodically to ensure that they maintain their overall integrity after the continual incremental updates required to reflect the latest changes of the network.

## B- 3 Pavements, Carriageways and Associated Assets

Road pavements provide the roads themselves; i.e. the pavement network that is suitable for the effective and efficient movement of vehicles and people. In all weather conditions and is appropriate to its locations and functions in terms of skid resistance, noise reduction and smoothness, and has a structure suitable for legal traffic loading requirements.

Some of the key issues that have affected or are affecting the management of ADC pavements are:

- ◆ The need to improve predictive modelling of the road pavement decay to assess the physical life of the pavements and justify planned increases in rehabilitation expenditure
- ◆ Costs (e.g. dig-outs) to repair the failure of low specification “NRB” seal widening undertaken in the late 1980’s especially arising from land use changes
- ◆ Increased deterioration due to growth in heavy vehicle loadings (e.g. milk tankers)
- ◆ The ‘unravelling’ of unsealed roads and the loss of metal, due to low fines with adequate plasticity content in the basecourse structure, and in many cases a lack of structure
- ◆ Poor quality of road reinstatement by service authorities – the need to consider for Council adoption the Code of Practice for Working in the Road (SNZ HB 2002:2003, NZUAG Roadshare), and improved coordination with utilities.

Opportunities to optimise pavement expenditure include:

- ◆ Improving the forecasting of seal life based on traffic, seal type, subgrade strength and local factors
- ◆ Incorporating pavement deterioration modelling further into the asset management processes
- ◆ Closely monitoring maintenance needs on pavements that have passed their forecast seal life and are not yet showing signs of surface cracking or distress
- ◆ Optimising planned and unplanned maintenance activity



- ◆ Optimising pavement lifecycle costs by carrying out rehabilitation treatments on sealed and unsealed roads when justified by economic analysis of maintenance costs

## B- 3.1 Pavement Description

### B- 3.1.1 Road Hierarchy

The road network is determined by the District Plan (pages A85 to A89) and is recorded in the RAMM database. The hierarchy is:

- ◆ Arterial: Carry the heaviest volumes of traffic including heavy vehicles providing access in and out of the District
- ◆ Principal: significant volumes of traffic and provide access linking major areas to the arterial network
- ◆ Collector: carry moderate volumes of traffic and provides a connection between local roads and the Arterial network
- ◆ Local: carry only local traffic; primary function is to provide access to private properties

The lengths of road within each road hierarchy category are:

**Table B-3 Road Hierarchy Summary**

Hierarchy	Total Length	Proportion
Arterial	56.823	2.2%
Principal	220.721	8.4%
Collector	418.907	15.9%
Local	1,939.917	73.6%
<b>TOTAL</b>	<b>2,636.368</b>	<b>100.0%</b>

Source: ADC TptAcMP Apx B Description v1.0.0.xlsx|Hierarchy > \$B\$6

**Table B-4 Road Hierarchy and Locality**

	Length of Hierarchy (km)				Proportion
	Arterial	Principal	Collector	Local	All
Ashburton	-	14.486	9.907	63.600	3.3%
Chertsey	-	-	-	3.317	0.1%
Fairton	-	-	-	2.130	0.1%
Hinds	-	-	1.110	4.427	0.2%
Lake Hood	-	-	-	3.276	0.1%
Mayfield	0.787	-	0.745	0.076	0.1%
Methven	-	0.507	1.206	11.998	0.5%
Mt Somers	-	-	0.818	2.471	0.1%
Rakaia	-	1.620	1.138	14.633	0.7%
Rural	56.036	202.369	403.508	1,812.462	94.0%
Tinwald	-	1.739	0.475	17.427	0.7%

Source: ADC TptAcMP Apx B Description v1.0.0.xlsx|Hierarchy > \$B\$16

**Table B-5 Road Hierarchy and Surfacing**

Hierarchy	Concrete	Thin Surfaced Flexible	Unsealed
Arterial-	-	57.155	-
Principal-	-	220.721	-
Collector-	-	412.283	5.272
Local	0.107	783.822	1,152.701
<b>Grand Total</b>	<b>0.107</b>	<b>1,473.981</b>	<b>1,157.973</b>

Source: ADC TptAcMP Apx B Description v1.0.0.xlsx|Hierarchy > \$B\$32

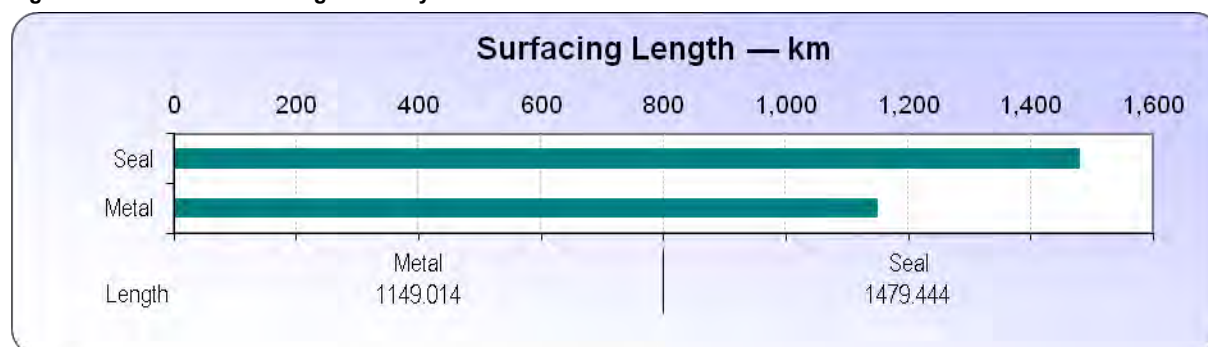
### B- 3.2 Pavement Surfaces

The ADC has the fourth largest territorial local authority road network in the country<sup>3</sup>, valued at over \$446 million as at 30 June 2011. The type of pavement surface used is generally dependent on the traffic volume and mix of traffic using the road. Noise, safety and appearance may also be significant factors. The main types of pavement surfacing used are:

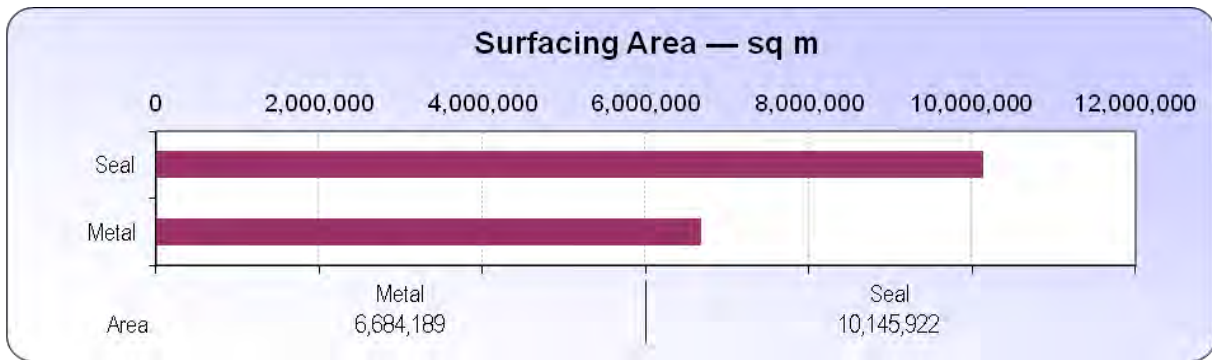
- ◆ Chipseal: Layer of sprayed bitumen with a stone chip spread on top as a running surface. The life cycle for a chipseal surfacing varies dependent on the chip size used (small chip means less bitumen that can be sprayed as the waterproofing membrane) and traffic volume
- ◆ Asphaltic Concrete: Mix of graded aggregate and asphaltic binder laid in a 20 - 25 mm layer
- ◆ Unsealed: Metal surface

The following charts summarise pavement type information in different ways. They show that virtually all sealed road surfacing in the district is chip seal, which is appropriate for roads with relatively low traffic volumes on strong sub-grades. The proportion of unsealed roads is comparable with many other rural based local authorities.

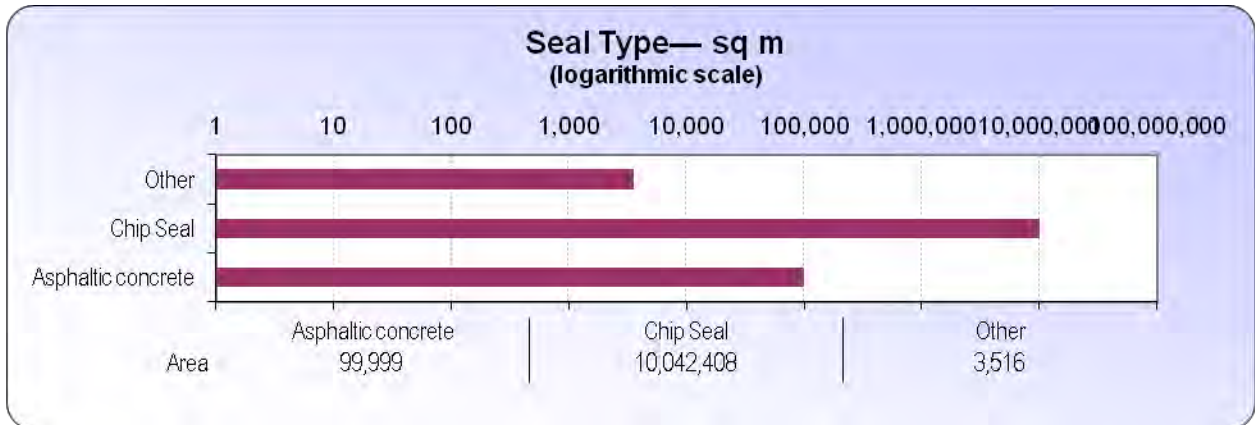
**Figure B-2 Pavement Surfacing Summary – four charts**



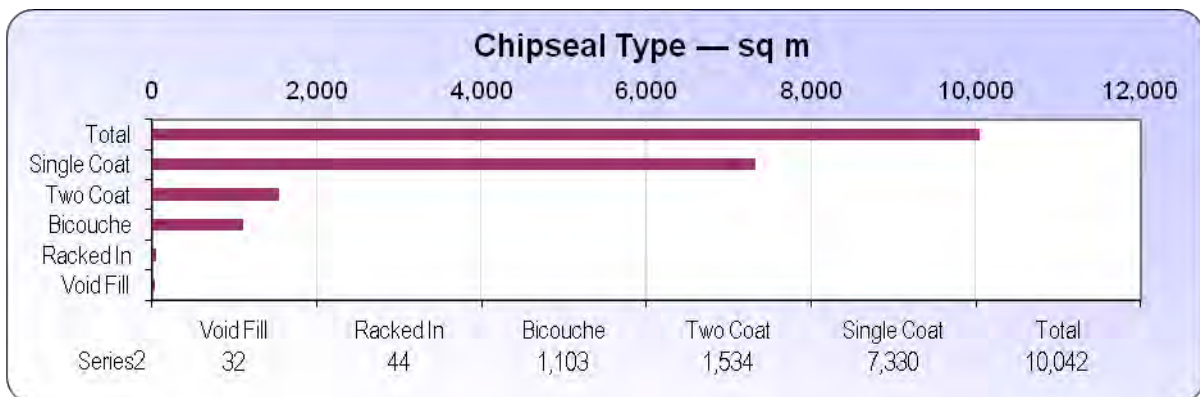
<sup>3</sup> Auckland City 7866.8km; Southland DC 4,981.4km; Clutha DC 2,905.4km; **Ashburton DC 2,633.2km**; Far North DC 2,542.9km; Selwyn DC 2,476.2km (Source <http://www.nzta.govt.nz/resources/land-transport-statistics/docs/2008-2009.pdf>)



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$A\$37



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$A\$52

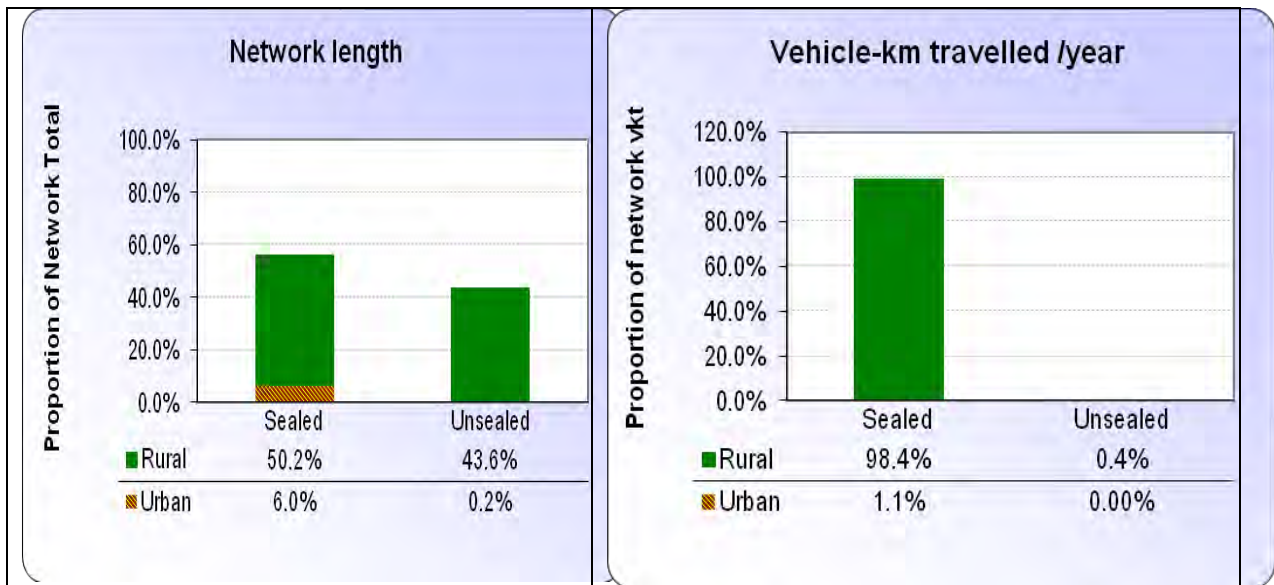


Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$A\$64

### B- 3.3 Network Use

The following charts summarize the network lengths and network use. This data is plotted side-by-side to facilitate comparison.

Figure B-3 Network Use



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Hierarchy > \$B\$55

It can be easily seen from these charts that although unsealed roads make up 44% of the network length they carry only 0.4% of network traffic.

Table B-6 shows the length of each pavement type by traffic volume, indicating that the network largely comprises low volume, local roads. The number of unsealed roads carrying > 100 vehicles/day is of significance.

Table B-6 Pavement Type and Length by Traffic Volume Class

Pavement Type	ADT < 100	ADT 100-500	ADT 500-2000	ADT 2000-4000	ADT 4000-10000	ADT 10000-20000	Total
Thin Surfaced Flexible	541.360	702.635	216.122	16.230	6.891	0.304	1,483.542
Unsealed	1,111.208	38.849	2.769	-	-	-	1,152.826
<b>Total</b>	<b>1,652.568</b>	<b>741.484</b>	<b>218.891</b>	<b>16.230</b>	<b>6.891</b>	<b>0.304</b>	<b>2,636.368</b>

Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Hierarchy > \$B\$76

Relatively few roads are surfaced with asphaltic concrete (AC), and most of this material is located on low volume local roads within recent subdivisions. This trend is continuing, but there is also a trend towards using AC in CBD areas and on junctions where there are large numbers of turning heavy vehicles.

### B- 3.4 Pavement Capacity/ Performance

There are two main aspects of a road that affect its capacity, its strength and its width. The presence of a sealed surface is also very significant.

#### B- 3.4.1 **Structural Capacity**

The major factor in determining a pavement's structural performance is the repetition of heavy axle loads. Most of the network was built when the maximum legal truck had a gross mass of around 14

tonnes. The current limit is 44t and there is pressure on the government to increase this to 50t or even 66t. While the majority of roads adapt to new loadings relatively well over time, others do not and significant increases in major works and renewals have been required following each change in the maximum permitted load.

There is a traffic counting and classification programme in place that collects traffic volumes on strategic road sections. Traffic volumes and heavy-vehicle road use is recorded in RAMM which uses this data to classify road traffic volumes into the bands detailed in Table B-6 above and assess traffic growth.

While actual traffic loadings versus design loadings are assessed on an individual project basis as road renewals or improvements are designed, there are no statistics on how many roads are operating in excess of their original design capacities. Rather continual monitoring is required to ascertain condition and performance.

Deterioration modelling is in its infancy on the network, but it is planned to make fuller use of this tool as better strength and other condition data is obtained. With increasing volumes of heavy vehicles using the network the ability of the current NZ deterioration model (dTIMS) to provide additional information to the network managers, improving the efficiency and effectiveness of their decisions, is becoming increasingly apparent. ADC had an initial model completed by June 2010 and used the results as part of the planning for the 2011/12 road works programme.

#### B- 3.4.2 **Volume Capacity**

As 91% of the network carries 500vpd or less, it is likely that there are few roads that are currently operating in excess of their original design purpose. However, there have been significant structural problems associated with the quality of seal widening work undertaken in the late 1980's in accordance with the then directed NRB specification, which has resulted in surface deformation and edge break. A large programme of dig outs has in recent years been necessary to correct these defects.

The most recent NZ TA technical review of ADC roads, in 2007, noted that the District's roads are mostly in very good condition despite some evidence of increasing maintenance needs

Most crashes in the District occur on rural roads due to high speed and loss of control rather than deficiencies in road design.

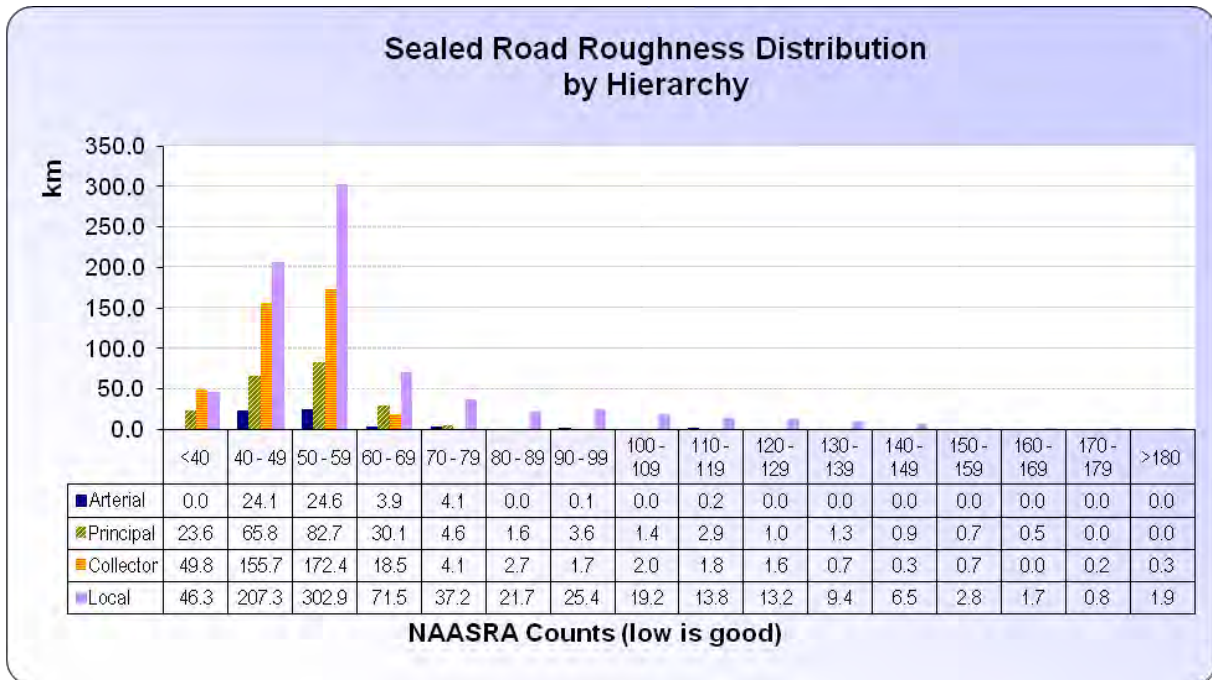
### B- 3.5 **Pavement Condition**

#### B- 3.5.1 **Sealed Roads – Pavement Structure**

Road roughness, as defined in terms of NAASRA (National Association of Australian State Roading Authority) counts or the International Roughness Index (IRI) has traditionally been used as an indicator of road condition and performance, in particular for pavement structure. These counts are measured by a standard vehicle driving along the road at 50 km/hr with the vertical movement of the suspension being averaged every 100m.

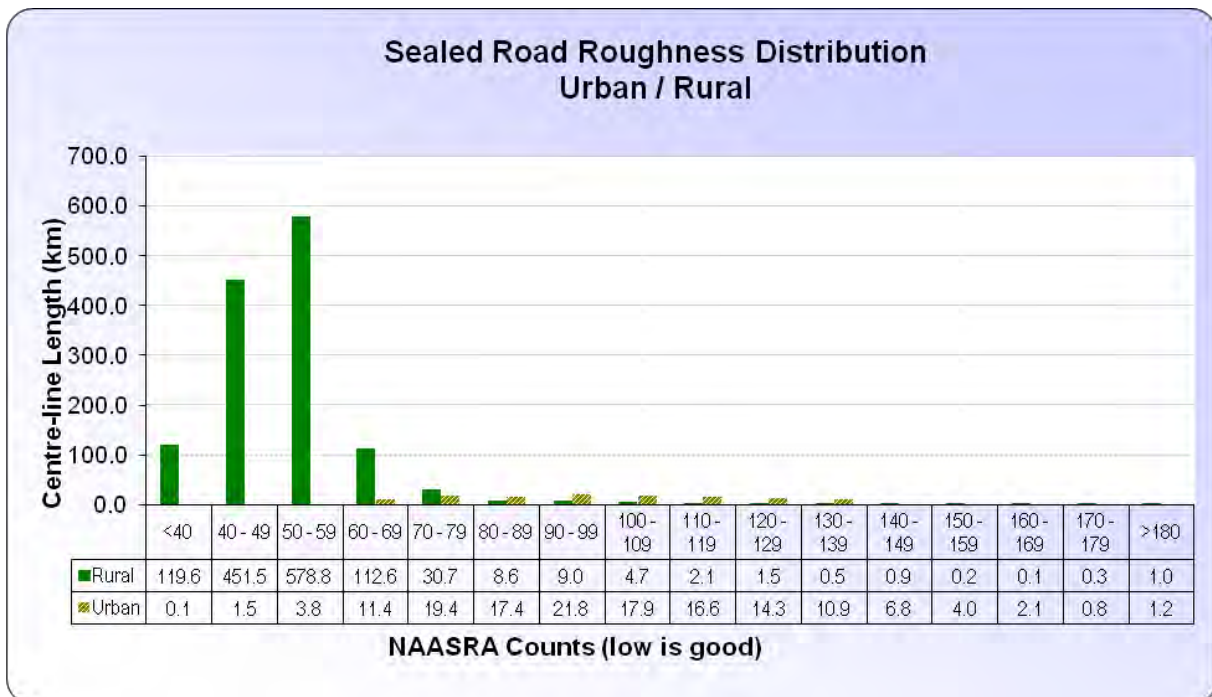
Figure B-4 through to Figure B-7 show the distribution of roughness for ADC sealed roads in various ways. On the whole, the sealed network is very smooth in comparison with average New Zealand standards. Because of this, the justification for shape correction will continue to be low for the majority of the sealed network, as roughness is generally the controlling factor. Therefore, future trends may well show increasing sealed network roughness in the medium term.

Figure B-4 Sealed Road Roughness - by Hierarchy



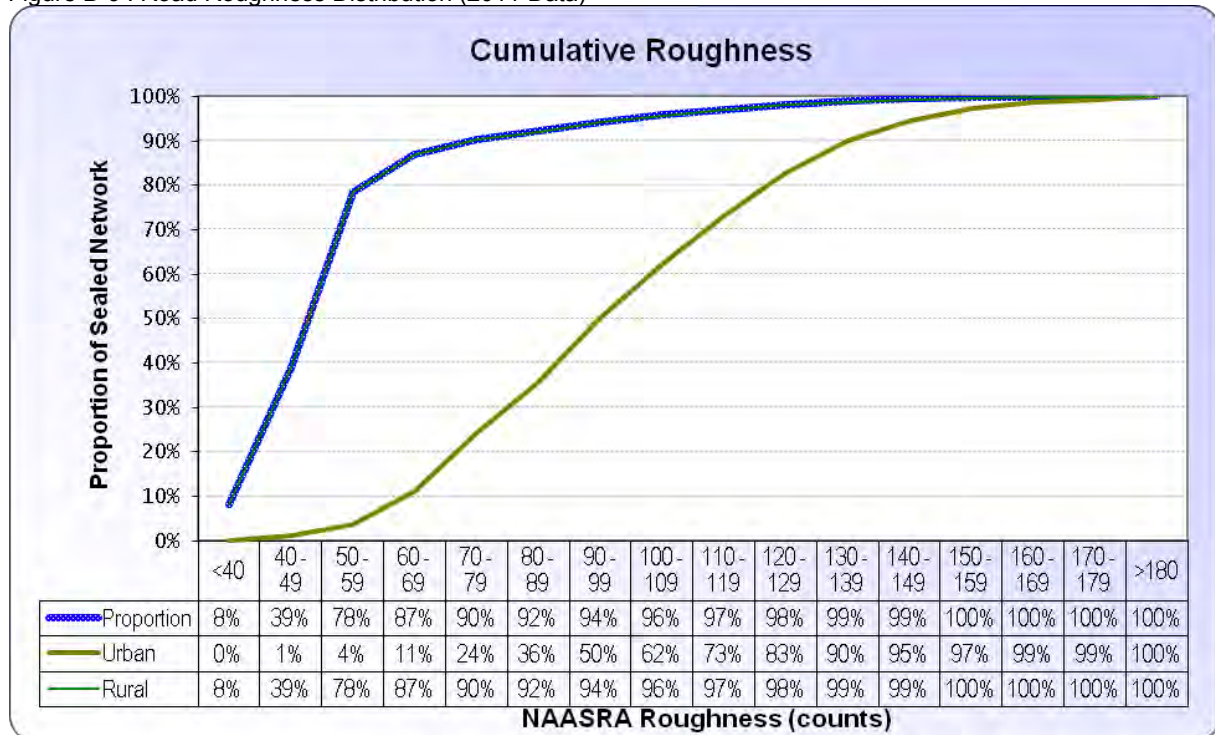
Source: ADC TptAcMP Apx B Description v1.0.0.xlsx| Pavement > \$A\$79

Figure B-5 Sealed Road Roughness - by Urban / Rural



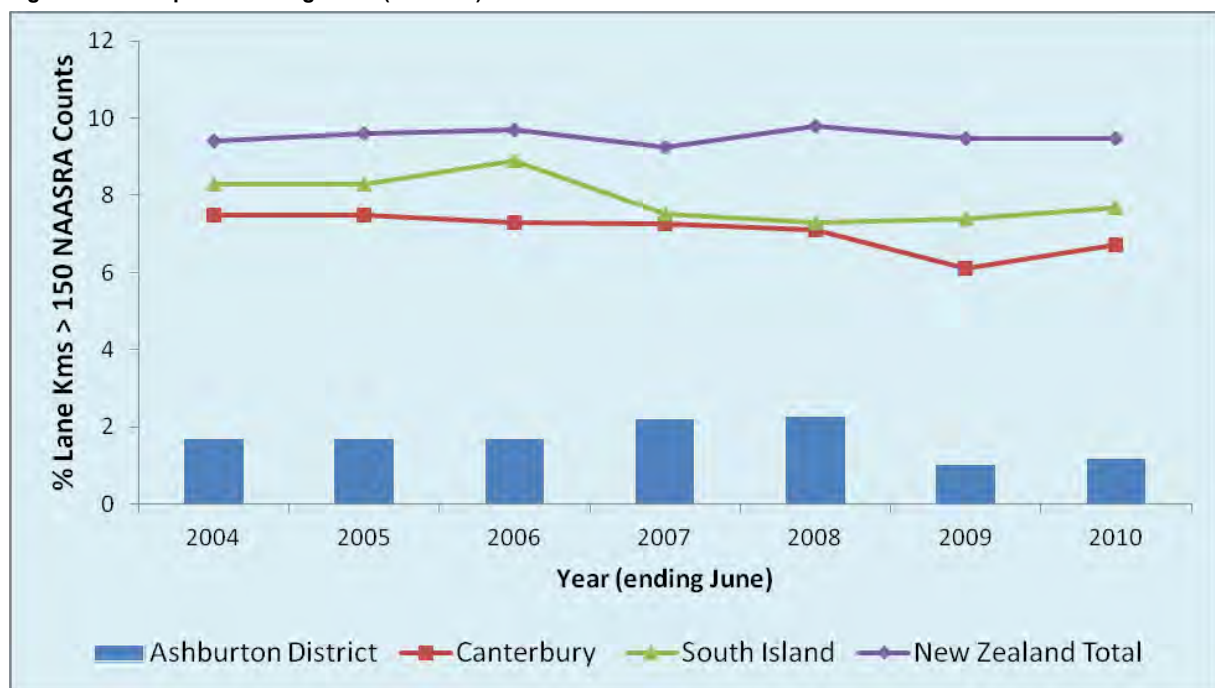
Source: ADC TptAcMP Apx B Description v1.0.0.xlsx| Pavement > \$B\$109

Figure B-6 : Road Roughness Distribution (2011 Data)



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$B\$172

Figure B-7 Comparative Roughness (ex NZTA)



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$B\$140

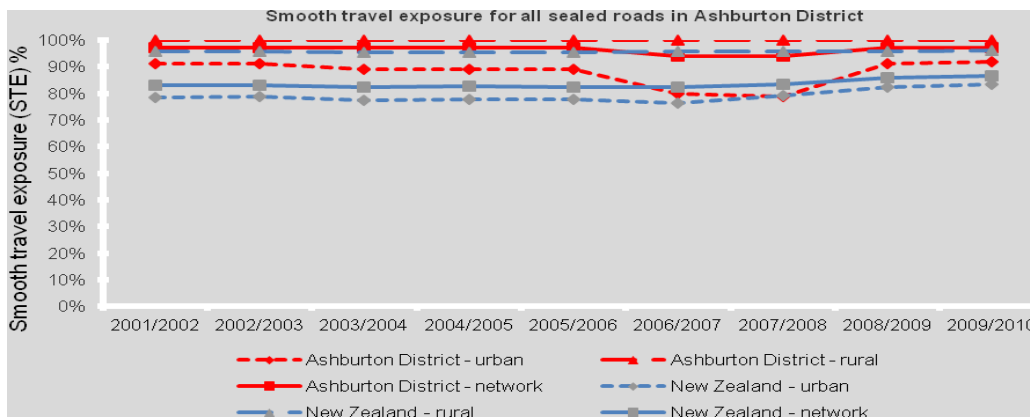
These charts show that the Districts roads are relatively smooth and from this it is reasonable to conclude that most base-courses are in satisfactory condition. The urban roads are typically rougher than rural ones because of the presence of utility covers and similar interruptions to the carriageway surface. Figure B-4 Sealed Road Roughness - by Hierarchy shows that the busier roads in the hierarchy are relatively smooth, which is significant as they carry the greatest proportion of traffic. Roads with roughness over 160 are quite rough. The Council staff reviews each of these roads for the

appropriate intervention which is then prioritised and programmed. Further discussion on roughness is contained in Appendix I.

Comparative data has been provided by the NZ Transport Agency, and summary statistics and graphs used to compare sealed pavement condition trends with the NZ average.

The Smooth Travel Exposure (STE) index identifies the proportion of total travel on roads that are “smoother” than a target level, and historical trends are shown in Figure B-8. The ADC network is shown in red (network 1), and the national average in blue (network 2). These show that the ADC network offers road users a smoother network than the national average.

**Figure B-8 Smooth Travel Exposure Trends (ex NZTA)**



Source: NZTA Annual Statistics via ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$A\$220

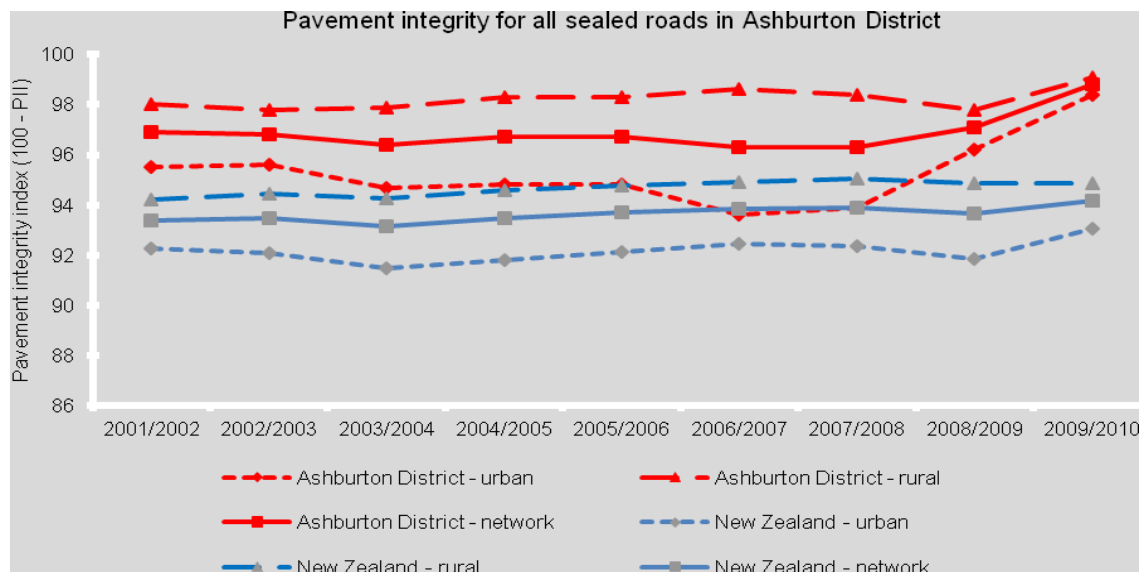
Recent research has suggested that the commencement of rapid pavement rutting is a better indication of the end of a pavement’s life, and experience in the Ashburton District supports this; however, onset of rapid rutting has not been adopted as a measure for this purpose by the NZTA.

A composite index, the Pavement Integrity Index, (PII) was developed in conjunction with the introduction of dTIMS modelling into NZ. Comparative trends for the Pavement Integrity Index (PII) are compiled by the NZTA annually; the latest data is shown in Figure B-9. This chart supports the view that on average the ADC network is better than the NZ average, and has been steadily improving over the years.

The higher the 100 - Pavement Integrity Index (100 - PII), in the following chart the better the pavement structural condition.



**Figure B-9 Pavement integrity for all Sealed Roads (ex NZTA)**



Source: NZTA Annual Statistics via ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$A\$252

The effectiveness of roadside drainage in preventing moisture ingress into pavements and thus reducing life is also an important consideration. Pavement saturation can be a real problem where stock water or irrigation races run alongside roads. Currently, there is no systematic measure of the condition of rural roadside drains or swales.

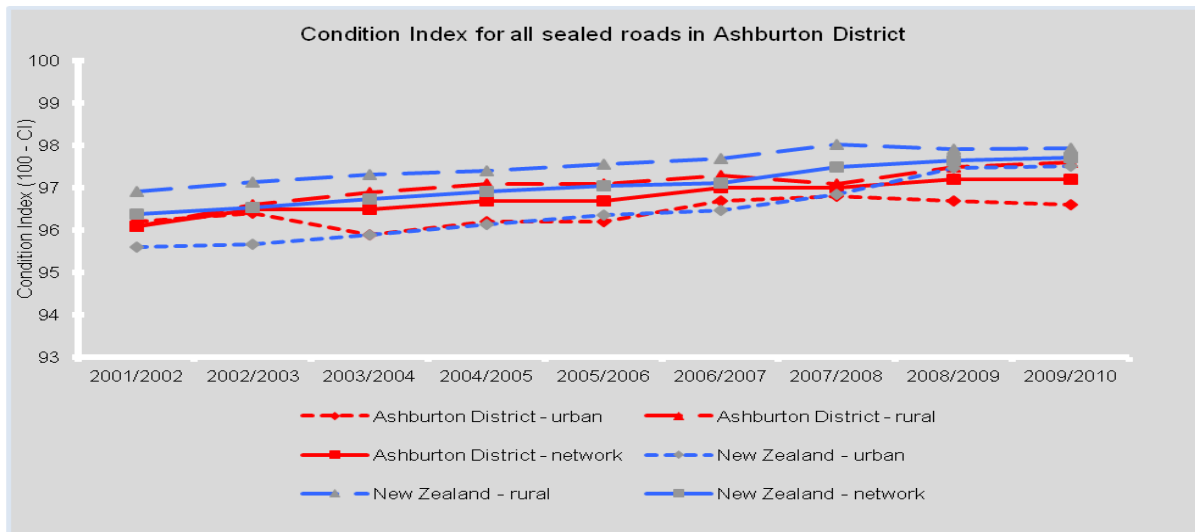
### B- 3.5.2 Sealed Roads – Pavement Surface

Pavement surface condition is measured annually and physical faults are continuously recorded over a fixed statistically representative portion of the carriageway. Capturing condition at any one time is complex because of the constant wear, and it is more meaningful to chart the trends from year to year.

Pavement surface condition can be assessed using an aggregate measure known as the Condition Index (CI). This is a composite measure, which weights different types of surface defects in an overall index – these including cracking, potholes, pothole patches. This is slightly different to the measure used in dTIMS analyses, SII (Surface Integrity Index), which also includes flushing, surfacing age, and expected remaining surface life.

The CI (previously known as the Surface Defects Index SDI) is compiled from RAMM data, and is graphed as (100-CI) below. This shows some quite significant variations between years. The lower the 100 - condition index value the fewer the surface defects in the network. The average surface condition within the ADC Network is slightly worse than the national network average.

**Figure B-10 Surface condition in Ashburton District (ex NZTA)**



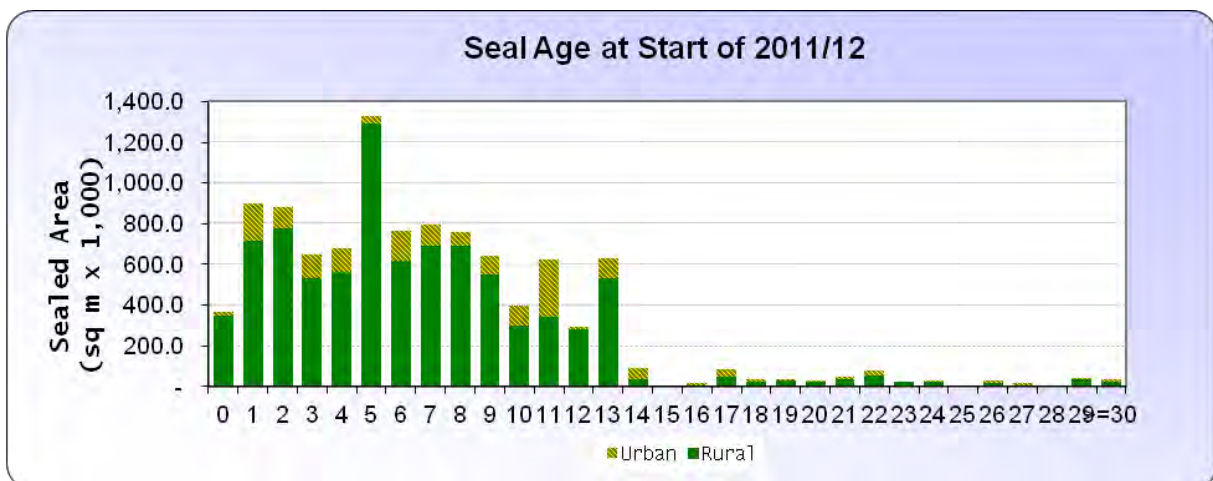
Source: NZTA Annual Statistics via ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$B\$285

Other important condition measures include texture depth and skid resistance. These relate to safety levels of service. Texture depth can be measured using high-speed data capture equipment, or simple sand circle tests. Skid resistance can be measured in NZ using SCRIM (sideways force coefficient resistance machine), or the Grip Tester. Such data is to be captured for ADC and reported in subsequent AcMP Plans.

### B- 3.5.3 Seal Age

Sealed pavements normally require resealing every 8 to 20 years depending on traffic volumes, their design and their condition. Figure B-11 illustrates the current seal age distribution (30 June 2011), indicating that most of the network has been resealed within this timeframe.

**Figure B-11 Seal Age Histogram**



Source: NZTA Annual Statistics via ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$B\$320

Figure B-12 Remaining Seal Life



Source: S:\Operations Division\Ss\Activity Management Plan\ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement>\$B\$342

These charts suggest that some data cleansing is required, followed by a review of the achieved seal lives for the various pavement types. The analysis of achieved surface life is carried further in Appendix I, Renewals.

### B- 3.5.4 Unsealed Roads

Many unsealed roads were formed on natural ground with very little pavement metal construction. These are now deteriorating and a programme is in place to strengthen them. This involves a granular overlay to restore their strength Appendix F, Demand, New Works and Improvements. This may be followed some years later by a further strengthening overlay and a seal extension, if seal is justified. This strategy is further discussed in Appendix F.

Before the early 1950's there were few sealed roads in rural areas. There was a significant amount of sealing done from the late 1950s through to the late 1970's. After a hiatus and a change in the Government's support for rural seal extension, the late eighties saw a programme of approximately 60-km per year of new seal being laid in the District. The strategy was to significantly reduce the length of the District's unsealed roads. Since then there has been progressive reductions in the Government support for this work and it is now very difficult to obtain it.

Condition data is not currently systematically collected for all unsealed roads. Data on some unsealed roads is collected for specific project needs. The need for data is to be reviewed in association with future dTIMS modelling of the behaviour of unsealed pavements.

## B- 4 Drainage

### B- 4.1 Background Information

Drainage assets typically consist of kerb and channels, culverts (cross-sectional area less than 3.4m<sup>2</sup>), sumps, and surface water channels. This section also deals with rural roadside drainage.

The purpose of these assets is to provide a storm water carrying capacity for runoff from the carriageway, footpaths, berms and adjacent properties to:

- ◆ allow the convenient and safe movement of pedestrians and traffic, and
- ◆ protect paved areas from water ingress and resulting structural deterioration.

The key issues relating to drainage assets are:

- ◆ There is no overall District wide strategy for ranking new kerb and channel projects

- ◆ The need to maintain an effective cyclic rural roadside drainage programme, to avoid significant pavement edge break that had been a problem some years ago

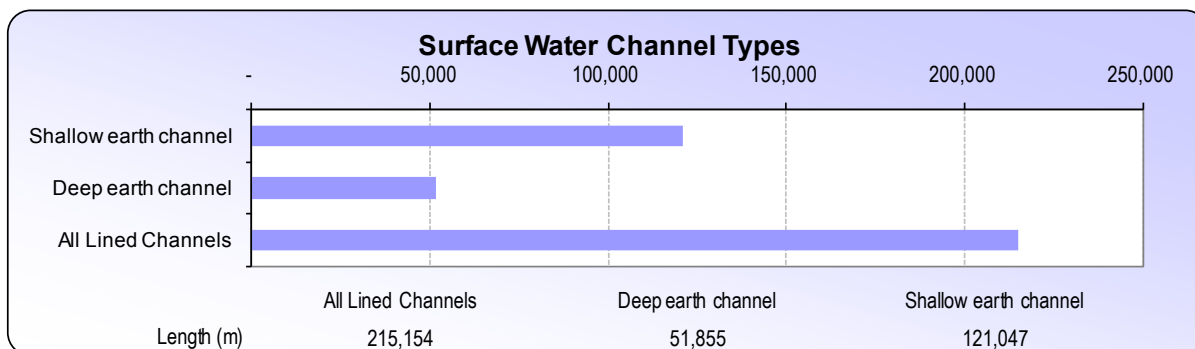
The pavement edge break issue was identified in the 1997 NZ Transportation Agency Technical Audit. It has been addressed through a combination of drainage improvements and other actions such as pavement marking around the inside of curves.

## B- 4.2 Drainage Description

### B- 4.2.1 Asset Description

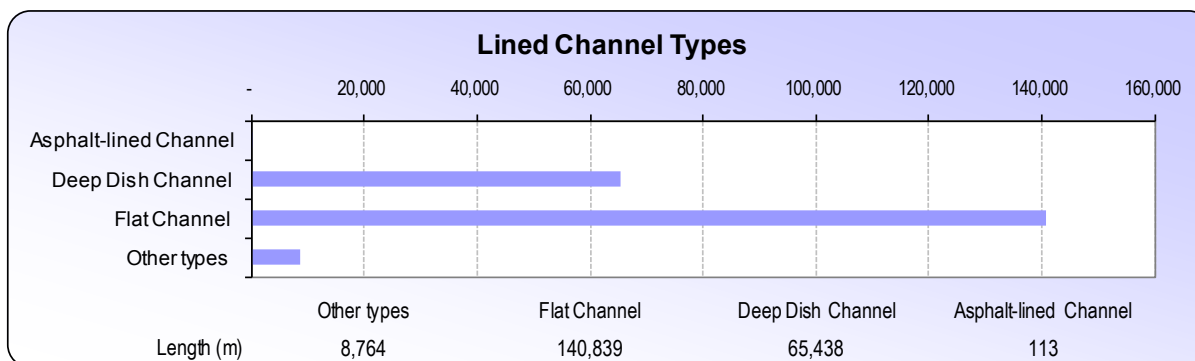
There are three distinct types of drainage assets, surface water channels, sumps and culverts. These assets are summarised in the following tables and charts. All rural roads have roadside drainage swales or water tables, and although no records have been kept historically of this work, they are now being recorded as SWC < 200. The database is gradually being built up, as the swale re-cutting work is undertaken. This will allow the long-term cycle to be tracked over time.

**Figure B-13 Surface Water Channel Types**



Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$2

**Figure B-14 Lined Channel Types**

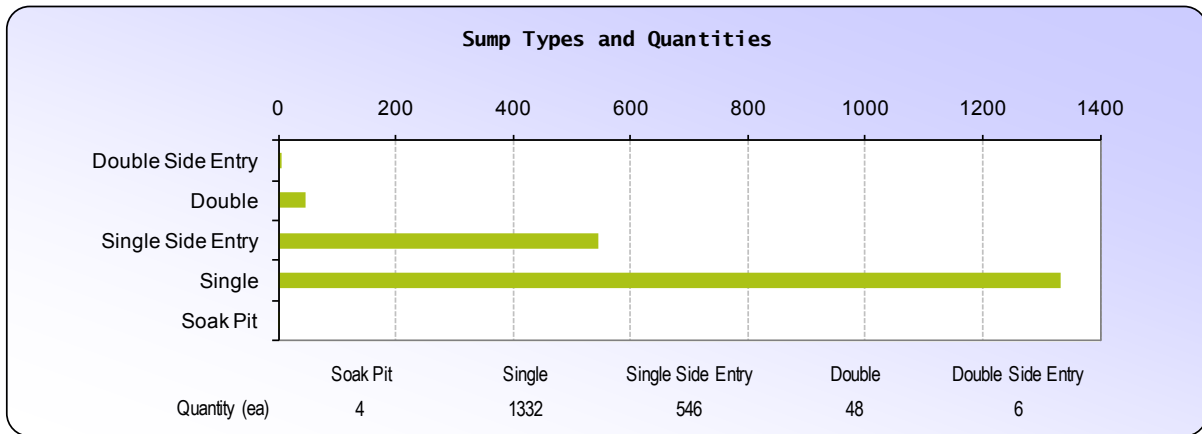


Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$18

Deep Dish channel and Flat channel are collectively referred to as Kerb and Channel. Kerbs without channels are included in the “other types” category. The Depreciated Replacement Cost of these surface water channel assets was \$8,926,402 as at 1 July 2008 (optimised replacement cost \$\$19,607,981).

Sumps and soak pits are close associated with surface water channels.

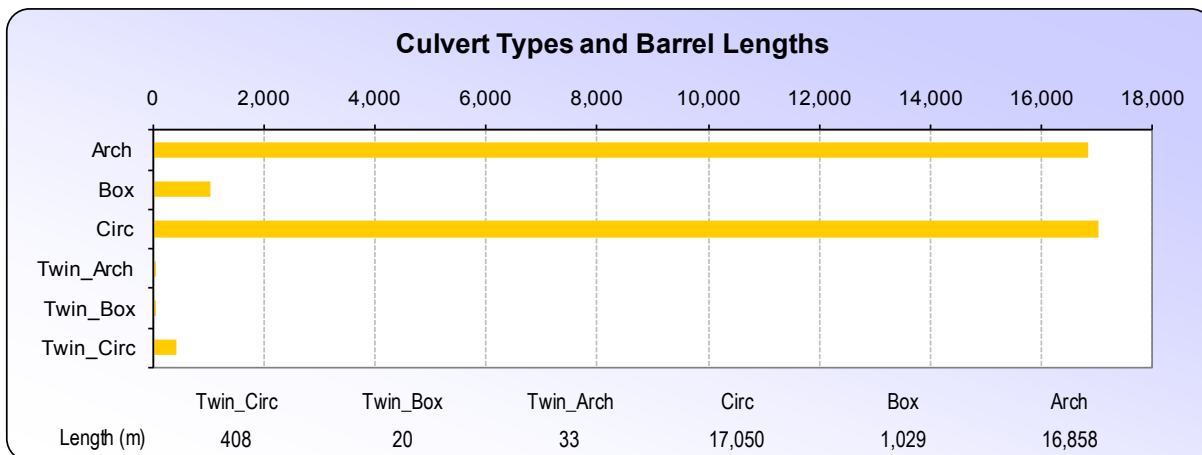
**Figure B-15 Sump Types**



Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$35

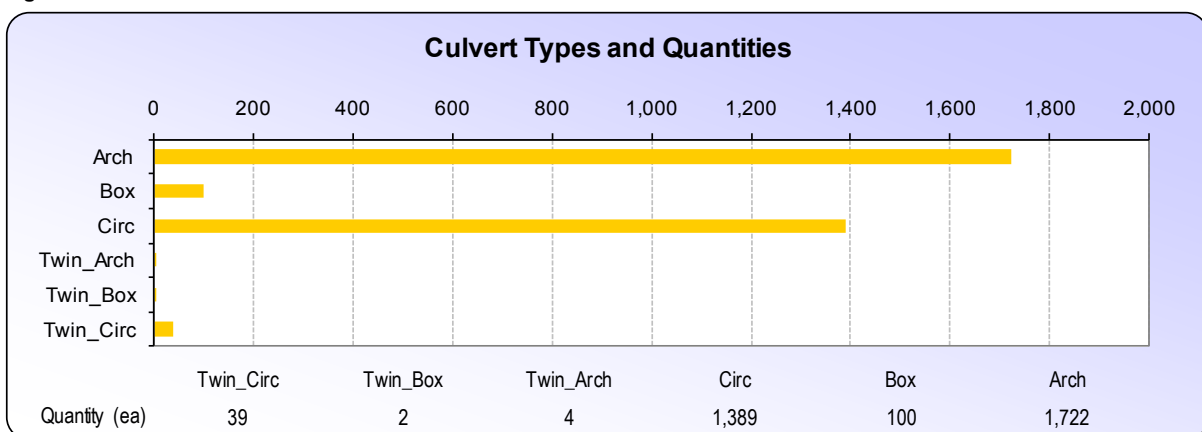
Culverts are also included in this asset group

**Figure B-16 Culvert Lengths**



Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$56

**Figure B-17 Culvert Quantities**



Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$76

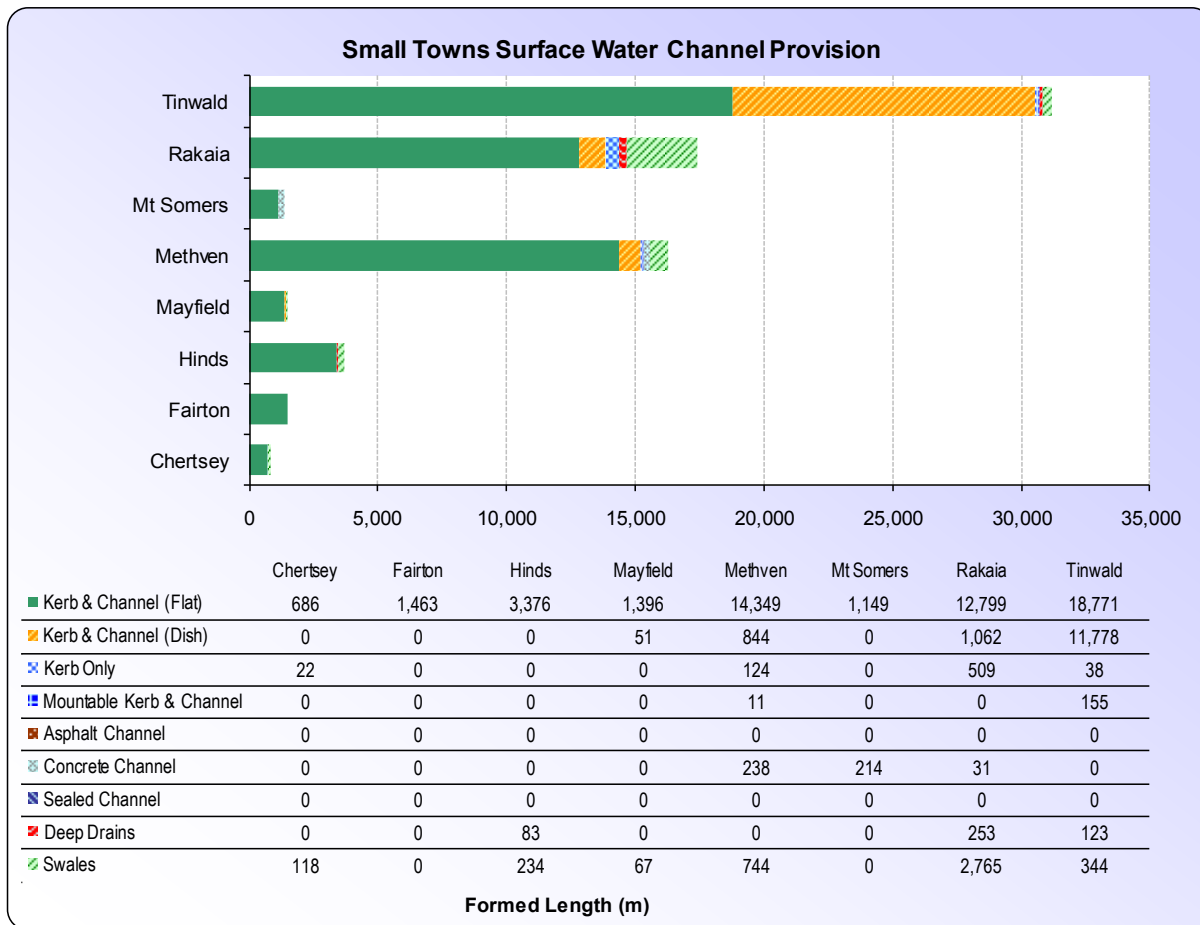
The following charts indicate where the different types of channels are located; Most of the older style dish channels are located in Ashburton and Tinwald, with other townships having a much lower proportion of this asset type.

B- 4.2.2 Asset Condition/ Performance

Deterioration of kerbs, channels and piped drains is not a significant issue, and the overall condition of these assets is considered satisfactory. The exception is the older style kerb and dish channel that is showing signs of deterioration.

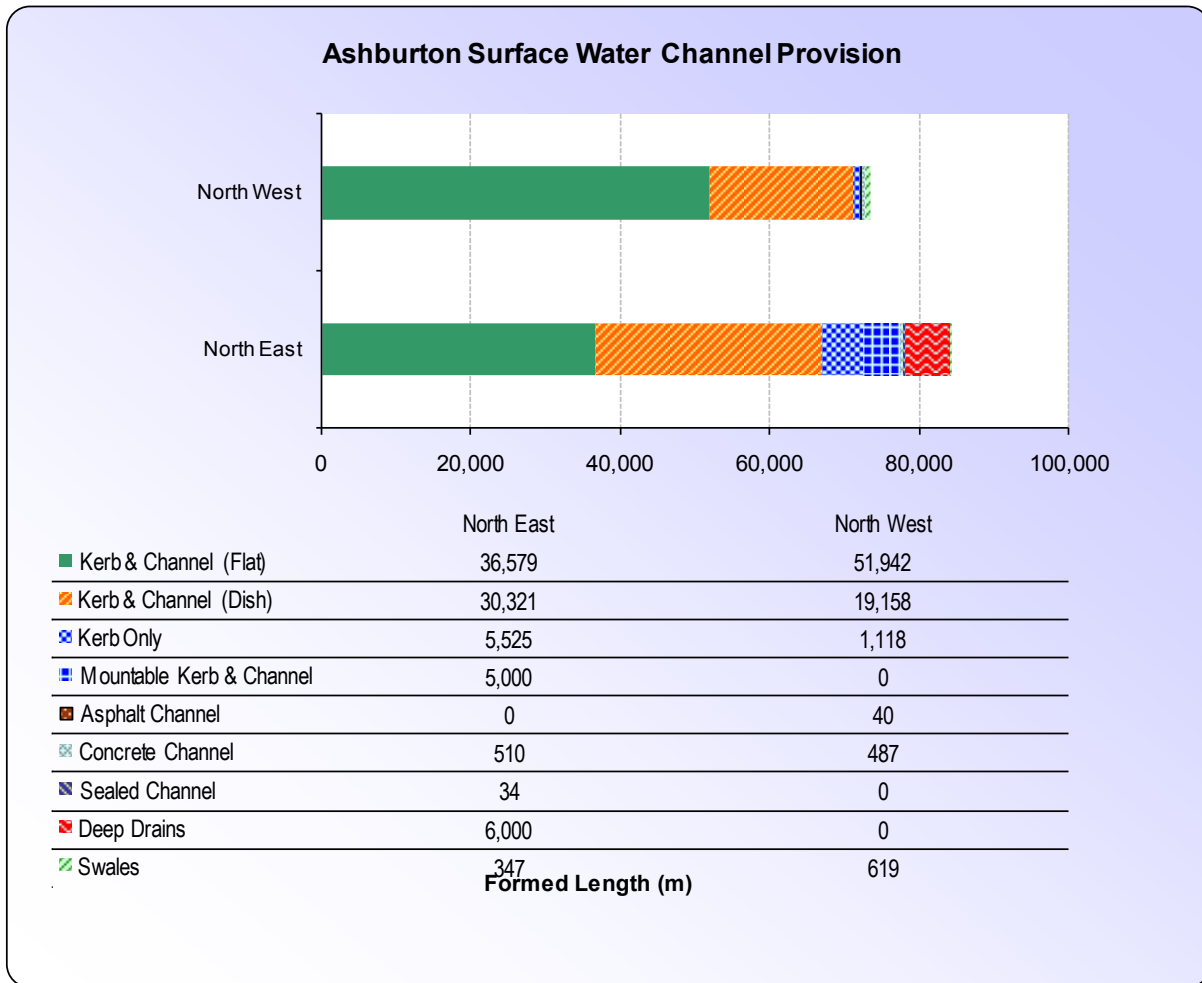
As noted under Pavements, swale water tables were poorly maintained in the past, and there has been an ongoing programme to improve rural roadside drainage. This has been successful in reducing pavement edge-break problems due to poor drainage.

Figure B-18 Lined Surface Water Channels - Small Towns



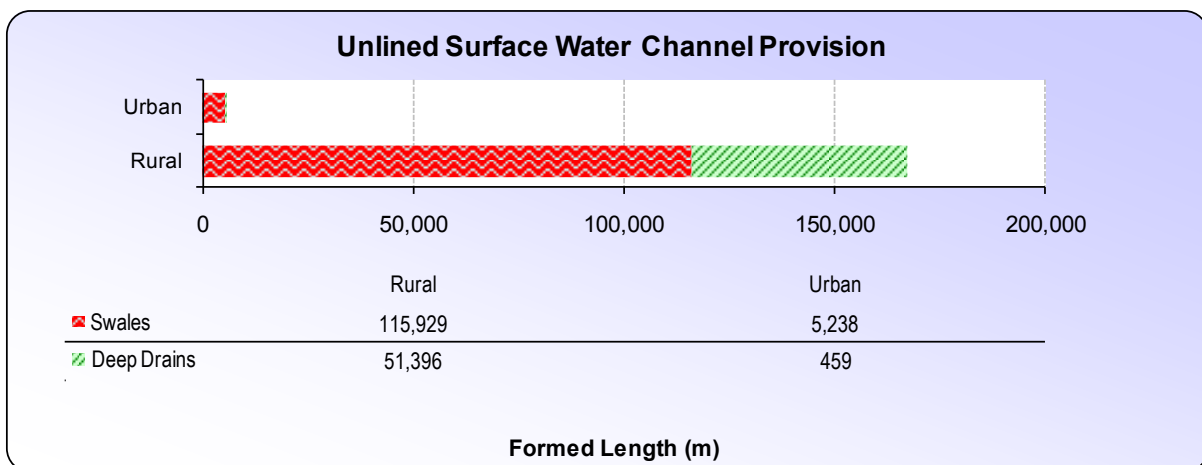
Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$99

**Figure B-19 Lined Surface Water Channels - Ashburton**



Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$152

**Figure B-20 Unlined / Earthen Surface Water Channels**



Source: [ADC TptAMP Apx B Description v5.0.0.xls] Drainage> \$B\$196

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## B- 5 Traffic Services

### B- 5.1 Background Information

Traffic services assets are road markings, signs, sight rails and guardrails. Traffic signals are covered separately.

The purpose of road marking is to delineate the road/footpath/service lanes to guide traffic movements and indicate road use restrictions. Signs are provided to aid the safe and orderly movement of traffic and provide information. Guardrails serve both a delineation function and provide protection to road users, whereas sight rails simply provide for delineation.

Key issues relating to traffic services are:

- ◆ quality of road-marking materials and application,
- ◆ establishing measurable relevant road-marking levels of service,
- ◆ meeting road users' expectations for higher standards of signs (particularly information and destination signs), and
- ◆ minimising damage and vandalism

Opportunities for optimising traffic services costs include establishing an age and condition rating system and target replacement lifecycles for signs.

### B- 5.2 Traffic Services Assets

#### B- 5.2.1 Asset Description

Road marking assets comprise:

- ◆ Non intersection markings:
  - ◇ centre lines and lane lines
  - ◇ edge lines and shoulder mailings
  - ◇ no overtaking lines/passing lines
  - ◇ median markings
  - ◇ cycle lanes
  - ◇ parking areas
  - ◇ passing bays
- ◆ Intersection markings
  - ◇ centre lines/edge lines/lane lines
  - ◇ lane arrows
  - ◇ limit lines/continuity lines
  - ◇ cycle lanes
  - ◇ border lines/diagonal lines
- ◆ Miscellaneous markings
  - ◇ messages and symbols
  - ◇ pedestrian crossings
  - ◇ railway level crossings
  - ◇ fire hydrants

The types of signs maintained are:

- ◆ Regulatory —instructions that road users are required to obey
- ◆ Warning — advice of temporary or permanent hazards



- ◆ Information — directions and distances to destinations.
- ◆ Advice — of road user services and tourist features/establishments
- ◆ Other information of general interest to road users
- ◆ Street name plates
- ◆ Hazard warnings
  - ◇ Bridge end markers
  - ◇ Chevron boards

ADC manages over 14,000 signs with a total replacement value of \$2.2m. Table B-7 summarises the type, number and value of signs. The data is held in RAMM, but needs to be reviewed. It was last audited in the field in 1995.

Guardrails total 7,631m. Sight rails total 5,489m.

Age data is currently unreliable, however when assets other than markings are replaced the installation date is now captured for loading into RAMM.

**Table B-7 Signs Summary**

Group	Class	Quantity	Optimised Relacement Cost
Miscellaneous Signs	ADC Special	18	\$4,558
	Miscellaneous	314	\$84,512
	Warning (Miscellaneous)	7	\$2,160
Guide	Guide	70	\$16,520
	Information	142	\$37,571
	Edge Marker Posts	4,856	\$141,630
	Street Name Plate	2,849	\$586,764
Warning	Hazard	1,493	\$133,648
	Permanent Warning	1,068	\$373,981
	Temporary Warning	44	\$12,333
	Pedestrian Marker Post	38	\$10,465
	Pedestrian Crossing	46	\$11,888
	Belisha Beacons	36	\$11,781
General Information	Information	754	\$195,139
	Information (General)	77	\$20,956
Motorist Services	Information	87	\$23,095
	IM	23	\$4,355
	Motorist Services	17	\$4,113
	Outdoor Recreational Symbols	109	\$12,023
Regulatory	Regulatory (General)	1,679	\$459,423
	Regulatory (Parking)	290	\$52,358
	Regulatory (Heavy Vehicle)	5	\$2,781
	Speed Limit Signs	36	\$0
Tourist Services	Information	2	\$544
	Tourist	10	\$2,635
<b>Totals</b>		<b>14,070</b>	<b>\$2,205,232</b>

Source: S:\Operations Division\SsActivity Management Plan\Transportation[ADC TptAcMP Apx B Description v1.0.0.xlsx]Traffic Services> \$F\$26

## B- 5.2.2 **Condition/ Performance**

### B- 5.2.2.1 Roadmarking:

Condition relates to the quality of materials and application as well as accuracy of placement. The extent of deterioration of road markings depends on age, traffic volumes, the materials used and the condition of the road (oil and grit reduce adhesion). There is no condition rating system for road marking. Rather than defining a remarking frequency, ADC uses a performance based marking contract. Visual inspection is used to assess condition.

### B- 5.2.2.2 Signs:

There is no condition rating system in place, as a large proportion are replaced due to vandalism and loss of reflectivity, these are the most significant issues in determining sign renewal.

Performance issues for signs and road markings relate to coverage, accuracy of placement, visibility and conformity with standards.

### B- 5.2.2.3 Signs

Signs are considered to have an average useful life of 13 years. Signs that face northwest are more prone to accelerated loss of reflectivity and reduced life. Signs typically have a manufacturer's guaranteed life of 7-10 years.

In recent years many signs have been replaced more frequently than the average useful life as a result of ongoing vandalism. Ashburton District Council will be reviewing the impact that early replacement is having on the average useful life and will reflect any changes in the next valuation.

### B- 5.2.2.4 Sight-rails and Guardrails:

There is no formal condition data available for sight-rails and guardrails. These assets are considered to have an average useful life of 25 years.

## B- 6 **Traffic Signals**

### B- 6.1 **Background Information**

The purpose of traffic signals is to control traffic movements (including pedestrian traffic) at road/pedestrian intersections. Their effectiveness depends on their design, maintenance, construction, correct interpretation and timely reactions by road users.

The key issues relating to traffic signals are:

- ◆ Ensuring the phasing optimises the efficiency and capacity of the intersections.
- ◆ The lack of adequate facilities for the disabled.

## B- 6.2 Traffic Signals Assets

### B- 6.2.1 Asset Description

ADC operates traffic signals at two locations, the East St / Havelock St and East St / Moore St intersection. The main traffic signalisation components and values are summarised in Table B-8.

In addition there are two signalised intersections in Ashburton on State Highway 1, which are operated and maintained by ADC on behalf of the NZ Transport Agency. The ADC signals are wired to one of the State Highway poles that have a modem linking the control of all sets to the Christchurch City Council. CCC also manages the operation and maintenance of the installations.

**Table B-8 Traffic Signal Assets**

Type	Quantity
Signal aspects (lanterns/ cowls/ backing boards)	23
Signal aspects - pedestrian	12
Pedestrian buttons	8
Signal poles	14
Signal controllers	2
Loop vehicle detectors/	2
Cabling, ducts etc	400m
Upgrades and new aspects	2
<b>TOTAL</b>	<b>2 Intersections</b>

The Optimised Replacement Cost of these lights (30 June 2011) was \$171,665

### B- 6.2.2 Traffic Signal Condition/ Performance

There is currently no formal condition rating standard. The condition of traffic signal components is very good, and the two ADC installations were upgraded recently. There are now three aspects on each approach, heights are to Austroads standards. The signals meet current design standards and are operating reliably.

Conversion to LED aspects will be considered as a future improvement.

A current issue is the lack of adequate facilities for disabled or impaired people at traffic signal controlled crossings (tactile surfaces, buzzers on signals/ ramp ups). This deficiency will also be considered, and upgrading works programmed as necessary.

## B- 7 Street Lighting

### B- 7.1.1 Background Information

The purpose of street lighting is to provide agreed lighting levels in streets for the safe and efficient movement of vehicles, cyclists and pedestrians.

The key issues relating to street lighting are:

- ◆ obsolescence of existing lamps (e.g. mercury vapour) and the risk of increased maintenance and power costs in the long term (light outputs also fade progressively over time, reducing the level of service),
- ◆ lack of condition data,

- ◆ meeting expectations for the provision of “flag-lights” at rural intersections (convenience and potential safety issues), and

The likely areas for optimising street lighting life-cycle costs are:

- ◆ specifying the range and types of fittings allowed to be used in new subdivisions,
- ◆ reduction of long term power costs by installing energy efficient lighting and other methods to optimise power costs, and
- ◆ use of future technological advances to optimise costs

### B- 7.1.2 Street Lighting Description

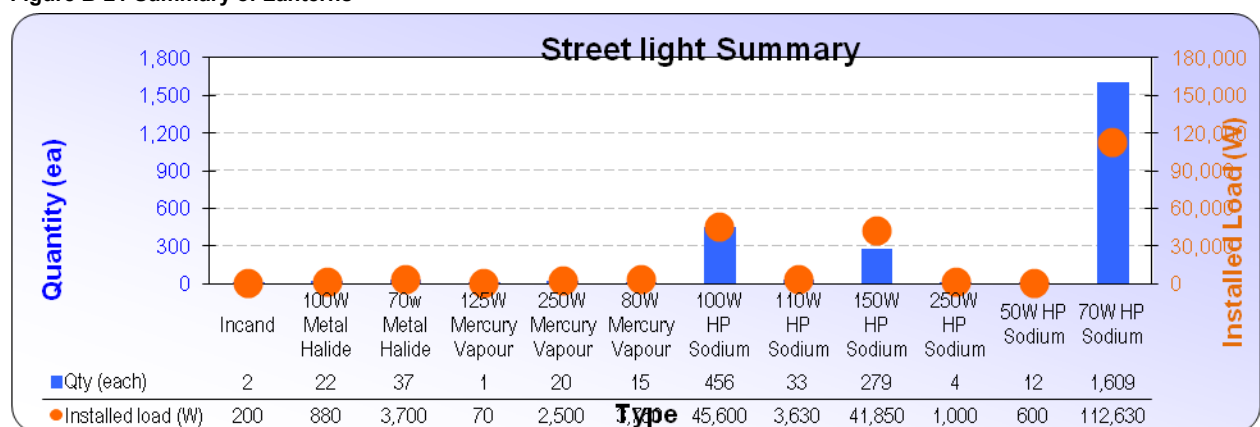
ADC operates 2,675 street and other miscellaneous lights throughout the District with a total replacement cost in the order of \$2.65 million. Street lighting asset details are summarised in Tables B-9 and B-10. It also manages the operation and maintenance of state highway lighting on behalf of the NZTA and at the agency’s cost.

**Table B-9 Street Lighting Overview**

Item	Quantity
Light Fittings	2,607
Poles	1,902
Outreach Arms	2,605

Source: ADC TptAcMP Apx B Description v1.0.0.xlsx| StLights > \$C\$5

**Figure B-21 Summary of Lanterns**



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx| StLights > \$A\$23

This data shows that substantial progress has been made in reducing the number of mercury vapour (MV) lanterns; which are now obsolescent, inefficient and at or approaching the ends of their technological lives. The vast majority are now more modern high-pressure sodium (SON).

**Table B-10 Summary of ADC Pole Types**

Pole Material	Number
Spun Concrete	2
Concrete	1,059
Steel	802
Timber	39
<b>Total</b>	<b>1,902</b>

Source: ADC TptAcMP Apx B Description v1.0.0.xlsx| StLights > \$A\$31

This table shows all ADC owned poles. Where overhead power lines are present, the pole is owned by Electricity Ashburton and is not included in the above table, similarly NZTA and Telecom-owned poles are not counted or listed. This shows that just over half of all poles with streetlights in the district are owned by ADC. This percentage will rise as undergrounding of power cables occurs.

The Optimised replacement cost (OCR) of street lighting assets, at the 2011 valuation was:

**Table B-11 Streetlight Valuation Summary**

<b>Asset Type</b>	<b>ORC 30 June 2011</b>
Lighting-Pole	\$2,641,844
Lighting-Bracket	\$486,762
Lighting-Fitting	\$994,955
<b>TOTAL</b>	<b>\$4,123,561</b>

Source: Ashburton District Council Valuation of Transportation Infrastructure Assets 2011; Opus International Consultants Limited

A number of NZ Standards control the installation of street lighting, and the establishment of light levels for different traffic / hierarchy levels – these include NZS 6701 (1983) - “Code of Practice for Road Lighting”, and the subsequent AS/NZS 1158 (1997-99) series – this being a requirement of the agreement with the NZ Transport Agency.

### B- 7.1.3 Street Lighting Condition/ Performance

There is no system in place for rating condition and assessing renewal and upgrade needs, and the overall condition of the asset cannot be accurately described. However, the condition of street lights is considered to be reasonable, particularly given the advanced age profile of the assets.

Primary causes of deterioration include:

- ◆ vehicle damage,
- ◆ corrosion of poles and electrical components,
- ◆ diffusers (the clear covering of the lantern) become discoloured and / or cracked with age and lose effectiveness, and
- ◆ mercury vapour light levels decay slowly over the life of the lantern.

Tables B-11 and B-12 show age profiles for fittings and poles respectively.

This data shows that very few fittings are now older than 30 years, the expected technological life.

PCB's have been removed from affected fittings and are no longer an issue for ADC. These were mainly on the former State Highways that have subsequently been inherited by ADC.

Night time crashes involving poor light factors were identified previously as an issue in relation to the upgrading programme. This will continue to be monitored in the future.

Asset lives typically average around 25 years, with poles having a life cycle of up to 40 years, and lanterns a shorter lifecycle from 20 years. The fittings lifecycle is driven by technology, manufacturing schedules and availability of spare parts.

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## B- 8 Bridges and Major Culverts

### B- 8.1 Background Information

The purpose of road bridges and major culverts (with a waterway area greater than 3.4m<sup>2</sup>) is to provide continuous all-weather access over rivers, streams and uneven terrain, and grade separation over railway lines, other roads and for stock.

A structural inspection and Bridge Inspection Report is completed every three years on these structures.

Key issues relating to road bridges and major culverts:

- ◆ The limited life of all timber bridges – and the likely replacement needs over the next 10 years
- ◆ Bridges whose width is ambiguous to road users (i.e. it is unclear for users whether they are single or two lane)
- ◆ Consideration of “proof-loading” to confirm load capacity
- ◆ The need to separately identify irrigation and stock-water race structures
- ◆ The need for a policy covering the replacement/ upgrading of uneconomic bridges.
- ◆ The need to identify and assess other structures, such as retaining walls

The likely areas for optimising future asset management costs are:

- ◆ Continuing with the 3-yearly inspection/maintenance programme.
- ◆ Assessing the benefits of chip sealing concrete bridge decks to reduce abrasion and seal cracks to protect the structure against leakage and subsequent damage.

#### B- 8.1.1 Bridges and Major Culverts Description

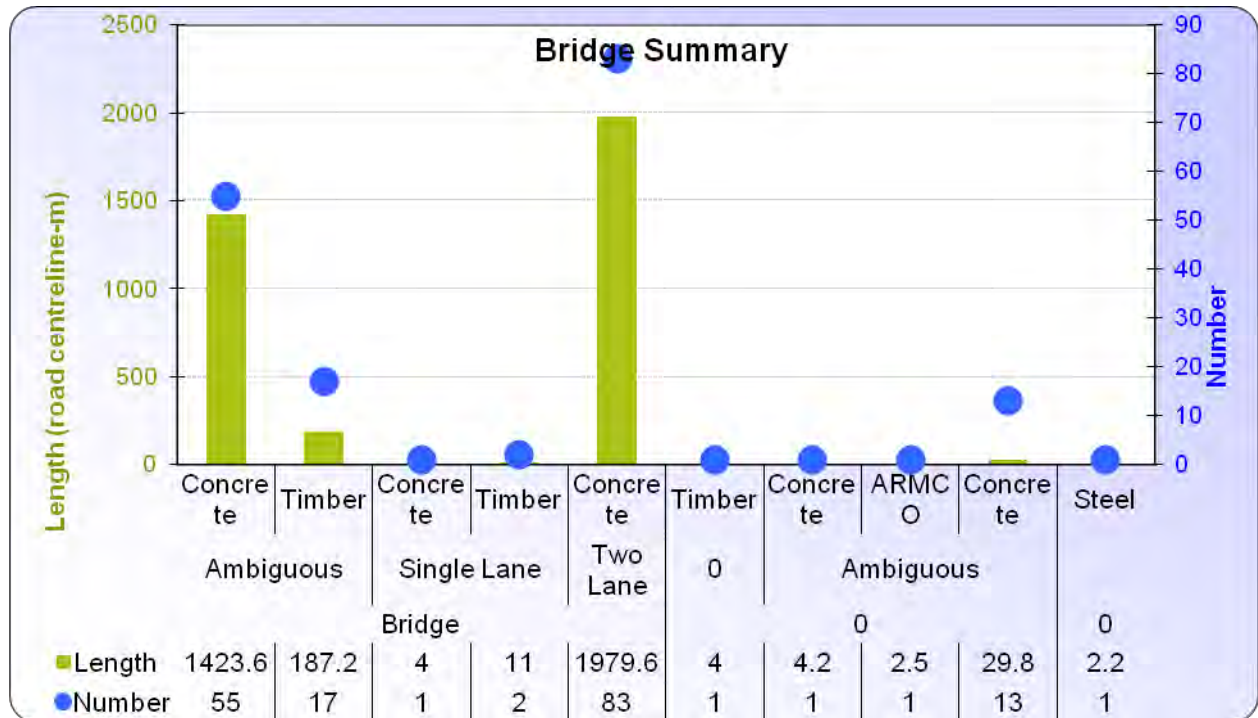
Bridge assets are currently recorded in the RAMM Minor Structures Table. However, the Council is planning to move the inventory to the RAMM Bridges table in the 2011/12 financial year. The Improvement Plan includes this to ensure it is not lost.

Major Culverts are defined, using the NZTA definition of a waterway volume  $\geq 3.4$ -sqm (2.08m / 82-inch equivalent diameter). These assets are reviewed in the RAMM drainage table, which automatically links to RAMM Bridges.

Council manages a large number of bridges and major culverts, and structures associated with the Rangitata Diversion Race. Diversion Race bridges are owned by the Rangitata Diversion Race Company but railings and the sealed surface on the decks is owned by the Council.

The asset stock is mainly concrete, with few timber bridges remaining on significant routes.

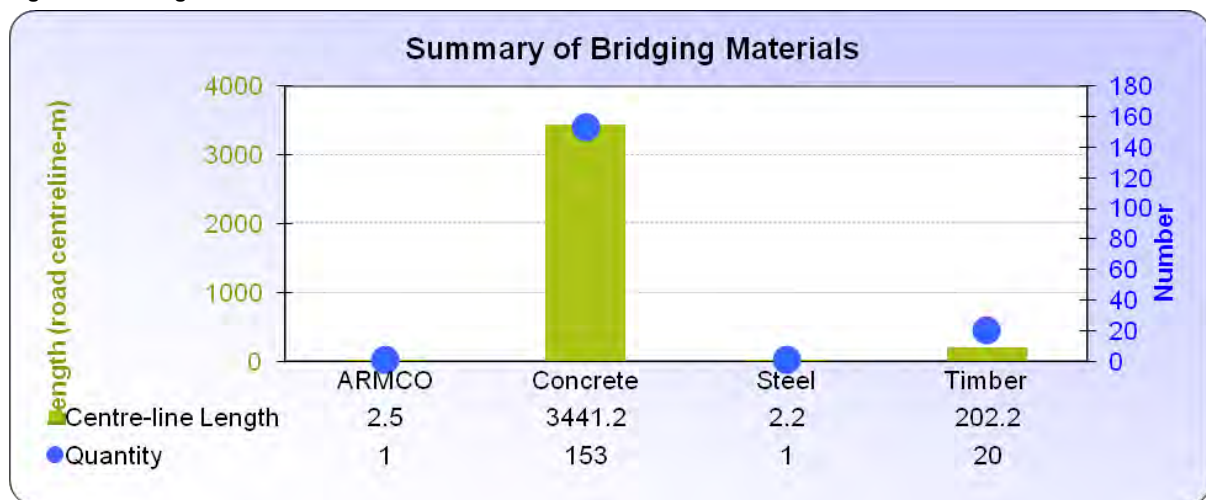
Figure B-22 Bridge Summary



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Bridges > \$B\$3

Ambiguous bridges are defined as having a width  $\geq 3m$  and  $\leq 5.5m$ .

Figure B-23 Bridge Materials



Source: ADC TptAcMP Apx B Description v1.0.0.xlsx] Bridges > \$B\$34

Table B-12 Bridge Value

Asset	Optimised Replacement Cost
Bridges	\$84,963,299
Major Culverts	\$1,271,256

Source: Ashburton District Council Valuation of Transportation Infrastructure Assets 2011; Opus International Consultants Limited

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## **B- 8.2     Bridges Condition**

The 3-yearly structural inspection of all bridges and major culverts was last undertaken by Opus Consultants in 2011 and a Bridge Inspection Report prepared for each structure. The schedules of work and the recommendations are used as the basis for developing work programmes. Opus also provided a Microsoft Access database with the ability to generate repair and investigation schedules.

The condition related findings were.

- ◆ The bridge stock is generally in sound condition and is being maintained in a manner consistent with accepted Local Authority rural bridge standards.
- ◆ An effective bridge management strategy is in place.
- ◆ 139 of the 175 structures require routine maintenance. The majority of this work is minor.
- ◆ 43 structures require structural maintenance or component replacement
- ◆ 30 require more detailed inspection or further investigation
- ◆ The timber bridge stock continues to deteriorate. Over the next 10 years attention should continue to focus on replacement of the remaining timber bridges, which are at or are nearing end of life.

Further details are contained in the report: "Bridge Management Report 2011-12".

## **B- 8.3     Bridges Performance**

### **B- 8.3.1     Traffic Capacity**

Weight and speed restrictions were assessed in the 2011 review by Opus. Seven posted structures were confirmed. Bridge #52 is to be removed from service leaving six PWL bridges. Typically, the existing posted bridges carry such low traffic volumes that upgrading can be difficult to justify.

There are two load-restricted bridges where the very low posted-limits and lack of suitable bypasses present a risk to the Council. These are:

- ◆ Hakatere / Heron Rd bridge (Bridge 49)
- ◆ Mt Possession Station access road (Bridge 78)

Because of their low traffic volumes upgrading of these bridges has not been able to be funded to date. Staff are continuing to investigate options with a view to proposing solutions to the Council as soon as viable options can be found.

The seismic strength of structures has not been assessed, although future Engineering Lifelines investigations will provide further information.

### **B- 8.3.2     Safety:**

While there are some crashes at or near bridges there are none that can be attributed to a deficiency in the design or maintenance of any bridge.

The most significant known safety issues:

- ◆ Poor visibility on the approaches to a small number of single lane bridges (e.g. Pudding Hill Stream bridge) and
- ◆ The proximity to traffic of high concrete wing walls on several large culverts.



While the Council is aware of these issues, and would like to address them, it is unlikely that these deficiencies will be corrected under current funding criteria. Meanwhile these deficiencies are recorded in the Council's Safety Deficiency Database.

### B- 8.3.3 Waterway Capacity

There may also be waterway restrictions, where the waterway area is less than the design level of service. The number and extent of these has not been quantified.

## B- 8.4 Uneconomic Bridges

The NZ Transport Agency has policy and procedures that deny its financial assistance for upgrading or replacement of "uneconomic" roading facilities. This rarely applies to anything other than bridges. Under the current rules<sup>4</sup> the cost of the work per vehicle (Average Daily Traffic) cannot exceed \$8,000.

The potentially uneconomic bridges in the District have yet to be analysed in detail, and is awaiting population of bridge-restriction and other data in the RAMM database.

## B- 9 Streetscape Assets

### B- 9.1 Background Information

The purpose of these assets is to enhance the street environment, particularly in urban areas, and provide facilities for the public to use.

Streetscape assets consist of grass berms, street furniture, plantings, fountains, statues and plaques. Some of these assets, e.g. flower beds, do not live comfortably with other roading assets and management responsibility for them lies with the Parks & Reserves Manager.

The key issues relating to these assets include:

- ◆ Capture of asset data and determination of asset ownership.
- ◆ Mowing standards for grass berms

### B- 9.2 Streetscape Asset Description

The District manages many streetscape assets, however only berms have been formally valued at this stage. Berms are not depreciated and have a replacement cost of about \$2.8 million as at 1 July 2011.

**Table B-13 Streetscape Assets**

Type	Quantity	Replacement Value (\$)
Berms and Plantings	433,308 m <sup>2</sup>	\$2,760,111
Seats	TBA	
Other Street Furniture <sup>5</sup>	TBA	
Fountains	TBA	
Statues & Memorials	TBA	

<sup>4</sup> September 2008

<sup>5</sup> for example, wrought iron work, tree grates, amenity walls, fences, street entrance enhancements, etc

Type	Quantity	Replacement Value (\$)
Plaques	TBA	
TOTAL		\$2,760,111

Source: Ashburton District Council Valuation of Transportation Infrastructure Assets 2011; Opus International Consultants Limited

Remaining assets need to be identified and incorporated in the asset register; this will include resolution with the Reserves Manager of ownership and maintenance responsibility. Currently, miscellaneous street furniture assets, such as seats and bollards, are managed as part of the "Footpaths Assets" portfolio.

### B- 9.3 Asset Condition/ Performance

Asset condition and performance are not currently measured.

## B- 10 Footpaths and Cycleways

### B- 10.1 Overview

Footpaths provide a safe, convenient and defined means for pedestrian movement along side of and linking roadways and other public spaces. The need for cycle facilities is gaining importance and this is expected to continue.

The Council provides and maintains footpaths in all towns throughout the District. The existing footpaths have been in place for many years in some areas. There are over 211.3 km of footpaths, located on over 160 km of urban streets. The surfacing on these footpaths varies considerably and ranges from asphalt concrete, concrete, chip seal, slurry seal to loose basecourse. Footpaths on state highways are a Council asset and responsibility.

For many years these footpaths have had minimal maintenance, and Council is currently upgrade existing paths, with all work being finished in asphaltic concrete as the preferred surface material, which provides a smooth flat finish and can be laid at the preferred grade of 3% fall from boundary to kerb, minimising the ponding of water on the path when raining while complying with NZ Standards for pedestrian access (AS/NZS 1428 Design for access and mobility)

The programme to upgrade footpath surfaces throughout the District will take a number of years to complete. At this stage the length of footpath work being resurfaced each year is of the order of 8 km per annum. There are many footpaths that were sealed with chip seal during the 1990's which have a fair length of life yet available, and these would not be resurfaced until the seal was at least 15 years old. This means that some of these paths will not be resurfaced until around 2015.

Methven and Rakaia community groups have adopted a policy that generally all streets will be provided with kerb and channel on both sides of the street before any new footpaths are installed. Methven is well ahead with kerb and channel installation with nearly all streets now kerbed; Rakaia has many areas to complete the kerb and channel before footpath work can be addressed.

Key issues relating to footpaths (and pedestrian ways) are:

- ◆ catering for the requirements of the high per-capita use of disabled scooters
- ◆ addressing safety issues relating to the icing of footpaths in winter
- ◆ not yet achieving target customer satisfaction level of 75% (currently 68%)
- ◆ current lack of adequate condition information
- ◆ low public satisfaction with the quality of chip seal footpaths
- ◆ inconsistency of historical design standards, and

- ◆ poor standard of footpath reinstatement following trenching work

### B- 10.1.1 Aging Population

Ashburton District has a significantly higher median age than the median for New Zealand and has a higher percentage of residents over the age of 65 than the national figure. This high proportion of older residents is expected to remain looking into the future and creates some issues for the District in terms of infrastructure and facilities.

The footpaths and crossings at intersections have to be designed and maintained to take into account of the particular needs of the elderly in terms of ability to negotiate the walking surface and the growth of use of electric scooters, generally by elderly people. Footpath gradients must be maintained as flat as possible without affecting surface drainage issues.

Electric mobility scooters in particular are growing in popularity, and there are currently over 90 in Ashburton. There is a need to provide new services to accommodate their use, and to review existing footpaths and kerb crossings to ensure their safe use.

### B- 10.1.2 Surface Condition

Concern at the state of some footpaths with respect to loose chips and stones is being addressed by a committed programme of resurfacing (especially chip seal surfaces) using asphaltic concrete. The size of the problem means that this project will continue for all of the 10-year planning period if funding is maintained at current levels.

#### B- 10.1.2.1 Footpath Cleaning

The issue of maintaining clean and tidy footpaths, especially in the central business areas, is an on-going problem. Higher levels of performance have been included in contracts to address this issue.

Satisfaction with footpaths has improved since the late 1990's, however, there is still scope for improvement, and therefore attention needs to be ongoing in terms of maintenance, resurfacing and renewal, and the new development programme.

Likely opportunities to optimise footpath life-cycle costs include:

- ◆ re-assess footpath width versus berm width and rationalise costs on both
- ◆ competitive pricing of footpath maintenance
- ◆ develop formal footpath policies, particularly with respect to footpath materials, condition rating methods, and intervention criteria for maintenance/ replacement

## B- 10.2 Footpaths

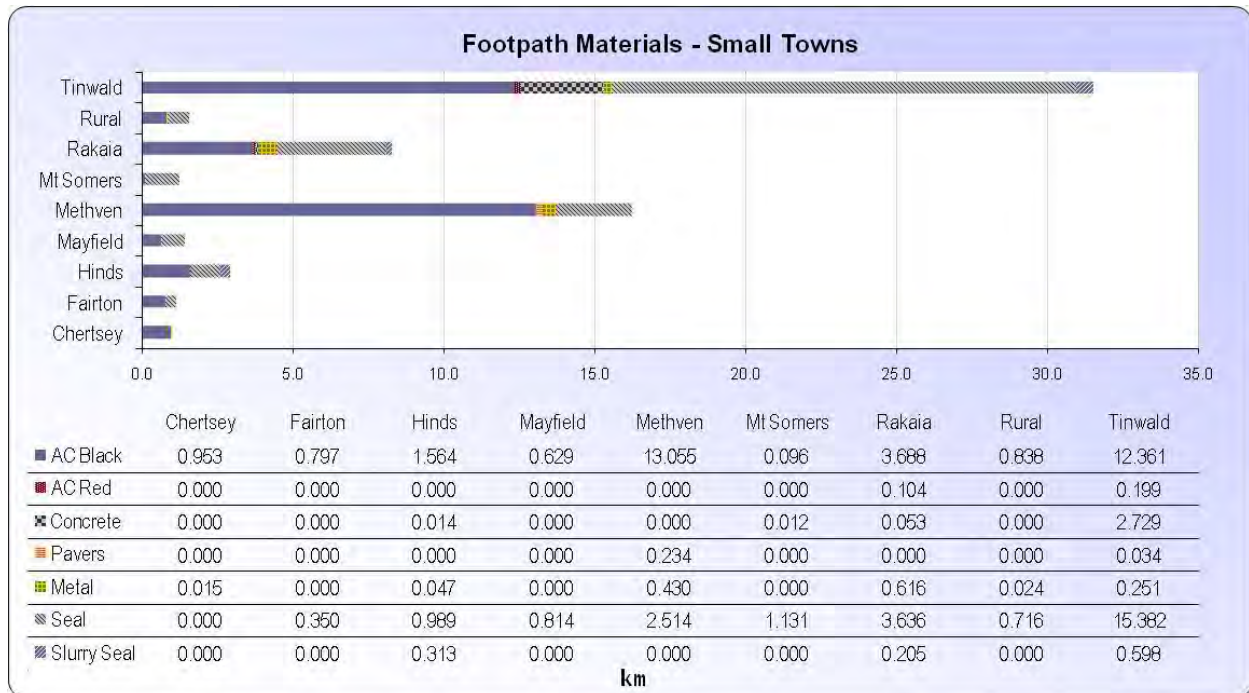
### B- 10.2.1 Asset Description

The footpaths that are owned and managed by the Ashburton District Council are shown in Figure B-24 and Figure B-25 below.

The footpaths in the rural sector are generally on roads adjacent to the edge of towns (e.g. Tuarangi Rd adjacent to Ashburton).

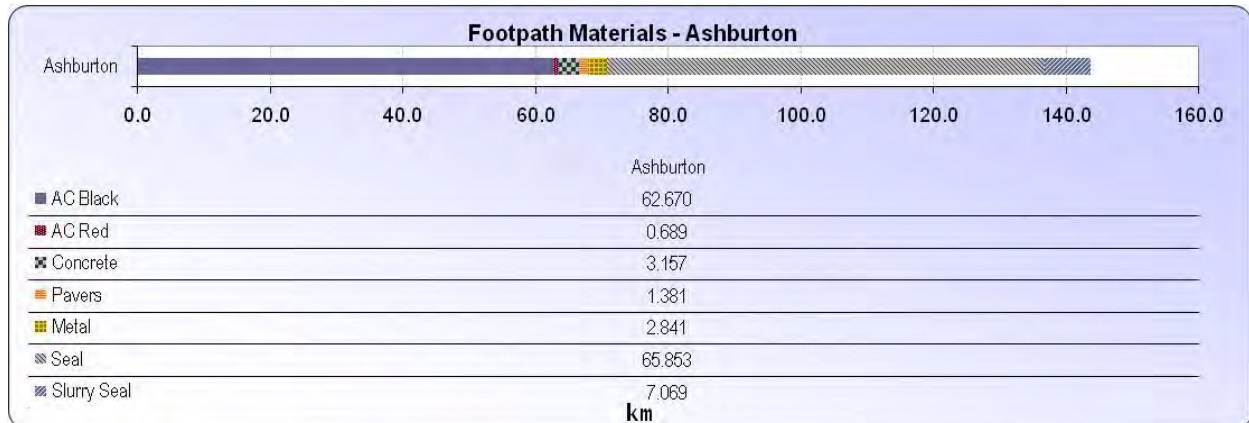
ADC footpaths, including public accessways, have the following top surface materials, as recorded in the RAMM database. Footpath surfaces have a replacement value in the order of \$7.6 million, with a total value of footpaths (i.e. including footpath bases and vehicle crossing) of \$17.3 million.

Figure B-24 Footpaths in Small Towns



Source: [ADC TptAcMP Apx B Description v1.0.0.xls] Footpaths > \$B\$22

Figure B-25 Footpaths in Ashburton



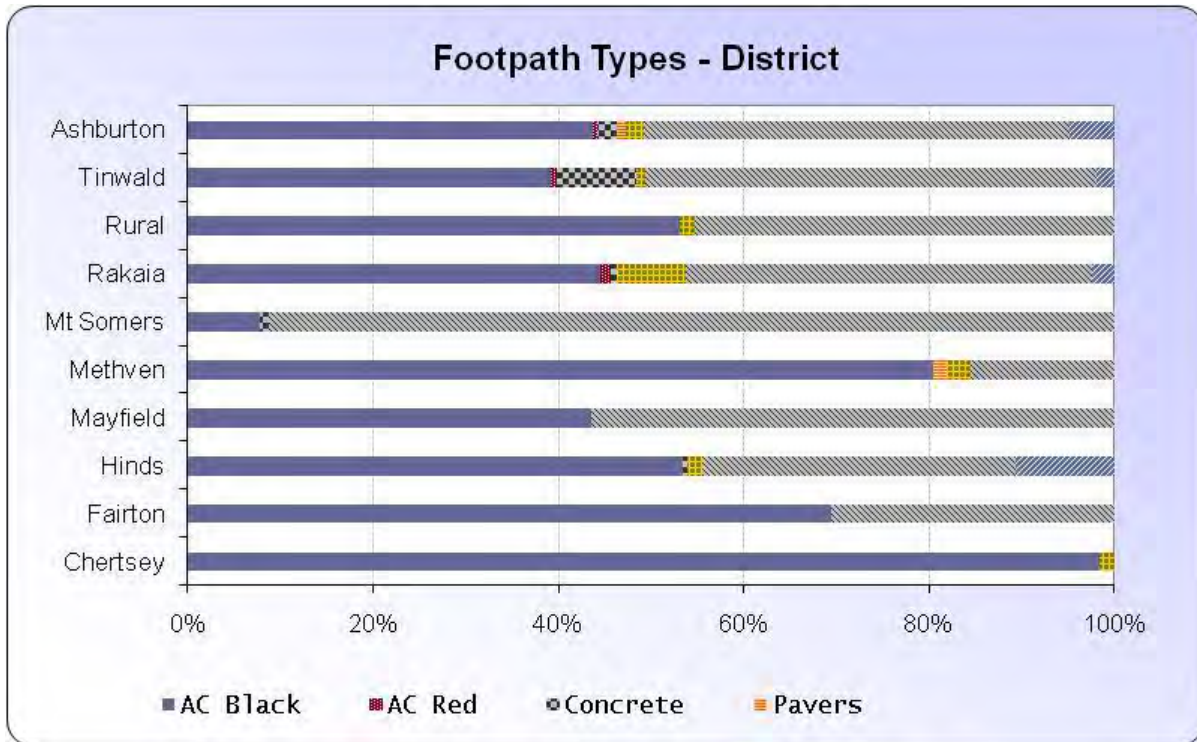
Source: [ADC TptAcMP Apx B Description v1.0.0.xls] Footpaths > \$B\$57

The type of surface used is dependent on life cycle cost considerations, pedestrian volumes and the amenity value of the location (i.e. shopping precincts):

- ◆ Asphaltic concrete: mix of graded aggregate and asphaltic binder laid in a 15 - 20 mm depth on a metal basecourse layer typically 75 to 150mm thick
- ◆ Interlocking blocks: specialty concrete cobblestones or clay pavers, used for high profile shopping areas
- ◆ Concrete: unreinforced concrete laid in a 75 mm layer
- ◆ Chip Seal: graded crushed stone chips spread on sprayed bitumen over a formed basecourse layer

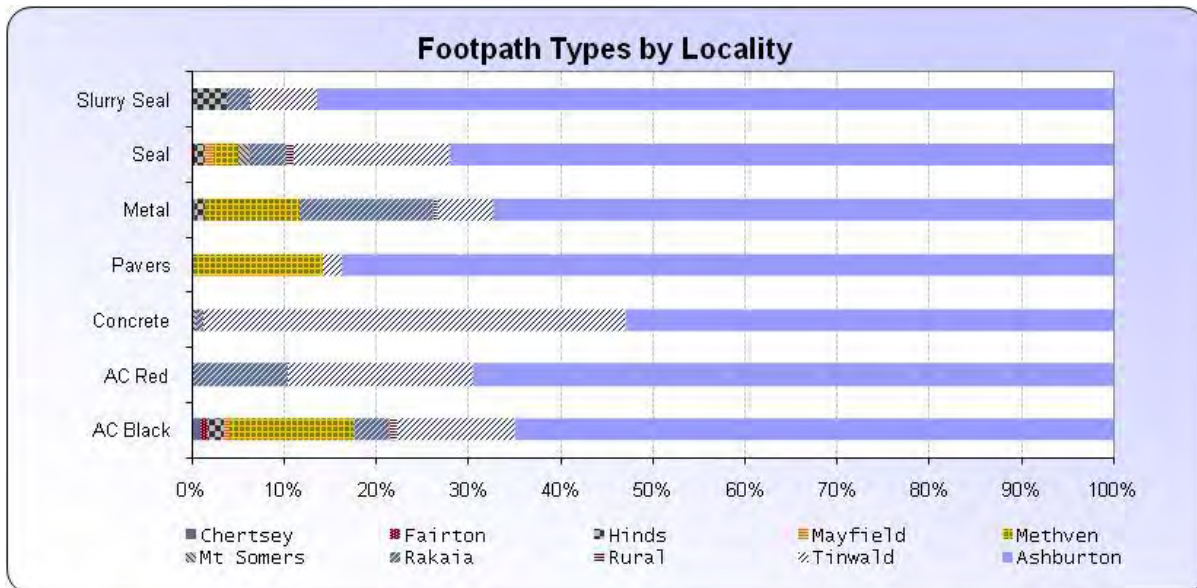
- ◆ Metal: graded crushed stone chips spread on formed basecourse layer, typically located in industrial areas

Figure B-26 Footpath Types - Entire District



Source: [ADC TptAcMP Apx B Description v5.0.0.xls] Footpaths> \$B\$92

Figure B-27 Footpath Types - by Locality



Source: [ADC TptAcMP Apx B Description v5.0.0.xls] Footpaths> \$B\$121

Figure B-24 to Figure B-27 show how footpath assets are distributed through the District, mostly they are located in Ashburton, Methven and Tinwald, with the proportional distribution of the lower quality chip seal paths being greatest in Mt Somers and Mayfield, although the Ashburton and Tinwald have the greater lengths of these types.

While there is an overall record of annual resurfacing or reconstruction, summarised in the valuation spreadsheet, data has not been systematically recorded in the AM system on an individual footpath basis.

Data capture for resurfacing work is therefore to be improved by requiring provision of appropriate data for each contract.

Asset useful lives are 75 years for footpath basecourse layers, and 25 years for asphaltic concrete top surface. Chip seals have a life approximately half that of asphaltic concrete.

### B- 10.2.2 Footpath Condition

An urban footpath visual walk-over condition assessment was completed in 2010 / 11. This lists footpath presence on a road, material type, and a four step condition grading.

Site-specific visual inspections are also undertaken as part of the budget preparation process.

The main causes of footpath deterioration are:

- ◆ embrittlement of bitumen and/or coal tar (in part due to poor materials)
- ◆ vehicle damage
- ◆ vegetation / lichen formation, and
- ◆ frost heave/vegetation damage (i.e., tree roots, weeds)

Age data held in RAMM is not reliable, however this is gradually being improved as activity data is recorded in RAMM.

#### B- 10.2.2.1 Footpath Performance

Current asset performance is lower than desired due to surface condition. The main performance deficiencies are:

- ◆ Ease of use: Chip seals offer an unsatisfactory level of service due to surface irregularities and loose chips that make passage awkward. Complaints are received relating to potholes, weed intrusion and uneven surfaces on all types of footpaths. This is being addressed through the AC resurfacing programme. Although metalled surfaces offer a low level of surface, these paths are located in industrial areas and small townships and are not typically an issue.
- ◆ Aesthetics: The appearance of chip seal and metalled footpaths is considered substandard to AC because of patching, deterioration, colour and loose stones.
- ◆ Provision: The Ashburton urban area is well provided with footpaths, and the new footpath programme is substantially complete. There is a need to continue to extend the footpath network in the district townships (particularly Methven) to achieve a satisfactory level of service. These needs are typically associated with gaps in residential development within the built up area.
- ◆ Efficiency: Footpath widths range from 1.5 metres to over 3 metres. The NZ standard for urban subdivision specifies a width of 1.5 m in most situations, and maintaining wider footpaths results in cost inefficiencies and detracts from the appearance of the streetscape.

## B- 11 Car Parking

### B- 11.1 Overview

Our street car parking is managed as part of the pavement and road marking functions.

Parking meters are installed in central Ashburton.

Off street car parks are owned by the Property section but managed on its behalf by the Roding section

## B- 11.2 Car Parking Assets

### B- 11.2.1 Background Information

The Inventory currently does not include car parking assets.

## B- 12 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table B-14 Overview Improvement Needs**

Overview			
Item			Comments
B1	Continue Grip Tester programme	Medium	Skid resistance Commenced march 2010
B2	Consider use of dTIMS to better understand the performance and deterioration of sealed pavements	Medium	Section B- 3.4
B3	Conversion to LED display traffic signals to be considered,	Low	
B4	Assess need for disabled pedestrian facilities at traffic signals installations	High	Current lack of adequate disabled facilities
B5	Move Bridges to RAMM Bridges	High	
	Record Bridge-restriction data in RAMM	High	
B6	Capture Streetscape Asset Data	Medium	
B7	Agree Streetscape asset management responsibilities with Reserves staff	High	
B8	Consider needs of electric mobility scooters, especially during footpath works	High	Growing use, safety issues
B9	Continue to upgrade RAMM data relating to Footpaths	High	
B10	Collect and record car park data in RAMM	High	
B11	Complete Car Parking description section of AMP	High	Includes parking meters

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# Appendix C Safety Management

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Document Name: Apx C Safetymgt V5.0.8.Docx  
Saved Date: Wednesday, 5 March 2014 09:14

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# Safety Management

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*Legislative Background: LGA 1972 s353 General Safety Provisions as to roads*

## C- 1 Introduction

One of the major negative effects is crashes resulting in trauma, injury or death to road users.

To ensure that the roading environment is as safe as is reasonably practicable, and that it takes all reasonable steps to reduce the likelihood of crashes occurring, the Council has adopted a Safety Management System for its Road Network.

The NZ Transport Agency produces an annual “briefing notes - road safety issues” report for the District; this covers both local roads and state highways and is generally published in July or August of the following year. A number of key safety performance measures are also published. The following information has been extracted from the July 2010 Report. The latest report is at **Error! Reference source not found.**to this appendix.

In 2010 Major road safety issues are:

- ◆ **Straight road – loss of control or head on** – between 2005 and 2009, accounted for 27% of all fatal and injury crashes; 82 crashes resulted in 6 deaths, 29 serious injuries and 70 minor injuries
- ◆ **Intersections** – between 2005 and 2009 there were 127 crashes at intersections; 42% were at urban intersections. In 2009 the total number of crashes at intersections, the number of fatal and serious crashes were at a five year high.
- ◆ **Young Drivers** – Drivers aged less than 25 years were involved in 36% of injury crashes over the five year period 2005 to 2009. These crashes resulted in 8 deaths, 33 serious injuries and 141 minor injuries.

Statistics for 2009 were as follows:

**Table C-1 Recent Crash Statistics**

Year: 2009

Type	People	Crashes
Deaths	4	3
Serious Injury	26	21
Minor injury crashes	62	41
Non-injury crashes		127

Source: N:\Dept\_72\Current Projects\CAD ADC AMPs (60042305)\4. Tech work area\4.3 Engineering\1.04 Roading AMP\ADC TptAMP Apx C Safety.xls]Sheet1, \$B\$6

The following measures compare crash factors in the Ashburton District with those for the “five worst” and “five best” performers” in the Canterbury/West Coast LTA areas.

**Table C-2 Crash-rate comparison**

Period: 2005 to 2009

<b>Measure</b>	<b>Range for five BEST performers (Canterbury/West Coast TLA areas)</b>	<b>Ashburton District 2009 injury crashes</b>	<b>Range for five POOREST performers (Canterbury/West Coast TLA areas)</b>
% crashes with excessive speed	13 - 17%	<b>25%</b>	29 - 38%
% driver alcohol/drug crashes	6 - 18%	<b>21%</b>	20 - 38%
% crashes with young drivers	17 - 26%	<b>28%</b>	28 - 36%
% crashes striking an object	31 - 45%	<b>45%</b>	50 - 75%
% crashes with motorcyclists	3 - 17%	<b>16%</b>	22 - 38%
% intersection crashes with $\geq 2$ fatal or serious injury	0	<b>2%</b>	2 - 83%

Source:[ADC TptAMP Apx C Safety.xls]Sheet1, \$B\$17

## C- 2 Road Safety Strategy

The Council's Road Safety Strategy 2000-2005 provides a focus and overall direction for the Council's road safety management and intervention, and lists the following key target areas:

- ◆ Intersections
- ◆ Speed
- ◆ Rural crashes
- ◆ Drink driving

The SMS Improvement programme includes updating of this strategy.

## C- 3 Safety Management System

The Council's Safety Management System (SMS) was developed following NZTA guidelines; The current Version of this SMS was published in November 2010. The purpose of the System is to provide a systematic method of monitoring and improving safety outcomes on the roads of the Ashburton District. The System can potentially cover the following areas:

- ◆ Physical activities on the road reserve
- ◆ Design of improvements
- ◆ Land use activities
- ◆ Regulatory controls
- ◆ Police enforcement
- ◆ Road safety publicity and education programmes

The SMS is an essential part of the AcMP, and risk management. At present, the SMS is focussed principally on the road environment.

The SMS is published separately from this Plan, although this Plan includes some of the detail required for operation, management and implementation of the SMS. The master copy of the SMS is held by the Roading Manager.

Specific management strategies include:

- ◆ Design standards, e.g. District Plan Roading Standards (refer Appendix U)
- ◆ Safety audits of new roads and improvements
- ◆ Audits of contractor inspection results
- ◆ Integration of safety management within the AMP
- ◆ Safety standards applied to road maintenance contracts
- ◆ Compliance by utilities with the Code of Practice for Temporary Traffic Management (COPTTM)

Maintenance and development of the SMS are included in the Asset Management section of Professional Services funding.

## C- 4 Crash Reduction Studies

A crash reduction study was completed in 2001/02.

A Road Safety Action Plan is to be prepared in 2011/12.

Funding is provided in the Asset Management section of Professional Services funding.

## C- 5 Community Focussed Activities

Every year, ADC submits its recommendations to NZTA on funding needs for community based road safety projects, targeting education and promotion activity. Once adopted, community projects are coordinated by the Ashburton Road Safety Coordinating Committee.

A number of projects have been submitted in the 2012/15 funding application.

## C- 6 Funding

Funding of new safety improvements is discussed in Appendix F Demand, New Works and Improvements. Most safety improvements are carried out under the "Minor Improvements" category with other new works categories only occasionally being required to fund this work. Nevertheless, safety is an important consideration for all new works and a significant driver behind all justifications and designs.

## C- 7 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table C-3 Safety Management Improvement Actions**

<b>1.0 Safety Management</b>			
<b>2.0 Item</b>		<b>3.0 Priority</b>	<b>4.0 Comments</b>
C1	Review Road Safety Strategy	<b>High</b>	2012/13
C2	Complete Road Safety Action Plan	<b>Medium</b>	2011/12

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# Appendix D Asset Valuation

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Document Name: Apx D Valuation V5.0.8.Doc  
Saved Date: Wednesday, 5 March 2014 09:15

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## Appendix D Asset Valuation

*Driver: NZIAS 16, Financial Reporting Standard No. 3*

### D- 1 Valuation Policy for Transportation Network Assets

Transport assets are valued three-yearly together with the Council's other infrastructural assets. At the end of the intermediate years reconciliation balancing expenditure and asset values are compiled. The transportation valuation is carried out using the RAMM Valuation Module.

The valuation method used is the Optimized Depreciated Replacement Cost method.

### D- 2 Current Valuation

Roading and Footpath assets were last revalued with effect 30 June 2011 by Opus International Consultants Limited, and a summary of the valuation result is presented in Table D-1 below. The Valuation Report is at **Error! Reference source not found.**to this Appendix.

Table D-1 Summary Roothing Asset Valuations 2011

ASSET GROUP	ASSET	Optimized Replacement Cost	Optimized Depreciated Replacement Cost	Annual Depreciation (\$)
		30 June 2011 (\$)	30 June 2011 (\$)	
Roading Assets	Bridges	\$84,963,299	\$62,015,722	\$583,671
	Berm	\$2,760,111	\$2,760,111	\$0
	Bridge (Culvert)	\$1,271,256	\$492,612	\$15,891
	Drainage	\$17,634,358	\$9,813,847	\$185,698
	Feature	\$403,641	\$230,256	\$17,964
	Footpath	\$7,604,790	\$3,609,772	\$284,638
	Footpath Base	\$7,680,800	\$5,805,138	\$102,410
	Footpath Crossings	\$1,985,915	\$1,504,425	\$26,478
	Island	\$210,876	\$129,610	\$8,435
	Railing	\$3,269,722	\$523,155	\$130,790
	SW Channel	\$19,582,621	\$9,313,609	\$248,355
	Sign	\$1,817,293	\$697,700	\$139,794
	Street Light (Bracket)	\$486,762	\$179,486	\$23,979
	Street Light (Light)	\$994,955	\$467,321	\$49,153
	Street Light (pole)	\$2,641,844	\$1,453,244	\$65,749
Pavement Markings	\$100,475	\$100,475	\$0	



	Traffic Signals	\$171,665	\$124,584	\$9,416
	Land Under Roads	\$69,169,478	\$69,169,478	\$0
	Formation	\$34,079,974	\$34,079,974	\$0
	Subbase	\$48,160,092	\$39,705,380	\$155,934
	Basecourse	\$94,145,381	\$54,440,813	\$688,835
	Top Surface	\$47,065,076	\$27,693,355	\$3,390,628
	<b>Total</b>	<b>\$446,200,384</b>	<b>\$324,310,067</b>	<b>\$6,127,818</b>

Source: Ashburton District Council Valuation of Transportation Infrastructure Assets 2011, Table 5.1

This valuation did not include car parking assets as there is currently no data held on them. Data should be collected and they should be included in the next valuation update.

## D- 3 Valuation Standards

The valuation has been undertaken in accordance with NZ IAS (Property, Plant and Equipment) and with NZ local authority asset management practice (NZ Infrastructure Asset Management Manual and Valuation / Depreciation Guidelines).

The valuations are based on accurate and substantially complete asset registers (see improvement plan) and appropriate replacement costs and effective lives. The asset registers record data to a sufficient component level to allow assets of different base lives to be valued separately.

The Council's current policy is to revalue infrastructural assets on a 3-yearly basis, the next being due as at 1 August 2014. Significant changes in input parameters, that may have a material effect, may result in an earlier revaluation of assets.

### D- 3.1 Asset Registers

The primary asset register is the Council's RAMM database. This is supplemented by the Council's digital cadastral database, particularly for property-related data, and other less formal data records. The most notable omissions from the RAMM database are car parks, parking furniture and traffic signals.

The following information is used in the valuation:

- ◆ ADC RAMM (Road Assessment and Maintenance Management) Database;
- ◆ Unsealed Roads Inventory Data;
- ◆ ADC Unsealed Pavement Testing report, May 2003;
- ◆ ADC Unsealed Pavement Testing report, March 2004; and
- ◆ Recent ADC contract rates.

### D- 3.2 Valuation Methodology

The methodology and processes followed using the RAMM Valuation Module in the valuation are detailed in Annex III to this Appendix.

### D- 3.3 Unit Rates

Unit rates represent the replacement cost for each asset type and are related to commercial replacement costs for the provision of assets by contract. They assume realistic quantities of assets within contracts to ensure effective allowances and rates, and allow for all cost components associated with the provision of assets, including:

- ◆ Project planning, design, supervision and management costs
- ◆ Corporate overheads applicable to service provision
- ◆ Construction costs
- ◆ Reinstatement costs
- ◆ Commissioning costs
- ◆ Traffic management costs

The rates assume “brownfields” conditions for replacement. That is all other services exist and it is necessary in defining rates for replacement to expect reinstatement of other assets or services if affected by the installation of the roading asset.

The unit rates used in valuations change at each valuation; the rates used for the latest valuation are detailed in (Annex III) to this Appendix.

### D- 3.4 Useful Lives

The useful life of each asset Useful lives is defined as the lesser of its economic life or its physical life. Generally, assets are replaced at the end of their physical life or some point earlier when economics dictate. The expected useful lives are applied to assets for the purpose of establishing depreciation for reporting current value in relation to the life consumed at the time of the valuation.

The NZ Infrastructure Asset Valuation and Depreciation Guidelines contain a set of useful lives that could be applied without reference to local issues. However, it is also valuable to consider local issues in establishing useful lives, including management practices, environmental conditions and economic influences, as these reflect the true state of the assets.

The following defines the lives used in the ADC roading valuation. Note that a blank value means that there are no relevant useful life figures in the NZ Valuation Guidelines for that particular component. These lives do not generally change between valuations, but they are reviewed for accuracy and applicably periodically.

**Table D-2 NZ Valuation Guidelines on Base Lives and the Adopted Lives**

Asset Group	Component	NZ Valuation Guidelines	Adopted Useful Life
Land Under Roads	Non Depreciable ( $\infty$ )	$\infty$	
Pavement	Surface Unsealed	2-20	8-24
	Surface Sealed	2-20	3-100 <sup>1</sup>
	Base	35-100	72-100
	Sub base	35-100, $\infty$	72-100, $\infty$
	Formation	$\infty$	$\infty$
Footpath	Surface	20-75	25-75

<sup>1</sup> The 100 year life is for concrete surfaces

Asset Group	Component	NZ Valuation Guidelines	Adopted Useful Life
	Base	20-50	50-75
	Crossing		50-75
Structures	Bridges	30-150	80-150
	Major Culverts	50-100	80
Drainage	Culverts	50-100	100
	Sumps etc	50-100	75
	Kerb & Channel	50-100	75
Guard Rail		25	
Pavement Markings		∞	
Signs	10-15	13	
Berms		∞	
Traffic Signals	Pole	15-30	50
	Controller	15-30	15
	Aspects	8-15	15
	Cable	30-60	50
Lights	Poles	25-50	40
	Outreach Arm	25-50	20
	Fittings	10-25	20
	Lamps		3
Features	Fords		100
	Cattlestops		100

Asset commissioning or construction dates are also important to the valuation process. Where construction dates are not known default construction dates are assumed using one of the following methods:

- ◆ Date based on asset area and or material;
- ◆ Average construction date of existing known assets; or
- ◆ Assuming asset is halfway through base life.

Since 2008, these assumed dates are recorded as Christmas Day of the appropriate year, to indicate clearly to viewers of the data that it is an assumed value.

## D- 4 Forecast Asset Value

The forecast asset values for the next ten years, based on the capital and renewal programmes in this Plan, are at **Error! Reference source not found.** to this Appendix.

## D- 5 Valuation Improvement Actions

Potential improvements identified in this section are summarised below:

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**Table D-3 Valuation Improvement Actions**

<b>Valuation</b>		
<b>Item</b>	<b>Priority</b>	<b>Comments</b>
D1	Car Parking assets to be valued	High

- Annex I Standard Asset Lives
- Annex II Unit Rates
- Annex III RAMM Valuation Methodology

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# Annex I Standard Asset Lives

<b>Standard Asset Lives - Transportation Network Assets</b>	
<b>Asset Type</b>	<b>Assessed Life</b>
Berms	999
Bridge Concrete	150
Bridge Timber	80
Culvert, ARMCO	80
Culvert, medium box, concrete	100
Culvert, pipe, concrete	100
Feature - cattle stop	100
Feature – ford	100
Feature – gate	50
Feature - major access	50
Feature - rest area	50
Feature – spillway	50
Feature - traffic control structure	50
Footpath - AC, black or red	25
Footpath - surface - concrete	75
Footpath - surface – icb	50
Footpath - surface - metal	25
Footpath - surface – seal	25
Footpath - surface - slurry seal	25
Land Under Roads	999
Major culverts	80
Markings	1
Not Valued	999
Pavement base - local roads	100
Pavement base - local roads, weak	90
Pavement base - principal roads	
Pavement base, principal roads, weak	72
Pavement base, Unsealed Unknown	16
Pavement base, Unsealed 1	8
Pavement base, Unsealed 2	13
Pavement base, Unsealed 3	18
Pavement base, Unsealed 4	22
Pavement base, Unsealed S	12
Pavement formation	999
Pavement sub-base, all rural sealed roads	999
Pavement sub-base, local roads	100
Pavement sub-base, local roads, weak	90
Pavement sub-base, principal roads	80
Pavement sub-base, principal roads, weak	72

Pavement surface, 1st Coat G4	3
Pavement surface, 1st Coat G5/G3	5
Pavement surface, 2nd Coat G4	12
Pavement surface, 2nd Coat G5/G3	15
Pavement surface, AC	25
Pavement surface, Bicouche/Sandwich	15
Pavement surface, Concrete	100
Pavement surface, ICB	50
Pavement surface, OGEM	12
Pavement surface, OGPA	12
Pavement surface, Racked G6/G4	15
Pavement surface, Reseal G4	12
Pavement surface, Reseal G6	10
Pavement surface, Reseal Single Coat	12
Pavement surface, Slurry	8
Pavement surface, Unsealed 1	8
Pavement surface, Unsealed 2	13
Pavement surface, Unsealed 3	18
Pavement surface, Unsealed 4	22
Pavement surface, Unsealed S	12
Railings	25
Signs	13
Street light lamp	20
Street light pole	40
Street lighting bracket	20
Sumps, soak pits etc	75
Surface water channels, lined	75
Surface water channels, unlined	75
Traffic facilities	13

Source: N:\Dept\_72\Current Projects\CAD ADC - Roading & Water Valn (60042305)\4. Tech work area\4.3 Engineering\Roading\RAMM\_Valn 2008\StdReplCost for Report.xls]Sheet2, \$B\$4

## Annex II Unit Rates

The unit rates used during the valuation are detailed on the attached sheets, which are printed from Excel; they therefore do not conform to the numbering and other layout conventions of this plan.

Most of these rates will change at each valuation, dependant on the interval since the previous valuation and changes in the cost of works and materials over those intervals.

**ASHBURTON COUNCIL**  
**Transportation Revaluation**

**DISTRICT Network**

Cells like this are urban resealing rates all others are rural

**Base Lives and Costs**

**Valuation Date:** **30 Jun 2010**

**NOTE** This is the definitive data from which all other derives  
 This data was derived from the 2008 valn data, rather than used for it.  
 Future valn should update this table first and then populate the valn from there.  
 Formulas are blue. Overwrite and change font colour as required.

Asset Group	Asset Element	Description	2010/11 Unit Cost (\$)	Unit	On Cost	Effective Life	RAMM Rate Name	Unit
-------------	---------------	-------------	------------------------	------	---------	----------------	----------------	------



Pavement	Land Roads	Under	North East Rural	\$4,400	ha	0.0%	Non Dep	Rural NE
			North West Rural	\$4,400				Rural NW
			South East Rural	\$3,000				Rural SE
			South West Rural	\$1,500				Rural SW
			Ashburton Urban	\$220,000				Ashburton Urban
			Ashburton Rural	\$16,400				Ashburton Rural
			Rural	\$3,325				Rural
			Chertsey	\$6,000				Chertsey
			Fairton	\$8,000				Fairton
			Hinds	\$6,000				Hinds
			Mayfield	\$6,000				Mayfield
			Methven	\$110,000				Methven
			Mt Somers	\$8,000				Mt Somers
			Rakaia	\$79,000				Rakaia
		Tinwald	\$127,000				Tinwald	
		Lake Hood	\$20,000				Lake Hood	
		Pavement Formation	Formation	\$10.20	m3	5.0%	Non Dep	Channel both sides
								Channel one side
								No channel
								Unsealed Formation
								Rural Sealed
		Sub base	Sub base Sealed	\$36.50	m3	8.0%	Depends on Hierarchy	KCC Both Sides Local Normal
								KDC Both Sides Local Normal
								KDC & KCC Local Normal
								KCC One Side

					Local Normal
					KDC One Side Local Normal
					Urban No Kerb Local Normal
			\$28.50		Rural
			\$36.50		KCC Both Sides Princ Weak
					KCC One Side Princ Weak
					KCC One Side Princ Normal
					Urban No Kerb Princ Weak
					Urban No Kerb Princ Normal
					Urban No Kerb Local Weak
					KCC Both Sides Local Weak
					KCC Both Sides Princ Normal
					KCC One Side Local Weak
					KDC & KCC Local Weak
					KDC & KCC Princ Weak
					KDC & KCC Princ Normal
					KDC Both Sides Local Weak
					KDC Both Sides Princ Weak
					KDC Both Sides Princ Normal
					KDC One Side Local Weak

							KDC One Side Princ Weak
							KDC One Side Princ Normal
	<b>Base Course</b>	<b>Base Sealed</b>	<b>\$53.00</b>	<b>m3</b>	<b>8.0%</b>	100	KCC & KDC Local Normal
						90	KCC & KDC Local Weak
						80	KCC & KDC Princ Normal
						72	KCC & KDC Princ Weak
						100	KCC Both Local Normal
						90	KCC Both Local Weak
						80	KCC Both Princ Normal
						72	KCC Both Princ Weak
						100	KCC One Side Local Normal
						90	KCC One Side Local Weak
						72	KCC One Side Princ Normal
						72	KCC One Side Princ Weak
						100	KDC Both Local Normal
						90	KDC Both Local Weak
						80	KDC Both Princ Normal
						72	KDC Both Princ Weak
						100	KDC One Side Local Normal

					90	KDC One Side Local Weak	
					80	KDC One Side Princ Normal	
					72	KDC One Side Princ Weak	
					90	No Channel Local Weak	
		\$46.00			100	No Channel Local Normal	
		\$46.00			80	No Channel Princ Normal	
		\$46.00			72	No Channel Princ Weak	
		Base Unsealed	\$28.75	m3	8.0%	Not depreciated	Unsealed Unknown
							Unsealed 1
							Unsealed 2
							Unsealed 3
							Unsealed 4
						100	Unsealed S
	Pavement Surface Urban and rural	1st Coat G3	\$4.00	m2	5.0%	3	1st Coat G3
		1st Coat G4	\$4.00			3	1st Coat G4
		1st Coat G5/G3	\$5.40			5	1st Coat G5/G3
		1st Coat G6/G4	\$5.40			5	1st Coat G6/G4
		2nd Coat G3	\$3.35			14	2nd Coat G3
		2nd Coat G4	\$3.35			12	2nd Coat G4
		2nd Coat G5	\$4.02			12	2nd Coat G5
	2nd Coat G5/G3	\$4.05			15	2nd Coat G5/G3	
	2nd Coat G6/G4	\$4.05			15	2nd Coat G6/G4	
	AC	\$26.50			25	AC	

		AC 1st Coat	\$29.97			25	AC 1st Coat
		Bicouche/Sandwich	\$3.40			15	Bicouche/Sandwich
		Concrete	\$96.61			100	Concrete
		ICB	\$117.31			50	ICB
		OGEM	\$29.97			12	OGEM
		OGPA	\$29.97			12	OGPA
		Racked G5/G3	\$4.52			15	Racked G5/G3
		Racked G6/G4	\$4.52			15	Racked G6/G4
		Reseal G3	\$3.35			14	Reseal G3
		Reseal G4	\$2.35			12	Reseal G4
		Reseal G5	\$3.35			12	Reseal G5
		Reseal G5/G3	\$4.05			15	Reseal G5/G3
		Void Fill or G6	\$2.70			10	Void Fill / G6
		Reseal G6/G4	\$4.05			15	Reseal G6/G4
		Reseal Single Coat	\$3.35			25	Reseal Single Coat
		Slurry	\$9.05			8	Slurry
		Unsealed Surface	Unsealed			Unsealed	\$10.23
Unsealed 1	\$28.82			8	Unsealed 1		
Unsealed 2	\$10.23			13	Unsealed 2		
Unsealed 3	\$10.23			18	Unsealed 3		
Unsealed 4	\$10.23			22	Unsealed 4		
Unsealed S	\$28.82			12	Unsealed S		
Footpath	Footpath Surface	Seal	\$6.85	m2	5.0%	25	Surface - Seal
		Asphaltic concrete (black)	\$16.00			25	Surface - AC black
		Interlocking blocks	\$51.88			50	Surface - ICB
		Metal	\$3.22			25	Surface - Metal
		Slurry Seal	\$9.49			25	Surface - Slurry Seal

		Concrete	\$57.07			75	Surface Concrete -
		Asphaltic concrete (red)	\$24.11			25	Surface - AC red
	Footpath Crossing	Standard (Asphaltic concrete (black))	\$296	ea	8.0%	75	Not currently included in RAMM Valuations, See Ashburton District Council Valuation Instructions
		Seal	\$111				
		Interlocking blocks	\$646				
		Metal	\$99				
		Slurry Seal	\$123				
		Concrete	\$446				
		Asphaltic concrete (red)	\$309				
	Footpath Base	Standard Base	\$12.78	m2	8.0%	75	Not currently included in RAMM Valuations, See Ashburton District Council Valuation Instructions
		Interlocking blocks	\$8.52				
		Concrete	\$8.52				
		Metal	\$12.78				
Bridges	Bridges	Concrete	\$2,633	m2	11.0 %	150	Bridge Concrete
		Timber or Wood				80	Bridge Timber
		Shared	1/2 appropriate rate			as above	Bridge Shared 50%

	Major Culvert	Armco 2<D≤3m	\$5,162	m	11.0 %	80	MajCul - ARMCO 2-3m	
		Concrete 1<D≤2m	\$4,542				MajCul - Conc 1-2m	
		Concrete 2<D≤3m	\$6,194				MajCul - Conc 2-3m	
		Steel 2<D≤3m	\$5,162				MajCul - Steel 2-3m	
		Box 3-4m	\$7,351				MajCul - Box 3-4m	
		Box 4-5m	\$7,351				MajCul - Box 4-5m	
		2Box 2-3m	\$5,162				MajCul - 2Box 2-3m	
		2Box 3-4m	\$7,226				MajCul - 2Box 3-4m	
		2Box 4-5m	\$9,291				MajCul - 2Box 4-5m	
		Culverts					Aluminium / ARMCO 225	\$176
Aluminium / ARMCO 300	\$269			80	Cul 300 ARMCO			
Aluminium / ARMCO 375	\$311			80	Cul 375 ARMCO			
Aluminium / ARMCO 450	\$333			80	Cul 450 ARMCO			
Aluminium / ARMCO 525	\$395			80	Cul 525 ARMCO			
Aluminium / ARMCO 600	\$436			80	Cul 600 ARMCO			
Aluminium / ARMCO 675	\$519			80	Cul 675 ARMCO			
Aluminium / ARMCO 750	\$612			80	Cul 750 ARMCO			
Aluminium / ARMCO 825	\$696			80	Cul 825 ARMCO			
Aluminium / ARMCO 900	\$903			80	Cul 900 ARMCO			
Aluminium / ARMCO 1050	\$1,110			80	Cul 1050 ARMCO			
Aluminium / ARMCO 1200	\$1,349			80	Cul 1200 ARMCO			
Aluminium / ARMCO 1350	\$1,733			80	Cul 1350 ARMCO			
Aluminium / ARMCO 1500	\$2,802			80	Cul 1500 ARMCO			

	Concrete 225	\$176	100	Cul 225 Standard
	Concrete 300	\$269	100	Cul 300 Standard
	Concrete 375	\$311	100	Cul 375 Standard
	Concrete 450	\$333	100	Cul 450 Standard
	Concrete 525	\$395	100	Cul 525 Standard
	Concrete 600	\$436	100	Cul 600 Standard
	Concrete 675	\$519	100	Cul 675 Standard
	Concrete 750	\$612	100	Cul 750 Standard
	Concrete 825	\$696	100	Cul 825 Standard
	Concrete 900	\$903	100	Cul 900 Standard
	Concrete 1050	\$1,110	100	Cul 1050 Standard
	Concrete 1200	\$1,349	100	Cul 1200 Standard
	Concrete 1350	\$1,733	100	Cul 1350 Standard
	Concrete 1500	\$2,802	100	Cul 1500 Standard
	Box 2-3m	\$3,528	100	Cul - Box 2-3m
	Box 1-1.5m	\$1,401	100	Cul - Box 1-1.5m
	Box 1.5-2m	\$2,905	100	Cul - Box 1.5-2m
	Box 2*1-1.5m	\$2,801	100	Cul - Box 2*1-1.5m
	Box 2*1.5-2m	\$5,810	100	Cul - Box 2*1.5-2m
	Twin 225 Standard	\$353	100	Cul 225*2 Standard
	Twin 225 ARMCO	\$353	80	Cul 225*2 ARMCO
	Twin 300 Standard	\$539	100	Cul 300*2 Standard
	Twin 300 ARMCO	\$539	80	Cul 300*2 ARMCO
	Twin 375 Standard	\$622	100	Cul 375*2 Standard
	Twin 375 ARMCO	\$622	80	Cul 375*2 ARMCO



	Twin 450 Standard	\$665	100	Cul Standard 450*2
	Twin 450 ARMCO	\$665	80	Cul ARMCO 450*2
	Twin 525 Standard	\$790	100	Cul Standard 525*2
	Twin 525 ARMCO	\$790	80	Cul ARMCO 525*2
	Twin 600 Standard	\$871	100	Cul Standard 600*2
	Twin 600 ARMCO	\$871	80	Cul ARMCO 600*2
	Twin 675 Standard	\$1,038	100	Cul Standard 600*2
	Twin 675 ARMCO	\$1,038	80	Cul ARMCO 600*2
	Twin 750 Standard	\$1,224	100	Cul Standard 750*2
	Twin 750 ARMCO	\$1,224	80	Cul ARMCO 750*2
	Twin 825 Standard	\$1,391	100	Cul Standard 825*2
	Twin 825 ARMCO	\$1,391	80	Cul ARMCO 825*2
	Twin 900 Standard	\$1,806	100	Cul Standard 900*2
	Twin 900 ARMCO	\$1,806	80	Cul ARMCO 900*2
	Twin 1050 Standard	\$2,220	100	Cul Standard 1050*2
	Twin 1050 ARMCO	\$2,220	80	Cul ARMCO 1050*2
	Twin 1200 Standard	\$2,697	100	Cul Standard 1200*2
	Twin 1200 ARMCO	\$2,697	80	Cul ARMCO 1200*2
	Twin 1350 Standard	\$3,466	100	Cul Standard 1350*2

		Twin 1350 ARMCO	\$3,466			80	Cul 1350*2 ARMCO
		Twin 1500 Standard	\$5,604			100	Cul 1500*2 Standard
		Twin 1500 ARMCO	\$5,604			80	Cul 1500*2 ARMCO
		Asbestos cement all diameters valued as Standard of that diameter					
		Earthenware all diameters valued as Standard of that diameter					
		Poly Vinyl Chloride all diameters valued as Standard of that diameter					
		Steel all diameters valued as ARMCO of that diameter					
Drainage	Drainage	Catchpit type 2	\$882	ea	8.0%	75	Catchpit Type 2
		Dbl Side Entry Sump	\$1,764				Sump Dbl Side Entry
		Double Sump					Sump Double
		Side Entry Sump	\$882				Sump Single Side Entry
		Single Sump	\$882				Sump Single
		Soak pit	\$830				Soak Pit
		Water Race	\$3,767				Water Race
SWC	SWC	Dished Channel (Asphalt)	\$42	m	8.0%	75	Dish Chan Asphalt
		Dished Channel (Concrete)	\$73				Dish Chan Conc
		Dished Channel (Sealed)	\$47				DishChan Seal
		Kerb & Channel (Concrete)	\$73				K&C Conc
		Kerb & Dished Channel (Concrete)	\$73				K&Dish Chan Conc
		Kerb Only (Concrete)	\$67				Kerb Only Conc
		Mountable Kerb & Channel (Concrete)	\$73				Mount K&C

		Slot Channel (Concrete)	\$99				Slot Channel
		SWC (Deep, >200 Below Seal Edge)	\$2.24				SWC Deep
		SWC (Shallow, <200 Below Seal Edge)	\$1.53				SWC Shallow
Railings	Railings	Guard rail	\$145	m	8.0%	25	Guard Rail
		Sight rail	\$114				Sight Rail
		Steel Tube and Post barrier	\$156				Steel Tube
		W Section Guard rail	\$311				W Section
Signs	Signs	Belisha Disk	\$180	ea	8.0%	13	Belisha Disk
		Edge Marker Post	\$26				Marker Post
		Guide	\$240				Guide Sign
		Hazard Markings	\$80				Hazard Markings
		Information signs	\$240				Info Signs
		Information Miscellaneous	\$240				Info Misc
		Miscellaneous	\$240				Misc
		Motorist Services	\$350				Motorist Service
		Outdoor Recreational Symbols	\$300				Outdoor Rec Symbol
		Pedestrian Crossing Post	\$255				PedX Pole
		Permanent Warning	\$320				Perm Warning
		PW Supplementary - Speed	\$400				PW Suppl - Speed
		PW Supplementary	\$400				PW Supplementary
		GIVE WAY	\$390				Reg GIVE WAY
		STOP	\$390				Reg STOP
		Regulatory General	\$320				Reg General
		Regulatory Parking	\$250				Reg Parking
		Speed Limit	\$400				Reg Speed
		Street Name Plate	\$330				Street Name Balde
		Tourist	\$350				Tourist
Warning Miscellaneous	\$350	Warning Misc					

Traffic Facilities	Traffic Facilities	Belisha Beacon	\$380	ea	8.0%	13	Belisha Disc	
		Edge Marker Post	\$26				Edge Marker Post	
		Ped Marker	\$255				Ped Marker	
Berm	Berm	Cover-Level	\$12.41	m2	8.0%	Non Dep	Cover	
		Flowers-Level	\$25.86				Flowers	
		Flowers, Shrubs-Level	\$25.86				Flowers, Shrubs	
		Grass-Level	\$6.12				Grass	
		Grass-Bank	\$7.14				Grass - Sloping	
		Grass, Shrubs-Level	\$17.07				Grass, Shrubs	
		Grass, Flowers-Level	\$25.86				Grass, Flowers	
		Grass, Flowers, Shrubs-Level	\$25.86				Grass, Flowers, Shrubs	
		Shrubs	\$22.24				Shrubs	
		Shrubs, Cover	\$22.24				Shrubs, Cover	
		All unknown valued as Grass						
		Features	Features				Cattle Stop	\$9,339
Ford	\$15,565			Ford				
Gate(s)	\$519			50	Gate			
Parking Meter	\$724			10	Parking Meter			
Major Access	\$2,594			50	Major Access			
Rest Area	\$5,188			50	Rest Area			
Spillway	\$5,188			50	Spillway			
Islands	Traffic control structure	Kerb protrusion	NIL			50	Kerb Protrusions	
		Splitter Island	\$4,000				50	Splitter
		Roundabout	NIL					
		Pedestrian refuge	\$4,000				50	Pedestrian Refuge
		Threshold (Including signs)	\$6,000				50	Threshold Traffic Control
Signals	Signals	Pole	\$1,253	ea	8.0%	50	<b>Not currently included in</b>	

							RAMM Valuations, See Ashburton District Council Valuation Instructions
		Vehicle Aspect	\$1,936	ea		15	
		Pedestrian Aspect	\$1,081	ea		15	
		Pedestrian Button	\$968	ea		15	
		Controller	\$22,784	ea		15	
		Detector	\$7,120	ea		15	
		Cable	\$45.57	m		50	
Street Lighting	Brackets / Outreach Arms	A4	\$287	ea	8.0%	20	A4
		Double	\$460				Double
		Ex Alpine	\$287				Ex Alpine
		H12	\$287				H12
		H20	\$460				H20
		Kendelier	\$287				Kendelier
		LE 0006	\$287				LE
		Long Steel	\$460				Long Steel
		M1	\$287				M1
		M2	\$287				M2
		M3	\$460				M3
		Pipe	\$287				Pipe
		P11	\$287				P11
		P12	\$287				P12
		Pipe	\$287				<b>Pipe</b>
Prom(OR)	\$287		Prom(OR)				
S03	\$287		S03				

		S12	\$287				S12
		S146	\$287				S146
		S19	\$550				S19
		S20	\$460				S20
		S395	\$287				S395
		Short Steel	\$287				Short Steel
		Special	\$570				Special
		Swan Neck	\$570				Swan Neck
		Verandah	\$128				Veranda
	Street Lighting - Fittings	Beacon & Flood	\$228.49	ea	8.0%	20	Beacon&Flood - Std
		Bega	\$436				Bega
		Belisha Beacon	\$228				Belisha Beacon
		Bulkhead	\$517				Bulkhead
		Fael Luc	\$517				Fael Luc
		Promenade	\$1,380				Fancy - Promenade
		Tree Floodlight	\$540				Flood - Tree
		Optispan	\$747				GEC Optiscan
		Ghidini Carrera 5610.11.MH 70w	\$747				Ghidini Carrera 5610
		GL 500	\$259				GL 500
		GL 600	\$390				GL 600
	GL 700	\$424				GL 700	
	Inground	\$540				In Ground	
	Kendelier MIG	\$1,380				Kendelier MIG	
	Sylvania Maxi	\$436				Sylvania Maxi	
	We-ef STG259-DD18	\$1,149				We-ef STG 529	
	Windsor Heritage Waterford	\$1,149				Windsor - Heritage	
	Windsor Salisbury	\$1,723				Windsor - Salisbury	
Street Lighting -	Concrete	\$1,323	ea	8.0%	40	Concrete	

	Poles	Wood	\$1,323				Treated Timber
		H/W	\$1,323				Hardwood
		Sectional Steel	\$1,323				Sectional Steel
		Steel	\$1,323				Steel

Source: [ADC UnitRates 2010\_11 Reval v1.1.xls] Unit Rates> \$A\$2

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# Annex III RAMM Valuation Methodology

The latest valuation methodology is attached, in the form it was received from the valuer.

The Valuation report does not conform to the numbering and formatting conventions of this Plan; any confusion is regretted.

## 2 METHODOLOGY

### 2.1 Valuation Approach

The ADC Transportation Infrastructural assets have been valued as at 30 June 2011. All recorded components have been valued in terms of their replacement and depreciated replacement value. The valuation has been undertaken in accordance with NZ IAS (Property, Plant and Equipment) and with NZ local authority asset management practice (NZ Infrastructure Asset Management Manual and Valuation / Depreciation Guidelines).

The basic approach has involved:

1. Preparation of the valuation schedules from the various sources of information supplied by the ADC. This involved the review of the previous valuations (2010) and an assessment of the capital work completed since that valuation.

(i) Review of asset quantities, materials and techniques to reflect an optimum (least cost) modern equivalent replacement that offers the same level of service as that currently provided. Consideration was also made for optimisation of any assets that are over size, over capacity, over designed, obsolete or redundant.

(ii) Calculation of optimum replacement cost (ORC) by multiplying asset quantities by appropriate unit construction cost rates and including an allowance for other costs (site establishment, professional fees and financial charges).

(iii) A review of the prediction and assignment of economic and remaining lives taking into account the expected life, age and condition of the asset.

(iv) Calculation of Optimised Depreciated Replacement Cost (ODRC) by deducting an allowance for depreciation, taking into account age, remaining life, residual value and condition.

### 2.2 Asset Schedule

The asset schedules compiled for this valuation are based on information provided by ADC. Use was also made of the 2010 valuation database to check for consistency in the overall quantum of the relevant assets. Where gaps in the documented data exist on the condition of some assets, their constructed date is used and default estimates applied to determine the economic life expectancy.

### 2.3 Replacement Cost

Replacement cost is the cost of rebuilding the existing infrastructure using present day technology, but maintaining the originally designed level of service. Assuming current technology ensures that no value results from the additional cost of out-dated and expensive methods of construction. Maintaining the original level of service ensures that the existing asset is valued, not the currently desirable improved alternative.

Replacement cost was calculated by multiplying asset quantities by unit cost rates factored to allow for other direct costs such as professional fees.

### 2.4 Unit Costs

The unit costs presented in the appendices have been obtained from a variety of sources,



including previous valuations, and recent cost information from ADC and Opus International Consultants costing databases.

Historic costs have been updated to 30 June 2011 values using a variety of cost indices. For all assets, an overall indicator of sector cost escalation was developed by combining the cost movements of the underlying components into a composite index. These underlying components are labour, other current costs and capital expenditure.

The Product Price Index (PPI) measures the price movements in the productive sector of the economy. The PPI has both input and output versions. The input index is the appropriate indicator in this case as it measures changes in the cost of production or business current costs excluding labour and capital costs. To measure the input changes for the Council's assets we have chosen the Statistics New Zealand (SNZ) Product Price Input index for construction.

The Labour Index measures price movements in the cost of wages and salaries and in the non-wage costs such as annual leave and statutory holidays, superannuation, ACC premiums, medical insurance, motor vehicle for private use and interest on loans. To measure the change in labour cost inputs to Council's projects we have chosen the Statistics New Zealand (SNZ) index for total salary and wage costs in the private sector.

The overall increase in this composite index between March 2010 and 30 March 2011 are as follows: 5.0% for Construction, 4.8% for Maintenance, 11.0% for Reseal and 6.5% for Bridges.

## 2.5 Overhead Factors

Unit cost rates include actual purchase/construction costs only. These rates are increased by an overhead factor that includes all expenses incidental to the asset acquisition and all costs directly attributable to bringing the asset into working condition and location. These additional costs include site establishment, professional fees and financial charges. Professional fees include planning, investigation, design, performance and quality monitoring of physical works projects (maintenance and construction) and providing other specialist advice. Financial charges are limited to the interest payments on capital loans taken out to fund the construction activity. These additional costs have been allowed for by adding a percentage on top of the construction costs for roading assets as shown in Table 2.1 below.

**Table 2.1: Details of Additional costs**

Asset Group	Item	Allowance
All	Professional Fees	5% - 11%
All	Establishment	3% - 5%
All	Finance Charges	0%

## 2.6 Optimisation

Optimisation in a valuation context, relates to provision of the same utility at minimum overall cost. This involves adjustment to eliminate any excess capacity (surplus or redundant assets), over-design, technological obsolescence, and/or pricing of a more efficient solution.

## 2.7 Economic and Remaining Lives

The economic life (EL) of an asset is the period of time beyond which it is economically worthwhile to replace rather than to continue to repair or maintain. The economic life varies for each asset. These have been calculated in accordance with the International Infrastructure Management Manual and then further modified if local knowledge and experience suggests this is appropriate.

Each asset (component, sub-component) is assigned a base life (estimate of average useful life), which is converted to a preliminary estimate of economic life by adjusting for age. This adjustment is

based on the premise that as an asset gets older, its total life expectancy increases. An initial assessment of remaining life is then calculated as the difference between economic life and age of the asset. Where information is available further adjustments are made to the remaining life estimate to take into account condition of the asset. Engineering judgement is used to finalise these remaining and economic life estimates, taking into account additional information from any asset inspections.

## 2.8 Residual Value

The residual value (RV) of an asset is its predicted value at the end of its life. For example basecourse may still have some value at the end of its life either for reuse on some other project (as a lower quality sub-base material) or in continued use as a pavement foundation for successive overlays. Residual values have been adopted from local knowledge of asset performance and maintenance practice.

## 2.9 Method of Depreciation

The basic value of an asset reduces in accordance with the wearing out or consumption of benefits over its life arising from use, the passage of time, or obsolescence. This reduced value is called the depreciated value and has been calculated as the depreciable component of the replacement cost proportioned by the ratio of remaining useful life (RL) to economic life (EL) on a straight-line basis. This method provides a reasonable basis for the 'return of capital' over the economic life of the asset.

Optimised depreciated replacement cost is given by:

$$ODRC = (ORC - RV) \frac{RL}{EL} + RV$$

Where asset age is unknown, engineering judgement and local knowledge have been used to assign a remaining life (expressed as a percentage of its overall economic life i.e.  $P = RL/EL$ ). This percentage varies for each asset type.

The depreciated value is given by:

$$ODRC = (ORC - RV) \frac{P}{100} + RV$$

## 2.10 Annual Depreciation

A depreciation allowance is included only for those assets funded as a capital expense (i.e. assets which are funded as operating expenses have zero depreciation). Where applicable, a proportionate allowance is included for assets funded from a mixture of operating and capital expenditure.

The annual depreciation is calculated by dividing the depreciable portion of the replacement cost of an asset by its economic life. The annual depreciation is calculated by:

$$D = (ORC - RV) / EL \text{ or } = (ODRC - RV) / RL$$

If the network is being maintained at a stable level of service, the long run average renewal expenditure should approximate the annual depreciation of the network. However, it should be noted that depreciation is not a proxy for the amount needed to fund long-term asset requirements. Accounting for the past consumption is not the same as providing for future consumption, these two purposes differ, and need to be considered separately.

## 2.11 Client Involvement

Opus has involved Council in the valuation process. Our approach has been to make all variables and assumptions explicit, and involve Council in the review process to ensure where possible that these reflect local knowledge and experience.

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# Appendix E Maintenance and Operations

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# Appendix E Maintenance

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*Legislative Background: Schedule 10 Clauses 2(1)(d)(i) and (vi) and (e) and (2)(b) of the Local Government Act 2002 and Section 60 of the Civil Defence Emergency Management Act 2002*

## E- 1 Introduction

This section of the Activity Management Plan outlines the procedures, practices and methods used in the maintenance of Council's transportation network. It establishes, for the network group of activities, how the Council will assess and manage the estimated expenses of maintaining the identified levels of service, including the estimated costs associated with maintaining the service capacity and integrity of its transportation assets. In both detail, in relation to each of the first three financial years covered by the plan and in outline in relation to each of the subsequent financial years covered by the plan.<sup>1</sup> It also outlines the procedures the Council has put in place to ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency.<sup>2</sup>

The Council sets its funding for road operations and maintenance three-yearly through its Long Term Plan (LTP) process, and reviews these budgets annually between LTPs, through its Annual Plans. In general, funding of maintenance is set to match the long-term needs established by the maintenance programmes set out in this Activity Management Plan.

Historically road maintenance, being such a large budget item, has been seen by many local authorities as an area where savings can be made when there is pressure to reduce rates. The Council recognises that such decisions are rarely in the best long term interests of the roading network.

Annual levels of expenditure on pavement maintenance are of the right order. As the Area Wide Treatment Programme (see Appendix I, Renewals) takes effect there will be a reduction in the pavement maintenance needs. This will largely be due to the reduced need for dig-out repairs on rehabilitated pavements. Allowance has been made in the maintenance costing for a reduction in grading maintenance cost because of the unsealed road rebuilding/strengthening programme. The wearing course constructed as part of this work will require a much reduced level of grading with more emphasis placed on pothole repair. Expenditure projections are shown in Annex V to this appendix.

The Council has no intention to cease its involvement in the maintenance of its transportation network, or to dispose of the network to another party.

### E- 1.1 Operations and Maintenance

#### E- 1.1.1 Operations

Asset **operations** are activities that have no effect on asset condition but are necessary to keep the asset appropriately utilised. This feature distinguishes them from maintenance activities, which directly affect asset condition. Costs such as for power supply to street lights and professional

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<sup>1</sup> As required by Schedule 10 Clauses 2(1)d(i) and (vi) and (e) and (2)(b) of the Local Government Act 2002 and Section 60 Civil Defence Emergency Management Act 2002

<sup>2</sup> As required by Section 60 (a) of the Civil Defence and Emergency Management Act 2002

services are strictly defined as operational costs. However, in this AcMP, for the sake of simplicity, operational expenditure, such as streetlight power and contractor's inspections, are henceforth included under the term "maintenance" and are included in the sections and discussions associated with the maintenance of those assets.

Professional services and similar costs are discussed in sections E- 12 and E- 13 on page 14 and following.

This section outlines the maintenance issues required to provide the required levels of service (defined in Appendix S) while optimising lifecycle costs.

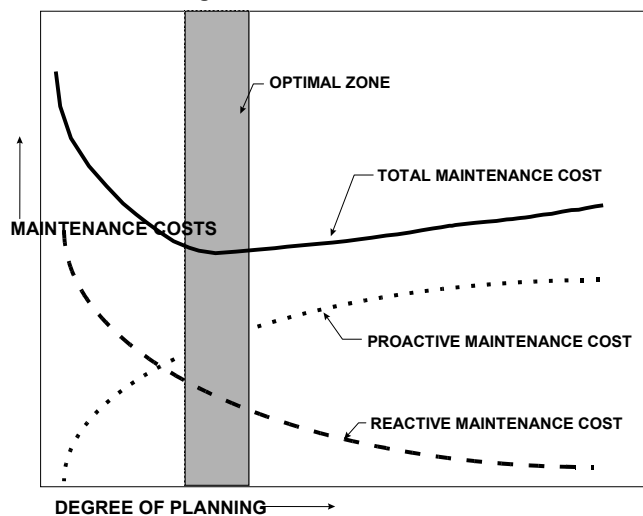
#### E- 1.1.1.1 Maintenance

Maintenance activities are the day-to-day works needed to keep assets operating at the required service levels. These activities are often referred to as "routine maintenance". Routine maintenance falls into two broad categories as follows:

- ◆ Planned (Proactive) Maintenance: Proactive inspection and maintenance works planned to prevent asset failure.
- ◆ Unplanned (Reactive) Maintenance: Reactive action to correct asset malfunctions and failures on an as required basis (i.e. urgent repairs).

A key element of asset management planning is determining the most cost-effective blend of planned and unplanned maintenance as illustrated in the following diagram.

Table E-1 Balancing Proactive and Reactive Maintenance



## E- 2 Overview of Maintenance Practices

Roading work is required to conform to the maintenance guidelines as set out in the agreement between the Council and The NZ Transport Agency. The agreement's elements are set around three sets of maintenance guidelines as follows:

- ◆ Road User Satisfaction measures
- ◆ Safety measures
- ◆ Asset Preservation measures

These measures are all reported on in the annual report that Council makes to the NZ Transport Agency.

Response times are set in the maintenance contracts, and the actual performance of customer raised queries is recorded through the Customer Request Management (CRM) System. The contractor is required to advise completion of a request, and a sample is audited to ensure that the work has been done as required and that it meets specification.

The Council carries out maintenance (and renewals) on the network under the period contracts listed in Annex I to this Appendix. The list is in the form of the Annual Contract Commitment list produced at the end of each financial year. A comprehensive list of all contracts opened to date by the Council, including the numerous project-specific contracts for the delivery of professional services and physical works for capital expenditure, minor improvement works, etc, is in its File Index and Register.

The period contracts generally cover the following:

- ◆ Procedures, standards and end results are defined, but there is flexibility for the contractor to determine the most appropriate materials and methods.
- ◆ Requirements for compliance with legislation, e.g., Health and Safety.
- ◆ Response times (to routine and emergency work) are defined for notified defects, there are standards by activity type and road type
- ◆ Inspection, programming and reporting requirements
- ◆ Timing and approvals for work programmes
- ◆ Schedules of quantities (except where lump sum based).
- ◆ Monthly reporting. The contractor must provide data in a computer database format (electronically). The data may be used for making claims and for forward programming of work.

The level of contract control is good, with more use being made of contract schedule rates and 3-year trends rather than day-works. However, this change has resulted in the nominal rates for some works, such as maintenance metalling and ice gritting increasing by around 25% to 75% respectively. The rates submitted by the contractor are regarded by staff as being reasonable and appropriate for the work specified.

Various investigations and reports also provide information relevant to the activity, such as:

- ◆ Inspections of Bridges in Ashburton District (Opus International Consultants).
- ◆ ADC Community Satisfaction Surveys
- ◆ The NZ Transport Agency Technical Reviews

## **E- 2.1 Effect of Council Policies**

Many of the approaches to different aspects of road maintenance and responses to customer requests for service are directed by formal policies adopted by the Council.

The Utilities Access Act 2010 that came into effect on 5<sup>th</sup> August 2010 requires Road Controlling Authorities to:

- (a) co-ordinate work done in transport corridors by complying with the processes and rules set out in the Code; and
- (b) before applying to the court for an order under section 7, use any appropriate dispute resolution procedures set out in the Code

To assist in administering carriageway access requests (CAR) Council has purchased a Trifecta licence that gives access to the T3 software platform.

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The list of the Council's current policies governing the transportation network is at Annex II

## E- 2.2 Response Times

Maximum acceptable response times for maintenance contract work activities are detailed in the various maintenance contracts; they reflect those in the following E-3 to E-10, which is the "Master List".

## E- 2.3 Maintenance Intervention Adjustments

Standard maintenance intervention triggers are altered in a number of circumstances to help ensure that life-cycle costs are minimised. These adjustments cover things such as alteration of the "dig-out" repair specification in the years immediately before a scheduled rehabilitation and additional maintenance work prior to re-sealing.

Maintenance Intervention Adjustments can be considered as the basis of a formal Maintenance Intervention Strategy. The Council does not have such a strategy but the details that would normally be expected to be found in one are contained in the appropriate maintenance specifications; however, the need to reconsider this is included in the Improvement Plan.

Maintenance Intervention Adjustments are detailed in Table E-20 Maintenance Intervention Adjustments, which is at Annex III to this Appendix.

Table E-20 uses the following nomenclature to describe the changes to normal maintenance for different circumstances:

- ◆ Trigger: The Event that causes or requires a change to normal maintenance procedures.
- ◆ Trigger Lead-Time / Delay and duration. The period before or after the trigger-event during which normal maintenance is affected
- ◆ Primary Asset Elements Affected. The parts of the road that are subject to the changes
- ◆ Adjustments to Normal Maintenance. Outline descriptions of the changes that are applied to / deviations from normal maintenance practices.

## E- 3 Pavements

Operations activities required to maintain serviceability include:

- ◆ Snow and ice clearing
- ◆ Removal of detritus
- ◆ Roadside litter removal
- ◆ Contractors' inspections

Routine maintenance prevents premature deterioration or failure, and includes repair of:

- ◆ Sealed Road-
  - ◇ potholes,
  - ◇ surface-levelling defects,
  - ◇ surface defects,
  - ◇ edge breaks,
  - ◇ unsealed shoulder maintenance
- ◆ Unsealed Road-
  - ◇ surface and shape restoration (grading),



- ◇ intersection approaches
- ◇ potholes

ADC practice, in common with practice in some other authorities, defines some work carried out under the contract as “renewal”, as it involves the replacement of parts of the pavement structure – this includes:

- ◆ Digouts
- ◆ Stabilisation
- ◆ Maintenance metalling (unsealed)

The contracts include requirements for regular inspections, defect notification, and response times to action various work categories. The NZ Transport Agency’s specifications are typically adopted for all categories of road maintenance ensuring national consistency, contractor knowledge and awareness and reduced risk to the Council in addition to ensuring NZTA subsidy.

The mix of activities / works is largely determined by the contractors and Council’s service providers, as the requirements are outcome based, e.g., ability to travel safely and in comfort at 80 km/hr on unsealed roads.

Roads scheduled for reseal have all maintenance work identified and carried out prior to reseal (pre-reseal repairs) to ensure the pavement is in its best condition to receive the new surface.

Emergency work response times are included in the maintenance contracts.

### E- 3.1 Low Maintenance Roads

The council has classified a number of its metal roads as “Low Maintenance”. These all carry very low traffic volumes and therefore have very low maintenance demands; typically they serve only one or two properties.

All metal roads have their “unsealed type” recorded in the RAMM database as follows; all low maintenance roads are “Unsealed Type 4” and all Unsealed Type 4 are low maintenance roads.

RAMM Table:	Treatment length
Field:	Custom 1 renamed “Unsealed Type”
Values:	Null / Blank (sealed roads) Unsealed Type 4 Unsealed Type 3 Unsealed Type 2 Unsealed Type 1 Unsealed Type S

## E- 4 Drainage

Drainage assets are maintained under the principal road maintenance contract. Work includes operational activities such as street cleaning, clearing blockages in rural drains and all aspects of culvert maintenance.

Work has historically been largely reactive, with work needs being identified through observations of staff, service provider and the maintenance contractor during day-to-day road maintenance activity and public notification.

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## E- 5 Traffic Services

Traffic services assets include signs, road markings, and railings.

### E- 5.1 Signs

ADC's network includes a large number of intersections, and therefore many signs. The 1980's saw a large increase in regulatory (Give Way and STOP) signs at intersections, as part of a national move to improve safety at uncontrolled intersections. This has resulted in increased maintenance expenditure over the years.

Sign maintenance includes post, signboard and blade replacement either as one or as separate items as required. The current strategy is to place priority on maintenance of regulatory signs.

Work is undertaken under the road maintenance contract. Standards for both maintenance and renewal are based on the road hierarchy, a risk management approach. Modified NZ Transport Agency "C" Series specifications apply.

Maintenance is largely reactive and depends on routine inspections and complaints. Response times are identified in contract documents. Vegetation obscuring signs is cleared to provide adequate lines of sight. Vandalism and crashes are significant drivers of cost, which have averaged over \$50,000 per annum in recent years.

The upgrading of signs to new standards or larger sizes is normally undertaken as part of the renewal process (see Appendix I).

All street signs are designed and located to meet the requirements of MoTSAM - Part 1 Traffic Signs<sup>3</sup> and street name plates are replaced with blue reflectorised plates, 225 mm high. There are no known significant deferred works required. The risk implications are primarily road user safety related.

### E- 5.2 Roadmarkings

All roadmarking is classified as maintenance work. Remarking is undertaken on a specific 3 +1, +1 year competitively priced contract, performance based (i.e. a LOS is specified rather than a remarking frequency) district-wide contract. The contractor typically remarks all lines every year with chlorinated rubber paint. ADC generally follows the NZTA Manual of Traffic Signs and Markings (MoTSAM).

### E- 5.3 Sight Rails and Guard Rails

These are maintained and renewed on an as-required basis through the road maintenance contract.

### E- 5.4 Traffic Signals

Traffic signals are maintained on an as needs basis by a specialist contractor, who is managed by the Christchurch City Council (CCC) on behalf of the Ashburton District Council, this contract also includes NZTA's signals on the State Highway through Ashburton. The contract provides for scheduled inspections and preventative maintenance tasks at specified intervals.

All Ashburton District Council and NZTA signals link to the CCC owned SCATS system. CCC informs ADC if a signal failure occurs.

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<sup>3</sup> Manual of Traffic Signs and Markings, Part 1 — Signs, NZTA Wellington

As part of the ongoing maintenance programme, it is intended that the displays will be gradually converted to more cost effective, newer technology LEDs.

The standard applicable to the design, location and operation of traffic signals is the Austroads 'Guide to the Design of Traffic Signal Installations', which the contract requires to be achieved where practicable.

## E- 6 Street Lighting

A maintenance contract is tendered / or negotiated with the local lines company as a sole supplier, as required but at no greater than a five year period. Operational activity largely relates to supply of electricity and the times at which lighting is required. Works are undertaken to ensure the safety of road users and pedestrians, minimise repair costs and protect the investment in assets by extending their life.

Maintenance needs are identified during routine inspections of the road network and through customer contact. Maintenance is generally unplanned, involving responses to light outages, vehicle damage and vandal damage. Lanterns are replaced on an as needed basis within specified response times.

All maintenance work complies with the Electricity Act 1992 and Electricity Regulations 1997. All replacement lamps are compatible with the lantern and control gear, and have characteristics compatible with the original lamp wherever possible.

Old fittings are salvaged and reused where appropriate. Some fittings are obsolescent and parts are currently unavailable or difficult to obtain, increasing the cost of routine maintenance. This particularly applies to fluorescent and mercury vapour lanterns. The Renewal Programme (Appendix I) discusses replacement of these lights.

There is currently no known outstanding backlog of maintenance work (e.g. lights not functioning, badly rusting poles).

## E- 7 Bridges

Minor bridge maintenance is performed under the road maintenance contract. This includes routine inspections and preventative maintenance by the Contractor to continuously maintain bridges and major culverts to a satisfactory standard and prevent accelerated deterioration. Maintenance works of a more significant nature, but falling short of renewing a whole bridge, are also programmed into this contract as required.

The maintenance strategy involves the overall monitoring of asset condition by having our service provider undertake the following inspection programme:

- ◆ on-going superficial inspections co-ordinated with other routine maintenance work,
- ◆ general inspections undertaken on a 3 year cycle by a Bridge Inspector,
- ◆ full structural inspections of all bridges and culverts undertaken on a six year cycle by a Bridge Inspection Engineer, taking into account such factors as structural integrity, defects, safety and appearance,
- ◆ special inspections after specific events such as earthquakes, severe floods or overloading and a regular coring programme of timber structural components

Routine Bridge Maintenance and Bridge Investigation needs are identified under the categories:

- ◆ U Urgent – required within about 3 months
- ◆ H High – to be completed within about 1 year
- ◆ M Medium – should be completed within about 2 years
- ◆ L Low – complete within about 5 years or as resources allow.

Structural Bridge Maintenance needs are identified under similar categories:

- ◆ U Urgent – required within about 3 months
- ◆ H High – to be completed within about 1 year
- ◆ M Medium – should be completed within about 5 years
- ◆ L Low – complete within about 10 years or as resources allow.

The costs estimate for these works contained in the bridge inspection reports, do not include design and supervision, nor do they provide for resource consents. The latest report is Annex 1 of Appendix B.

Maintenance programmes are developed from the schedules of defects identified during the inspections. Repair treatments and priorities are determined by considering the impact on:

- ◆ public safety (top priority),
- ◆ traffic movement, and
- ◆ future costs if the work is not done

Each item of the bridge maintenance programme is the most cost effective response to the need identified, except where a shorter term but lower cost remedy is selected when budget limitations apply and all maintenance items are assessed as equally urgent.

Repair works are carried out in accordance with the NZ Transport Agency Bridge Inspection and Maintenance Manual.

## E- 8 Streetscape

Streetscape assets such as seats and street furniture are maintained under the Road Maintenance contract.

## E- 9 Footpaths

Work is carried out under the Road Maintenance contract. The contract identifies response times that the contractor is required to complete specified repairs within, in order to meet the requirements of the contract. The work categories are usually identified from customer service requests that are relayed to the contractor and service provider immediately upon receiving these at the Council. The Road Maintenance contract also includes maintenance of cycling facilities.

Specific work activities include:

- ◆ Footpath cleaning
- ◆ Pothole repairs
- ◆ Digout repairs
- ◆ Surface levelling and new trenches
- ◆ Cracking and minor surface defects

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◆ Tree root removal

If a work is urgent, the site must be made safe within 2-hours and specific repairs must be completed within 7 or 14 days depending on the footpath's hierarchy.

Some work is undertaken on a planned monthly basis, with the balance being reactive. This is allowing improved condition to be targeted, and it is being achieved systematically. The contract also includes operational activities – footpath cleaning, weed control, litter collection, removal of offensive material, surface detritus, and frost gritting. The Contractor must report back as works are completed, and is required to clear at least 85% of all service requests within the required response time.

The Council will continue to evaluate the method of service delivery and will make decisions based on its assessment for what best maximises the over-all well-being of the District in deciding whether to contract out service delivery or have this done in some other way including the option of in-house works.

#### E-9.1.1.1 Vehicle Crossings

Vehicle crossings are integral parts of footpaths, providing access for vehicles between the street and private properties. Vehicle crossings are constructed at the location(s) selected by the property owner at the time of building construction, but the location must be approved by Council. The cost of installing crossings is met by the property owner. The Council's policy is to permit residential properties to have up to two crossings with a total length not exceeding 7.5 metres. Commercial and industrial crossings are of heavy-duty construction to handle the heavy vehicles using them.

The on-going maintenance of vehicle crossings is the responsibility of the Council where there is a formed footpath. Where there is no footpath, property owners maintain any driveway formation.

## E- 10 Car Parking Maintenance

Details of Maintenance of the Council's car parking facilities, excluding parking meters, have yet to be prepared. The parking meter inventory has been completed; the meters are managed and maintained by the Council's Property section. This Plan does not include details of how parking is managed from a regulatory standpoint. Parking Regulation is under the control of ADC Manager of Customer Services and is directed by the Councils Bylaws and Parking Enforcement Policy.

## E- 11 Forecast Maintenance Costs

The structure of the budget presented below is consistent with the Council's costing and accounting system, The NZ Transport Agency's National Land Transport Programme (NLTP), and with the way operating and maintenance expenditure is monitored.

### E- 11.1 NZTA Processes

The NZ Transport Agency assesses Road Controlling Authority needs using its optimal maintenance funding allocation model. The model uses base-unit maintenance rates to which modification factors are applied to reflect local environmental conditions (climate, topography, and geology), traffic demand and other characteristics of the local road network.

The actual amount funded is then negotiated with each Council, by NZTA, based on local factors and levels of service. This AcMP is an input to the negotiation process.

Section 10 of the Transportation Network Activity Management Plan (the “executive summary” of this AcMP) describes the Land Transport Programme process and its work categories.

ADC budget work areas and proposed costs (\$000) are detailed in Annex IV to this Appendix. **Note:** The amounts detailed in Annex IV do NOT provide for anticipated inflation.

## E- 11.2 Pavements

All work receives financial assistance from the NZ Transport Agency. Refer also to Drainage below and Appendix I for additional work items.

This work category includes maintenance of pavements at railway level crossings and pre-reseal repairs. The latter are estimated to cost 15% of that year’s budget value for resealing work. This is an empirical figure based on experience of contractors and road controlling authorities over the years.

The Budget forecasts are based on current contract rates, and are adjusted for growth as follows, and for planned major new works included in the financial forecasts:

**Table E-2 Pavement Maintenance Growth Rates**

Growth Rate	Applies to
Rural Sealed Network Growth	Rural Sealed Road maintenance
Urban Network Growth	Urban road maintenance
No Growth	Rural Unsealed roads Urban Unsealed roads

## E- 11.3 Drainage

Day to day maintenance for drainage assets is included in the Pavement General Maintenance category above. This includes rural roadside drainage, kerb and channel maintenance, etc.

The Budget forecasts are based on current contract rates, and are adjusted for growth as follows, and for planned major new works included in the financial forecasts:

**Table E-3 Drainage Maintenance Growth Rates**

Growth Rate	Applies to
Rural Sealed Network Growth	Rural sealed drainage maintenance
Urban Network Growth	Urban drainage maintenance
No Growth	Rural Unsealed roads Urban Unsealed roads

## E- 11.4 Bridges and Other Structures

The projections provide for a comprehensive programme of work, which is partly included here partly in Appendix F - Demand, New Works and Improvements and partly in Appendix I - Renewals. The

total programme is based on regular inspection and assessment reports by service providers, historical expenditure patterns, and the maintenance of additional assets (Rangitata water race structures). It allows for ongoing bridge inspections and provides a high level of preventative maintenance.

#### E- 11.4.1 Routine Maintenance

The service provider Bridge Inspection report identifies Routine Maintenance needs and classifies their urgency using the following descriptions:

**Table E-4 Routine Bridge Maintenance Needs**

Priority	Complete ...
Urgent	ASAP
High	within 1 year
Medium	within 5 years
Low:	as resources allow

#### E- 11.4.2 Structural Maintenance

Structural maintenance needs were assessed using the same priority-allocation system as routine bridge maintenance. **Note:** Much of this work is scheduled in Appendix I Renewals.

#### E- 11.4.3 Investigation Needs

Recommended further investigation needs were assessed as being:

**Table E-5 Bridge Investigation Needs**

Priority	Estimate
Urgent:	
High: Complete within 1 year	
Medium: Complete within 5 years	
Low: Complete as resources allow.	

#### E- 11.4.4 Budget Forecasts

These recommendations, together with the routine bridge maintenance costs from the Road Maintenance contract, are included in the appropriate budget forecasts at Annex IV and Annex V. There is no provision for growth in the asset base in these budgets, as no new bridges are planned. Should this change, appropriate provisions will be made.

### E- 11.5 Environmental Maintenance

This category includes a significant number of activities, primarily with elements relating to safety, which are detailed in NZTA's Planning and Investment Knowledge Base. In broad terms, it includes:

- ◆ Mowing of roadsides and rest areas (except the areas behind kerbs in urban areas)
- ◆ Other vegetation control
- ◆ Snow clearing and ice control
- ◆ Removal of surface detritus and minor-slip material from road surfaces
- ◆ Maintenance of road-runoff treatment facilities and areas
- ◆ Crash-site clearance costs not met by emergency services, and

- ◆ Removal of abandoned vehicles

All work meeting these descriptions attracts NZTA financial assistance and is carried out under the principal road maintenance contract and/or by council staff.

The Budget Forecasts are based on current contract rates, and are adjusted for growth as follows:

**Table E-6 Environmental Maintenance Growth Rates**

<b>Growth Rate</b>	<b>Applies to</b>
Rural Sealed Network Growth	Mowing (part) Vegetation Control (part) Surface Detritus Control
Total Network Growth	Abandoned Vehicles Crash Clearance Snow and Ice control
Urban Network Growth	Vegetation Control (part) Mowing (part) Stormwater treatment

Planned major new works included in the financial forecasts are not expected to have any effects beyond those provided for by these growth rates.

## **E- 11.6 Traffic Services**

This work is grouped here for convenience, as like Traffic Services assets, it primarily relates to safety. This category includes a number of activities, which are detailed in NZTA's Planning and Investment Knowledge Base. In broad terms, it includes:

- ◆ Traffic signs
- ◆ Road marking
- ◆ Delineation
- ◆ Sight-rails
- ◆ Streetlighting including pedestrian crossing lighting

All work meeting these descriptions attracts NZTA financial assistance and is carried out under the principal Road Maintenance contract, the Roadmarking Contract and the Streetlighting Contract.

Historical expenditure indicates a pattern of increasing power costs for street lighting; however, only known increases in electricity costs are included in the forecasts.

The Budget Forecasts are based on current contract rates, and are adjusted for growth as follows:

**Table E-7 Traffic Service Maintenance Growth Rates**

<b>Growth Rate</b>	<b>Applies to</b>
Traffic Network Growth	Signs & Delineation Markings
Urban Network Growth	Streetlighting
No Growth	Sight Rails

Planned major new works included in the financial forecasts are not expected to have any effects beyond those provided for by these growth rates.



## E- 11.7 Operational Traffic Management

This category includes a number of activities, detailed in NZTA's Planning and Investment Knowledge Base that are not particularly relevant to the Council's current needs or operations; relevant maintenance includes:

- ◆ Traffic signals – including power
- ◆ Speed control devices and threshold treatments
- ◆ Incident response and management

All work meeting these descriptions attracts NZTA financial assistance and is carried out under the principal Road Maintenance contract, and the Traffic Signals Maintenance Contract.

The Budget Forecasts are based on current contract rates and those obtainable for specific services. Generally, growth is not provided for in the specific rates; rather, it is applied indirectly by calculating total costs based on rates applied to the works, e.g. the costs of managing the resealing contract is obtained by multiplying the cost of the work by the rate for managing it. However, growth is provided for the following specific works in this category:

**Table E-8 Operational Traffic Management Growth Rates**

<b>Growth Rate</b>	<b>Applies to</b>
Traffic Network Growth	Traffic Counting
Sealed Network Growth	RAMM Rating
Total Network Growth	Inventory management and software Deterioration modelling Professional fees (internal and external)
No Growth	Nil

## E- 11.8 Cycle Path Maintenance

Only facilities consistent with the Council's Walking and Cycling Strategy are eligible for NZTA financial assistance. Other facilities are maintained "unsubsidised". All work is carried out under the principal Road Maintenance contract.

The Budget forecasts are based on current contract rates, and are adjusted for the growth provided for in the new works programme.

## E- 11.9 Level Crossing Warning Devices

All this work is determined, assessed, prioritized and carried out by OnTrack on behalf of the Crown.

This work currently attracts financial assistance at 100%. The Budget forecasts are based on current costs, and are adjusted only for the growth provided for in the new works programme.

Only the warning devices are covered by this work category. Maintenance of the pavements at the crossings is included in the Pavement Maintenance categories (see E- 11.2).

### E- 11.10 Emergency Reinstatement

These are the unforeseen significant expenditures that arise from defined, major, short-duration natural events<sup>4</sup>

No budgets are provided in anticipation of such events; rather, the Council will raise a loan to cover its share of costs when the need arises.

### E- 11.11 Network and Asset Management

The scope of this work category is not directly defined in the NZTA Knowledge Base; however, it is defined, in passing, under Work Category 003, Activity Management Plans. It includes:

- ◆ Implementation and operation of asset management systems
- ◆ Operation and management of the land transport network
- ◆ Network surveys

To simplify preparation, and to aid interpretation and understanding, all Professional Service Maintenance budgets are detailed in section E- 12 below. Budget Forecasts are based on current contract rates, and are adjusted for growth as follows:

**Table E-9 Network Asset Management Growth Rates**

Growth Rate	Applies to
Traffic Network Growth	Incident response
Urban Network Growth	Speed control devices etc
No Growth	Traffic signal

## E- 12 Professional Services Expenditure

To simplify preparation, and to aid interpretation and understanding, all Professional Services Maintenance budgets are detailed in this section, including many of the network management activities, most of which are subsidised. Professional services for capital works and renewals are included in Appendix F and Appendix I.

### E- 12.1 Categorization

Professional services costs fall into the following broad categories. Costs in each of these categories are calculated separately for each of the areas detailed in this sub-section, but are typically not presented separately in the budgets.

#### E- 12.1.1 Internal Costs

Internal professional services costs include staff time, travel and associated costs and the share of overheads those staff attract. The NZ Transport Agency's rules do not allow cost-inputs to be charged directly to the Agency; rather, claims for financial assistance must be based on total cost of the individuals involved, including all applicable overheads.

Applicable overheads include:

<sup>4</sup> NZTA Planning and Investment Knowledge Base – Work Category 141 Emergency Works

- ◆ Vehicle costs
- ◆ Telecommunications
- ◆ Office space and equipment
- ◆ Immediate supervision
- ◆ Computer and other IT costs
- ◆ Protective clothing and specialist equipment
- ◆ Leave
- ◆ Training and professional development

#### E- 12.1.2 External Costs

External costs include:

- ◆ Specialist advice and assistance on maintenance-related matters, including:
  - ◇ Bridge inspections,
  - ◇ Network surveys, including traffic counting
  - ◇ Condition assessment and rating, and
  - ◇ Asset Management, including preparation and revision of Activity Management Plans
- ◆ Costs of other functions sourced from outside the Council including:
  - ◇ Management and observation of the Road maintenance Contract
  - ◇ Implementation and operation of asset management systems
  - ◇ Data collection

#### E- 12.2 Studies and Investigations (W/C 002)

Although strictly part of New Works, these projects are included here, as the expenditure usually cannot be capitalised.

The NZTA's *Planning and Investment Knowledge Base* contains a comprehensive list of the types of work that can be included in this category. The types most relevant to the District are the preparation of:

- ◆ Walking and cycling strategies and studies
- ◆ Parking management strategies and studies
- ◆ Network transportation strategies and studies
- ◆ Crash reduction studies

These activities are budgeted on a project basis, and project budgets make no allowances for growth.

The following studies and investigations are planned, and are included in the budget forecasts:

**Table E-10 Planned Studies**

Study / Strategy	Action	When
Walking and Cycling Strategy update	Review and update	2011 and 3-yearly thereafter
District crash reduction study	New study based on latest data	2011/12 and 5-yearly thereafter
Ashburton Transportation Study	Check validity of assumptions and conclusions upon release of latest census data.	2015 and 2022, following release of the 2013 and 2020 census data

Study / Strategy	Action	When
District Transportation Study	New Study to replace the Ashburton Transportation Study which will be 15 to 20-years old	2023, followed by two 5-yearly reviews following release of census data

These studies are necessary to ensure that the Council's decision-making is based on appropriate and relevant data and that the needs of present and future customers are understood and provided for appropriately.

### E- 12.3 Activity Management Plans (W/C 003)

The NZ Transport Agency's definition of this type of service includes:

- ◆ Preparation and updating of
  - ◇ activity management Plans
  - ◇ road safety action plans
  - ◇ safety management systems
  - ◇ risk management strategies including:
    - safety management systems and strategies
    - environmental management strategies
- ◆ Consultation associated with AcMPs
- ◆ Demand forecasting
- ◆ Development of levels of service
- ◆ Asset performance and gap analysis
- ◆ Asset valuations
- ◆ Financial forecasting
- ◆ Deterioration modelling

Budget Forecasts are based on current costs, approved staffing levels and contract rates; they are adjusted for growth as follows:

**Table E-11 Activity Management Plan Growth Rates**

Growth Rate	Applies to
Sealed Network Growth	Deterioration modelling
Total Network Growth	All other aspects

The NZ Transport Agency's financial assistance rate for qualifying services in this category is the Construction Rate (Base Rate +10%).

The majority of the work in this category is of an on-going nature and occurs annually. However, some aspects are periodic in nature. These are provided for as follows:

**Table E-12 Planned Professional Services**

Document / Output	Action	When
Safety Management System	Review and update	2010/11 and 3-yearly thereafter
AcMP levels of service	Re-consult on levels of service and review agreed levels of service	2011/12 and 6-yearly thereafter in conjunction with major reviews of LTP Community Outcomes (see LGA 2002 s91)
AcMP Performance Measures	Review	2011/12 and 6-yearly thereafter in conjunction with Community Outcome reviews

These works are necessary to ensure that the Council's decision-making is based on appropriate and relevant data and that the needs of present and future customers are understood and provided for appropriately.

## E- 12.4 Network and Asset Management (W/C 151)

The scope of this work category is defined in the NZTA Planning and Investment Knowledge Base – Work Category 151 Network and asset management. It includes:

- ◆ management of the road network
- ◆ promotion and information activities (Network user information) which maximise the efficiency of the road network in support of the activity management plan.
- ◆ implementation and operation of road asset management systems
- ◆ roughness and condition rating surveys
- ◆ traffic count surveys, including pedestrian and cycle counts
- ◆ road network inspections and field validation of proposed programmes
- ◆ legalisation of existing road reserves

### E- 12.4.1 Trees Shading Roads

The east-west orientation of many roads in the network, the prevalence of strong winds and the District's climate have combined to produce a long-running problem caused by dense shelter-belts being established on the north side of rural roads by farmers and other rural residents. These shelter belts prevent the winter sun from warming and drying the adjacent road, which then freezes earlier and longer, and allows snow to accumulate earlier, than it does on adjacent sections of the carriageway. This creates safety problems and increases maintenance needs.

The Council has a formal policy for the control of trees shading roads. Staff working under this policy observe the network annually, in the September-October period, issue notices to land-owners requiring hedgerows in this category to be trimmed.

### E- 12.4.2 Budget Forecast

Budget Forecasts are based on current costs, approved staffing levels and contract rates. Most aspects of this work are budgeted as percentages of the work that they influence, e.g. reseal contract management at 8% of the reseal contract price, thus the growth elements in these amounts are provided through the growth of the works themselves. However, some activities are not covered this way; they are adjusted for growth as follows:

**Table E-13 Network and Asset Management Growth Rates**

Growth Rate	Applies to
Traffic Network Growth	Incident response
Sealed Network Growth	Data collection Condition rating
Total Network Growth	Traffic Counting

The majority of the work in this category is of an on-going nature and occurs annually. However, some aspects are periodic in nature. These are provided for as follows:

**Table E-14 Planned Network Management Tasks**

Document / Output	Action	When
Principal road maintenance contract	Review, revise, and re-let	2011/12 and 5-yearly thereafter

Document / Output	Action	When
RAMM Rating contract	Review, revise, and re-let	Annually
Roadmarking contract	Review, revise, and re-let	2014/15 and 5-yearly thereafter
Streetlight Maintenance contract	Review, revise, and re-let	20011/12 and 3-yearly thereafter

These tasks are necessary to ensure that the Council meets its agreed levels of service in the most cost efficient and effective manner.

## E- 13 Community Programmes(W/C 432)

This activity is for Council's contribution to community based road safety education and promotion through the services of the Road Safety Coordinator. The financial assistance rate for this work category is 56%.

The *Planning and Investment Knowledge Base* details the scope and other factors surrounding this work, which implements the Council's Road Safety Action Plan. The scope of the activities includes addressing all aspects of safe and sustainable use of the network.

Details of the proposed activities are contained in the Safety Management System documents, the master-copies of which are held by the Road Safety Coordinator and the Rooding manager respectively.

The Road Safety Action Plan has an annual review by various parties organized by the Ashburton District Road Safety Coordinating Committee ADRSCC.

Budget Forecasts are based on current costs and approved staffing levels; they are adjusted for growth as follows:

**Table E-15 Network and Asset Management Growth Rates**

Growth Rate	Applies to
Traffic Network Growth	All

## E- 14 Unsubsidised Maintenance

The following maintenance is not financially supported by the NZ Transport Agency and is therefore carried out "unsubsidised".

- ◆ Footpath maintenance
- ◆ 70% of the cost of street cleaning
- ◆ Maintenance of berms behind kerb and channel
- ◆ Amenity lighting
- ◆ Maintenance of streetscape, street furniture and street trees

### E- 14.1 Footpath Maintenance

Footpath maintenance work is funded from four separate accounts set up for Ashburton, Methven, Rakaia and Rural Towns.

Footpath maintenance work has had additional funding allocated in recent years to improve cleaning in the Ashburton CBD area, and to provide minor levelling to improve footpath surfaces.

The Budget Forecasts are based on current contract rates, and are adjusted for growth as follows:

**Table E-16 Footpath Maintenance Growth Rates**

<b>Growth Rate</b>	<b>Applies to</b>
Ashburton, Methven, Rakaia growth rate	The relevant township
No Growth	Other townships

However, where specific developments are planned by the Council for rural townships, or specific private developments are underway in them, provision is made for the future maintenance of the footpaths based on that known growth.

## **E- 14.2 Street Cleaning**

The NZ Transport Agency financially supports 30% of the cost of street cleaning in urban areas, whether the road is a local road or a state highway. The balance of the cost, 70%, is met from unsubsidised expenditure. In common with footpath maintenance, the unsubsidised portion of this work is funded from four separate accounts set up for Ashburton, Methven, Rakaia and Rural Towns.

The Budget Forecasts are based on current contract rates, and are adjusted for growth as follows:

**Table E-17 Street Cleaning Growth Rates**

<b>Growth Rate</b>	<b>Applies to</b>
Ashburton, Methven, Rakaia growth rate	The relevant township
No Growth	Other townships

## **E- 14.3 Parking**

An Ashburton Parking Strategy May 2010 has been prepared and is currently being reviewed by Council prior to adoption. It includes identification of and an appropriate approach to maintenance of off/on street parking areas..

### **E- 14.3.1 Parking meters**

Parking meters are not a "Transportation Network" asset. Management and operation of the Council's parking meters is the responsibility of the Regulatory Section of the Corporate Services department of the Council. The Council employs a Parking Meter technician, who carries out all required maintenance, and renewal works on the meter-heads; the costs of this work are met from the Regulatory budget.

## **E- 14.4 Streetscape**

Costs are not currently identified separately, and are included under the principle Road Maintenance contract.

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## E- 15 Civil Defence and Emergency Management

The Council must ensure that it will be able to meet its obligations under the Civil Defence Emergency Management Act 2002. That Act declares every entity that operates a roading network to be a lifeline utility, and in Section 60, says:

*“Every lifeline utility must ensure that it is able to function to the fullest possible extent, even though this may be at a reduced level, during and after an emergency.”*

The Act also requires all lifeline utilities to:

- ◆ have plans for such functioning (continuity) that can be made available to the Director of the Ministry of Civil Defence & Emergency Management (CDEM)
- ◆ participate in CDEM planning at national and regional levels where requested
- ◆ provide technical advice on CDEM issues where reasonably required

In recognition of the importance of the roading network both during and after a disaster event, the Council has developed an Emergency-Routes Map.

ADC roading staff maintain liaison with the ADC Civil Defence Officer, who is also responsible for Rural Fire control.

Local arrangements are documented in the Regional Civil Defence Emergency Management Plan, which recognises the critical importance of the transportation network for emergency response. It also documents plant resources available for emergencies. The Rural Fire Plan also recognises the importance of the roading network for fire-fighting access. The ADC Emergency Management Plan is based on the requirements of the Canterbury CDEM Group Plan (2005-2010) the CDEM Act and the Council's operational policies and standards. (This Canterbury CDEM Group Plan is still valid but its updating has been delayed due to the Christchurch Earthquake; it is now expected to be completed in early/mid 2012. The ADC plan is awaiting this update so that it can reflect any changes that have been made to the Group Plan).

The Ashburton River is generally not suitable for fording, even when there is little or no visible flow in it.

Maintenance contractor responses in an emergency event are documented in the maintenance contracts.

## E- 16 Total Maintenance and Operating Expenditures

Total estimated maintenance and operating costs for the next ten years are summarised in Annex V . The costs shown assume no change in the method of service delivery. The sub-headings used reflect NZ Transportation Agency categories.

These costs are shown for Roothing, Footpaths and Parking; they exclude depreciation and interest costs, which are covered in Appendix J.

## E- 17 Improvement Actions

Improvements identified in this section are summarised below:



**Table E-18 Maintenance Plan Improvement Actions**

<b>Maintenance Plan</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
E1	Prepare an Emergency Response Plan for the ADC transport network	Medium	
E2	Develop standard engineering practices for inspection of bridges and other vulnerable structures following significant earthquakes and floods.	High	

- Annex I ADC Period Contracts
- Annex II Transportation Network Policies
- Annex III Maintenance Intervention Adjustments
- Annex IV Maintenance Programmes
- Annex V Financial Summary

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# Annex I ADC Period Contracts

**Table E-19 Contract Commitments as @ 30/6/2011**

Roading and Street Services

Contract	Description	Area	Contractor	Contract Value	Revised Contract Sum	Expenditure to 30/6/2011	Balance Outstanding	Op & Mtce	Cap & CR
<b>Roading, Footpaths, Public Conveniences and Solid Waste</b>									
C524	Road and Footpath Mtce 07/08 - 09/10	Roading, Footpaths, Toilets	Fulton Hogan Ltd	\$6,876,178	\$15,544,558	\$13,694,463	\$1,850,095	\$1,239,564	\$610,531
C556	Road Marking	Roading	Spraymarks Roadmarking	\$468,863	\$463,863	\$234,476	\$229,387	\$225,187	\$4,200
C585	Methven Minor Town Mtce	Roading, Footpaths, Toilets, Solid Waste	Ashburton Contracting Ltd	\$203,440	\$203,440	\$79,366	\$124,074	\$124,074	
C521	Rakaia Minor Town Mtce	Roading, Footpaths, Toilets	Rakaia Properties	\$302,625	\$415,623	\$389,300	\$26,323	\$26,323	
C582	PS Roothing Tasks 2010-11	Roading	Opus International	\$142,790	\$144,990	\$92,625	\$52,365	\$11,520	\$40,845
C596	Minor Improvements - Rural Intersection Sealing 2010.11	Roading	Fulton Hogan Ltd	\$198,267	\$200,769	\$189,986	\$10,783		\$10,783
C597	Minor Improvements - Urban Intersection Upgrades	Roading	Paul Smith Earthmoving Ltd	\$189,010	\$189,010	\$0	\$189,010		\$189,010
C598	Trevors Road - Carew - Intersection Upgrades 2010-	Roading	Paul Smith Earthmoving Ltd	\$366,432	\$366,432	\$0	\$366,432		\$366,432

	2011								
				\$8,747,605	\$17,528,685	\$14,680,216	\$2,848,469	\$1,626,668	\$1,221,801
<b>Roading</b>									
C524	Road and Footpath Mtce 07/08 - 09/10	Roading, Footpaths, Toilets	Fulton Hogan Ltd	\$6,384,958	\$14,638,151	\$12,947,617	\$1,690,534	\$1,089,003	\$601,531
C556	Road Marking	Roading	Spraymarks Roadmarking	\$468,863	\$463,863	\$234,476	\$229,387	\$225,187	\$4,200
C585	Methven Minor Town Mtce	Roading, Footpaths, Toilets	Ashburton Contracting Ltd	\$0	\$0	\$0	\$0		
C521	Rakaia Minor Town Mtce	Roading, Footpaths, Toilets	Rakaia Properties	\$0	\$0	\$0	\$0		
C582	PS Roothing Tasks 2010-11	Roading	Opus International	\$142,790	\$144,990	\$92,625	\$52,365	\$11,520	\$40,845
C596	Minor Improvements - Rural Intersection Sealing 2010.11	Roading	Fulton Hogan Ltd	\$198,267	\$200,769	\$189,986	\$10,783		\$10,783
C597	Minor Improvements - Urban Intersection Upgrades	Roading	Paul Smith Earthmoving Ltd	\$189,010	\$189,010	\$0	\$189,010		\$189,010
C598	Trevors Road, Carew - Intersection Upgrades 2010-2011	Roading	Paul Smith Earthmoving Ltd	\$366,432	\$366,432	\$0	\$366,432		\$366,432

<b>Footpath</b>										
C524	Road and Footpath 07/08 - 09/10	Mtce	Roading, Footpaths, Toilets	Fulton Hogan Ltd	\$312,120	\$624,623	\$520,583	\$104,040	\$95,040	\$9,000
C585	Methven Town Mtce	Minor	Roading, Footpaths, Toilets, Solid Waste	Ashburton Contracting Ltd	\$101,410	\$101,410	\$31,628	\$69,782	\$69,782	
C521	Rakaia Town Mtce	Minor	Roading, Footpaths, Toilets	Rakaia Properties	\$43,953	\$60,365	\$56,829	\$3,536	\$3,536	
<b>Public Conveniences</b>										
C524	Road and Footpath 07/08 - 09/10	Mtce	Roading, Footpaths, Toilets	Fulton Hogan Ltd	\$179,100	\$281,784	\$226,263	\$55,521	\$55,521	
C585	Methven Town Mtce	Minor	Roading, Footpaths, Toilets	Ashburton Contracting Ltd	\$64,160	\$64,160	\$35,928	\$28,232	\$28,232	
C521	Rakaia Town Mtce	Minor	Roading, Footpaths, Toilets	Rakaia Properties	\$107,862	\$148,137	\$139,460	\$8,677	\$8,677	
<b>Solid Waste</b>										
C585	Methven Town Mtce	Minor	Roading, Footpaths, Toilets, Solid Waste	Ashburton Contracting Ltd	\$37,870	\$37,870	\$11,810	\$26,060	\$26,060	
C521	Rakaia Town Mtce	Minor	Roading, Footpaths, Toilets	Rakaia Properties	\$118,056	\$162,137	\$150,737	\$11,400	\$11,400	
<b>Parks and Reserves</b>										
C521	Rakaia Town Mtce	Minor	Roading, Footpaths, Toilets, Solid Waste	Rakaia Properties	\$28,062	\$38,540	\$35,830	\$2,710	\$2,710	

<b>Water Meter Reading</b>									
C521	Rakaia Minor Town Mtce	Roading, Footpaths, Toilets, Solid Waste	Rakaia Properties	\$4,692	\$6,444	\$6,444			
				\$8,747,605	\$17,528,685	\$14,680,216	\$2,848,469	\$1,626,668	\$1,221,801

Operating Commitments

Less than one year	<30/06/2012	\$1,626,668
Between one and two years		
Between two and five years		
Greater than five years		
		\$1,626,668
		\$1,626,668

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## Annex II Transportation Network Policies

The list below is the relevant detail from the Central Policy Register (Refer to Appendix U-5 ADC Policies). The detail of the policies is not contained here; please refer to Council's website <http://www.ashburtondc.govt.nz/council/policyregister.htm> for the relevant policy wording

Council has adopted a number of policies to ensure that the transportation network is safe and well-maintained. All adopted Council policies are detailed in the Central Policy Register. Those relevant to the activity are:

- ◆ Policy for Maintenance of Low Use Unsealed and/or Unformed Roads
- ◆ Policy for the Control or Removal of Vegetation that is Damaging the District's Roads or Creating a Safety Hazard
- ◆ NRP Agreement between The NZ Transportation Agency New Zealand and Ashburton District Council 2001-2006
- ◆ Guidelines / Procedures for prioritising unsealed roads for sealing
- ◆ Policy for Installation of Stock Underpasses
- ◆ Policy for Supply and Installation of road name signage
- ◆ Policy for the use, design, location and supply of traffic signs and markings
- ◆ Policy for hanging of banners on street poles
- ◆ Street redevelopment policy – grassed berms and street widths
- ◆ Urban subdivisions: beautification measures
- ◆ Cattle / stock crossing roads code of practice
- ◆ ADC Neighbourhood Open Space Strategy

Reference should also be made to the Services and Operations Policy Register (includes reference to subdivision charges).

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## Annex III Maintenance Intervention Adjustments

Standard maintenance intervention triggers are altered in a number of circumstances to help ensure that life-cycle costs are minimised. These adjustments cover things such as alteration of the “dig-out repair specification in the years immediately before a scheduled rehabilitation and additional maintenance work prior to re-sealing.

Maintenance Intervention Adjustments can be considered as the basis of a formal Maintenance Intervention Strategy. The Council does not have such a strategy and currently has no plans to prepare one; however, the need to reconsider this is included in the Improvement Plan.

The Maintenance Intervention Adjustments table uses the following nomenclature to describe the changes to normal maintenance for different circumstances:

- ◆ Trigger: The Event that causes or requires a change to normal maintenance procedures
- ◆ Trigger Lead-Time / Delay and duration: The period before or after the trigger-event during which normal maintenance is affected
- ◆ Primary Asset Elements Affected: The parts of the road that are subject to the changes
- ◆ Adjustments to Normal Maintenance: Outline descriptions of the changes that are applied to / deviations from normal maintenance practices.

**Table E-20 Maintenance Intervention Adjustments**

Trigger	Trigger Lead-Time / Delay and duration	Primary Asset Elements Affected	Adjustment to Normal Maintenance
Carriageway Reseal	1-year before programmed reseal	<ul style="list-style-type: none"> <li>•Sealed Surface</li> <li>•Pavement Layers</li> <li>•SWC shallow</li> </ul> Structural	<ul style="list-style-type: none"> <li>•Carry out pre-reseal repairs on surface and structure.</li> <li>-Some defects normally patched with cold-mix may be chip sealed</li> <li>-Includes local levelling and adjustment of service-covers</li> <li>•Remove high shoulders on rural roads</li> </ul>
	Six-months before programmed reseal (i.e. in season reseal is programmed)	<ul style="list-style-type: none"> <li>•Markings</li> </ul>	<ul style="list-style-type: none"> <li>•Faded marks acceptable provided they are visible at operating speeds, repainted if necessary to ensure safety (e.g. limit lines no longer present).</li> </ul>
	After reseal		<ul style="list-style-type: none"> <li>•First-coat marking and replacement of RRPMS is responsibility of resealing contractor. Maintenance and re-coating of these is the responsibility of the road marking contractor</li> </ul>
	1-year after reseal	<ul style="list-style-type: none"> <li>•Pavement Surface</li> </ul>	<ul style="list-style-type: none"> <li>•Surface defects are the responsibility of / cost to the resealing contractor unless determined otherwise by the Engineer to the Resealing Contact.</li> </ul>

Trigger	Trigger Lead-Time / Delay and duration	Primary Asset Elements Affected	Adjustment to Normal Maintenance
Carriageway Rehabilitation	2-years before programmed rehabilitation/renewal	<ul style="list-style-type: none"> <li>•Pavement</li> </ul>	<ul style="list-style-type: none"> <li>•Dig-out depth reduced, in normal circumstances, by depth of proposed overlay / to 300mm, whichever is the lesser.</li> <li>•resurface as single-coat seal only</li> <li>•Tie-in to adjacent surface may be rougher than normal, but must still be safe at operating speeds.</li> <li>•Remove high shoulders on rural roads</li> </ul>
Carriageway Rehabilitation	1-year after reseal	<ul style="list-style-type: none"> <li>•Pavement Surface</li> <li>•Pavement Structure</li> </ul>	<ul style="list-style-type: none"> <li>•Surface defects are the responsibility of / cost to the resealing contractor unless determined otherwise by the Engineer to the Rehabilitation Contact.</li> <li>•Structural and other defects are the responsibility of / cost to the resealing contractor unless determined otherwise by the Engineer to the Rehabilitation Contact.</li> </ul>
Footpath Renewal	2-years before scheduled renewal	<ul style="list-style-type: none"> <li>•Footpath Surface</li> </ul>	<ul style="list-style-type: none"> <li>•Maintenance reduced to the minimum required to maintain pedestrian safety, including removal of all but minor tripping hazards.</li> <li>-Some defects normally patched with cold-mix may be chip sealed</li> </ul>
Footpath Resurfacing	1-year before programmed reseal	<ul style="list-style-type: none"> <li>•Footpath Surface</li> <li>•Footpath Structure</li> </ul>	<ul style="list-style-type: none"> <li>•Fix soft-spots, remove tree roots causing problems, fix broken / deficient storm-water pipes under the path</li> <li>-Some defects normally patched with cold-mix may be chip sealed</li> </ul>

## Annex IV Maintenance Programmes

The programmes appear on the following pages. They do not necessarily conform to the numbering or other conventions of this AcMP

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2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	General maintenance Reseal and Preseal Repairs Minor Township Work Provision for Unforeseen Work Specific Named Works Miscellaneous			
	<b>TOTAL PAVEMENT MAINTENANCE</b>			

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Maintenance contract Minor Township work Specific cleaning – siphons etc			
	<b>TOTAL STREET CLEANING (SUBS)</b>			
	Non-subsidised cleaning			

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Energy supply – street lights Streetlight maintenance Ped crossings power supply & operations Pedestrian crossings			
	<b>TOTAL CARRIAGEWAY LIGHTING</b>			
	Carriageway lighting – non-subsidised			

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Rail crossing warning devices			
	<b>TOTAL RAIL CROSSINGS</b>			

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Maintenance contract Traffic signal maintenance contract Traffic signal upgrade Roadmarking maintenance contract Road name sign upgrade contract Sundry work			

	Power supply – traffic services devices			
	<b>TOTAL TRAFFIC SERVICES MTCE</b>			
	Traffic signals non-subsidised			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	Preventive maintenance – vegetation control Litter control of verges Surface detritus Snow clearing and gritting Cattle stop maintenance Stock effluent dump station Emergency work			
	<b>TOTAL AMENITY/SAFETY MTCE</b>			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	General bridge maintenance Additional Work - Inspection May 2005			
	<b>TOTAL BRIDGE MAINTENANCE</b>			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	Cycleway Maintenance			
	<b>TOTAL CYCLEWAY MAINTENANCE</b>			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	Ashburton Methven Rakaia Rural towns			
	<b>TOTAL FOOTPATHS MTCE &amp; OPS</b>			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	To be completed			
	<b>TOTAL CAR PARKING MTCE &amp; OPS</b>			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	Management of routine maintenance Safety management systems RAMM and dTIMS RAMM & dTIMS licences Manage roading network			
	<b>TOTAL PROF SERVICES – SUBS MTCE</b>			
	Overheads - Roothing Operations mgmt – non subs Roothing Design – non subsidised Roothing			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	Ashburton Methven Rakaia Rural towns			
	<b>TOTAL F'PATHS O'HEADS &amp; OPS MGMT</b>			

<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	Transportation studies			
	<b>TOTAL REGIONAL INVESTIGATIONS</b>			

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<b>2011/12</b>	<b>Ashburton District Council Work Area</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Yr 0		Yr 1	Yr 2	Yr 3
	Road Safety			
	<b>TOTAL ROAD SAFETY</b>			



## Annex V Financial Summary

The financial summary is on the following pages. It does not necessarily conform to the numbering or other conventions of this AcMP

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**Table E-21 Detailed Future Maintenance and Operating Cost Projections**

<b>Maintenance and Operating only Roading and Footpaths</b>	<b>Year 1 12/13</b>	<b>Year 2 13/14</b>	<b>Year 3 14/15</b>	<b>Year 4 15/16</b>	<b>Year 5 16/17</b>	<b>Year 6 17/18</b>	<b>Year 7 18/19</b>	<b>Year 8 19/20</b>	<b>Year 9 20/21</b>	<b>Year 10 21/22</b>
<b>Subsidised M&amp;O</b>										
Pavement	1,347,541	1,523,272	1,534,682	1,582,257	1,629,724	1,681,876	1,740,741	1,805,149	1,866,524	1,931,852
Drainage	101,423	140,113	149,787	154,430	159,063	164,153	169,898	176,185	182,175	188,551
Traffic Services	706,204	727,371	776,304	800,370	824,381	850,761	880,538	913,118	944,164	977,209
Cyclepath	700	1,031	1,067	1,100	1,133	1,169	1,210	1,255	1,298	1,343
Bridge	92,000	45,849	49,545	51,081	52,613	54,297	56,197	58,276	60,258	62,367
Streetscape	515,610	546,739	582,650	600,712	618,733	638,533	660,881	685,334	708,635	733,438
Professional Services	496,721	590,691	641,105	660,979	680,808	702,594	727,185	754,091	779,730	807,020
Studies & Strategies	0	0	48,026	66,010	0	52,624	18,155	56,482	0	80,595
Activity Management Plans	110,773	74,619	103,507	57,621	59,350	113,435	63,393	65,738	125,888	70,352
Road Safety	108,890	112,338	116,372	119,818	123,511	127,631	131,928	136,799	141,608	146,455
<b>Non Subsidised M&amp;O</b>										
Professional Services	66,718	68,889	71,369	73,479	75,698	78,226	80,855	83,853	86,805	89,767
Street Cleaning	221,258	228,117	236,101	243,420	250,722	258,745	267,801	277,710	287,152	297,203
Traffic Signals	11,000	11,341	11,738	12,102	12,465	12,864	13,314	13,807	14,276	14,776
Carriageway Lighting	75,000	77,325	80,031	82,512	84,988	87,707	90,777	94,136	97,336	100,743
Township Mtce	12,711	13,105	13,564	13,985	14,404	14,865	15,385	15,955	16,497	17,075
Footpath	721,527	814,094	837,119	856,731	876,210	898,737	923,158	950,580	976,392	1,002,739
Parking										
<b>Total Maintenance &amp; Operations</b>	<b>4,588,077</b>	<b>4,974,892</b>	<b>5,252,966</b>	<b>5,376,606</b>	<b>5,463,804</b>	<b>5,738,217</b>	<b>5,841,418</b>	<b>6,088,466</b>	<b>6,288,739</b>	<b>6,521,485</b>





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# Appendix F Demand, New Works and Improvements

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# Appendix F Demand, New Works and Improvements

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*Legislative Background: Local Government Act 2002 Schedule 10 Clauses 2(1)(d)(i)-(iv) and (2)(b) and also Section 77 – the requirement to consider all reasonably practicable options and to assess the economic, environmental, social and cultural impacts of each option.*

## F- 1 Introduction

### F- 1.1 Introduction

This section identifies the need for, and estimates the costs of, providing additional asset capacity to meet:

- ◆ changes in demand for transportation services under Council control;
- ◆ the levels of service and standards that have been adopted by the Council for ,transportation services

To do this it identifies future new capital requirements, and explains the proposed future capital development strategy in terms of 'how' the provision of additional asset capacity will be undertaken – a specific requirement of the Act. In this context demand forecasting is particularly important as it provides the basis for changing requirements for the service provided and related costs.

The road network has evolved over the last 160+ years and has been gradually upgraded to the present standard. To maintain the present, and agreed, levels of service ongoing development of the roading network will be required.

In addition to these growth-driven demands the network is also subject to demands for improved levels of service in a number of specific areas. These needs arise from changes in land-use, changes in demographics and increased levels of community expectation, especially if there is a perception (justified or otherwise) that the improvement would come at no personal cost.

The need to upgrade roads to meet the changes in land use, especially conversion to dairying, has been recognised as one of the most significant issues on the future demand on roads. The trend to more lifestyle blocks has also changed the expectations of the travelling public in the rural sector. These roads are no longer used only by local farmers, but now have a much wider range of users who see the smoothness of the road surface and the condition as being increasingly important..

The Council will monitor, and plan for, the community's changing expectations. This will require improvements to unsealed roads, higher maintenance standards, and possible widening of some arterial and collector roads in the District. All these developments will require funding and this has been recognised in the 10-year budget for this activity.

Demand for new footpaths is expected to arise principally from subdivisions, where the paths are part of the development. Improvements are currently planned to footpaths in industrial areas, and to



provide a second footpath on some streets that currently only have a footpath on one side of the road. There may also be a need to consider providing footpaths in some rural areas to provide for increased pedestrian traffic especially around the perimeter of urban development. The current level of footpath upgrading provides a long-term footpath asset that meets the current expectations of users, and this level of service is not expected to change over the next 10 years.

Future demand is expected to arise from land development and land use changes that occur in the District, although there are other factors that also influence demand. The Ashburton District Development Plan (Boffa Miskell Ltd 2005) and the Small Villages Development Plan (2008) provide information on where demand may arise in the future. The Council undertakes condition inspections to help identify which footpaths need work to maintain their current condition and consults with the community to gauge where users require an improved standard.

### **F- 1.2     Future Demand –Development Plans**

The Ashburton Development Plan (Boffa Miskell, 2005) was adopted by Council in August 2005. Similar plans for all the other towns and townships in the District have since been completed. (Small Villages Development Plan (2008)) The need for these plans was driven by:

- ◆ Population growth, expected to add 6000 people in Ashburton alone by 2021 based on recent growth trends
- ◆ Changing demographics in relation to the Districts population age profile and household sizes
- ◆ Labour market changes, and attraction and retention issues
- ◆ Pressures on productive land and on water and soil resources
- ◆ Changing nature of business and industry growth and the relationship to township services
- ◆ Quality of urban environments
- ◆ Changing roles of dispersed villages.

The Development Plans form the basis for the planning and design of roading, water, stormwater and wastewater services and policy directions that feed into the LTP, and drives some changes in the District Plan.

The increasing demand for land, particularly industrial/commercial land, will result in the need to make significant investments in infrastructure, both new and in the upgrading of existing assets. This will also affect the level of financial contribution to be made by developers, as provided for in the legislation.

The first phase of the Ashburton Development Plan was a State of Play report, which focussed on key future issues in terms of:

- ◆ Landscape and Ecology
- ◆ Land Use Capability
- ◆ Transport
- ◆ Water Supply
- ◆ Wastewater
- ◆ Stormwater
- ◆ Irrigation
- ◆ Solid Waste
- ◆ Electricity
- ◆ Economy
- ◆ Community
- ◆ Population Projections and Growth

◆ Projected Land demand

The following issues from the Plan are of particular relevance to this AcMP:

- ◆ “Although it is expected that road transport will continue into the future as the primary means of movement within, to and from the District, some consideration is given to improving the options for walking, cycling and non-motorised transport in the main urban areas. There are issues associated with the State Highway 1 road transport corridor running through some towns, and strategies to minimise the adverse effects of the road (and maximise the opportunities for increased patronage of town commercial services for example) are important for consideration. It is also appropriate that over a longer planning period the potential for a rail passenger service to and from Christchurch and Ashburton be advocated for and the opportunity retained in any short to medium term planning decisions.
- ◆ There appear to be no highly significant capacity issues within the roading network for increased growth within the District and the main towns. The longer-term strategy of the Council is for more upgrading and improvements of the existing infrastructure to deal with some existing issues relating to congestion and manoeuvring in Ashburton town and upgrading other roads, for example unsealed roads, throughout the District.”

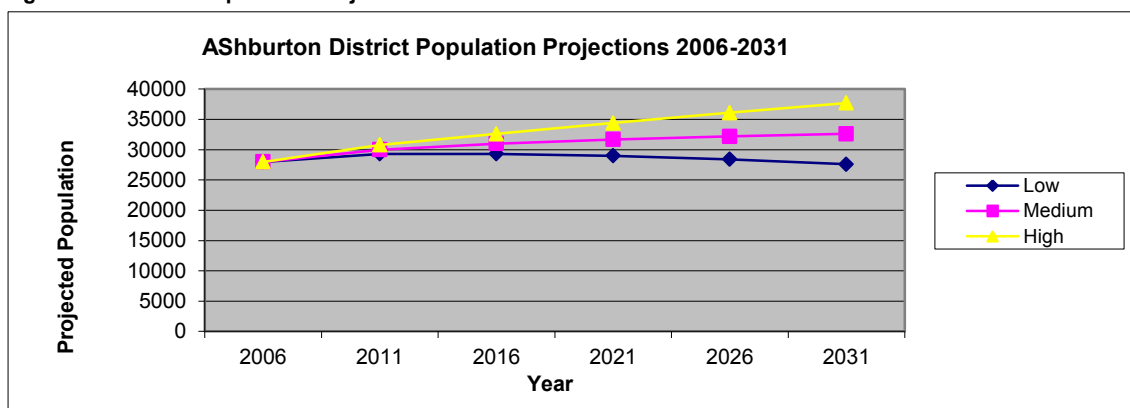
## F- 2 Population Projections and Growth

The Development Plan concluded that Statistics NZ projections are overly conservative. Based on analysis of the rapid growth since 2001 (e.g. building activity, subdivision consents, school rolls, real estate date, employment activity), the Plan estimates a future population of 32,000 by 2021, up from the base of 26,000 in 2001.

Following the 2006 census Council have applied a base population of 28030.

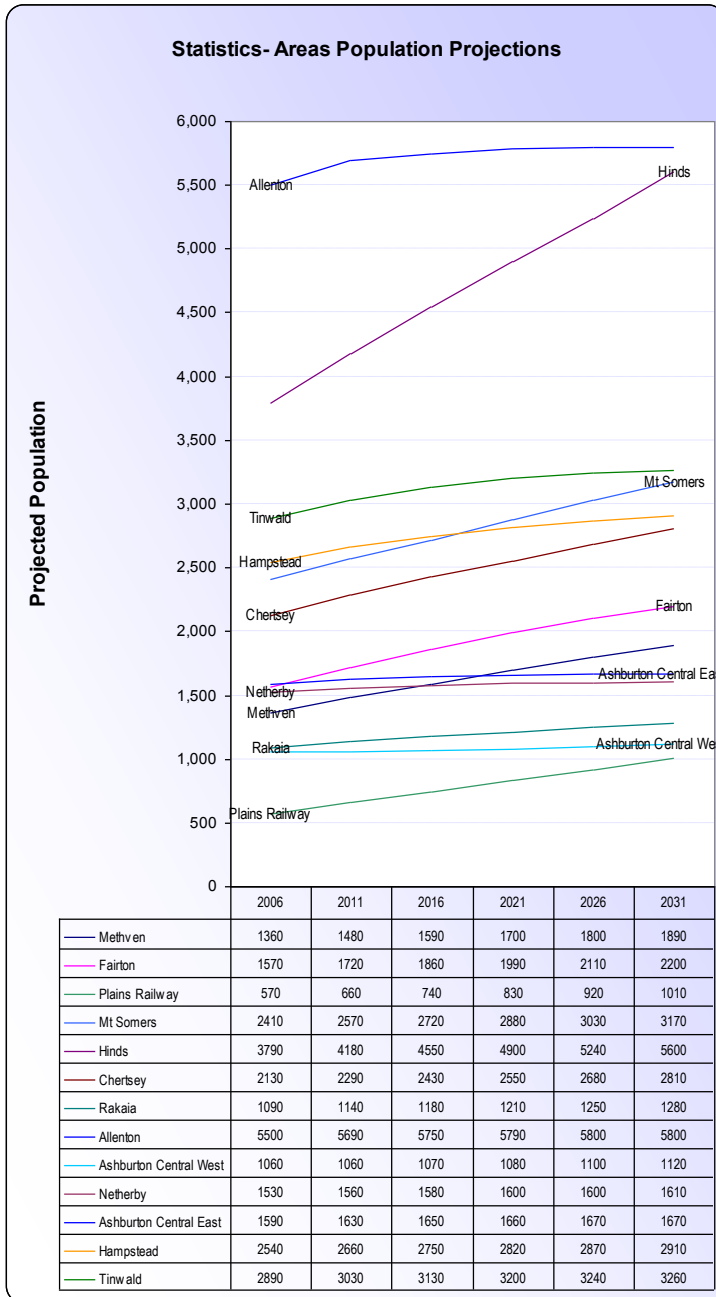
The following graphs show both the population projections for the District adopted by the Council. The population areas / localities used in Figure F-2 Township Population Projections are used by the Department of Statistics when reporting census data, they do not necessarily conform to current or proposed township boundaries as understood or defined by the Council and the District’s communities.

Figure F-1 District Population Projection



Source: [AD Pop Proj with Maunsell Graph 080923.xls] AD Population Projections, \$B\$11

Figure F-2 Township Population Projections



Source: [AD Pop Proj with Maunsell Graph 080923.xls]Graph of All, \$F\$18

The average household size (2.4 persons per household in 2001) is expected to decrease to between 2.1 and 2.2 persons per household by 2021. One-person households are projected to rise and to represent an increasing proportion of all households. In 2006 the average household size was 2.5 persons per household.

Over the next 15 years or so, under the high growth scenario the median age of residents of the District is expected to increase from 39.4 years (in 2001) to 48.3 years.

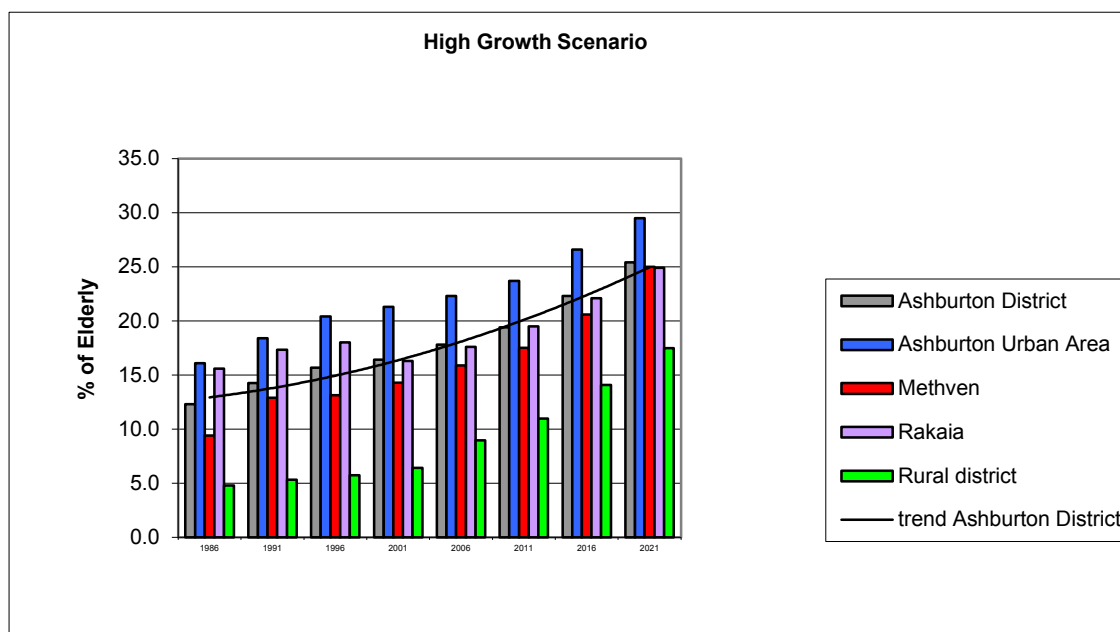
### F- 2.1 District Plan

The District Plan is a major controller, director and moderator of growth. The Council is currently (February 2012) completing the review of its District Plan with the intention of releasing its decisions in the latter part of the year.

### F- 2.2 Projected Demand for Land

Growth pressures are most evident in Ashburton, Methven and Rakaia townships, with villages such as Mt Somers also experiencing demand. The District Plan review is considering the need for additional land to be zoned for different types of development throughout the District. Not until that review has progressed will it be reasonable to assess the effects any re-zoning may have on the Transportation Network.

Figure F-3 Comparison of Growth Rates



### F- 2.3 Infrastructure Principles

The Principles and Vision for Development are defined in the Ashburton Development Plan and include: Settlement, Identity and Character, Street and Movement, Open Space, and Infrastructure. Those relevant to Roding infrastructure are embodied in Street and Movement and are::

- ◆ Provide safe and comfortable streets for walkers, cyclists, cars and other transport
- ◆ Provide for 'walkability' and cycling as healthy, sustainable and accessible ways of moving around
- ◆ Ensure streets are interconnected to assist with efficient movements, walkability and way finding
- ◆ Maintain and enhance the use of street trees to continue the precedent of tree use for scale, shade, visual amenity and definition of street hierarchy
- ◆ Establish clear hierarchies in street design to direct through traffic to arterial roads, distributor roads, local traffic to collector roads and residential traffic to neighbourhood streets
- ◆ Encourage the transport system to provide adequately for the community's long-term public transport needs

### F- 2.4 Development Options

The Ashburton Development Plan describes the options considered to meet future demand, in line with the vision and principles; outlines the consultation process followed in assessing these options, and describes the evaluation of the options.

The foci of the Plans are the towns and villages where the potential for change and the opportunities for growth to benefit the District, are most evident. These tend towards Ashburton, Rakaia and Methven as they are the areas experiencing the greatest growth pressures and highest projections of future growth; they are also places where the greatest numbers of people live, where the urban issues are most complex, and where the qualities of the urban environments influence the greatest number of people in the District.

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However, some of the District's smaller villages are also experiencing growth; their residents expressed their views on the need for change in their townships' environments, and for the townships to become places that play increasingly important roles in the District, through the Small Villages Development Plan. Although growth may not be quantitatively large, the potential for changes that can benefit the villages' viability and quality of life for residents has suggested some development recommendations as part of the plans.

Although no growth is planned for Barhill, it was included in the Small Villages Development Plan because of its historical significance.

The options selected focus on the following major components across the District:

- ◆ Residential land development
- ◆ Green belt residential zoning
- ◆ Industrial land zoning
- ◆ Town centres
- ◆ Infrastructure planning
- ◆ Traffic

Infrastructure planning is a key action arising from the development plans, and this will inform the staging of land release and the financial contributions sought from land developers.

Particular aspects of the development plans relating to infrastructure include:

- ◆ Tagging the release of residential land to reflect infrastructure provision and costs and demand
- ◆ Preparing structure plans in advance of rezoning to establish, inter alia, infrastructure and the appropriate level of financial contributions.
- ◆ Stormwater management and reticulation for new growth areas
- ◆ Consideration of infrastructure needs for other towns and villages, including costs and financial contributions.

In terms of transportation network management the following are to be considered in future planning:

- ◆ The need for a second crossing of the Ashburton River within the town is recognised in this plan, and funding for it included
- ◆ There are no other significant capacity issues and the longer-term strategy is to focus on upgrading and improving the existing infrastructure. In particular upgrading of unsealed roads
- ◆ Minimising the negative impacts of SH 1 where it passes through towns
- ◆ Improving walking, cycling and non-motorised transport in the main urban areas

In addition to specific assets in the various towns and villages within the District, the Ashburton Development Plan states that an overall District Wide Infrastructure Plan is a key priority. This should recognise the potential growth presented in the Development Plan and evaluate the suitability of areas identified for development, including:

- ◆ Confirmation of the adequacy of existing bulk infrastructure (e.g. plant such as sewerage treatment systems, water supply bores and treatment)
- ◆ Reticulation and connections infrastructure required to service new areas
- ◆ Financial contributions required to satisfy additional connections as required and to set rates for development

## F- 2.5 Implementation Plan

The components are illustrated in map form for Ashburton, Methven and Rakaia, copies of which are at Annex III to this Appendix. While the infrastructure capital expenditure implications have not yet been assessed and timelines have not yet been agreed by the Council, an item has been included in the future new capital requirements table for each major action, so that the costs and associated financial contributions can be incorporated in the AcMP once known.

## F- 3 Factors Influencing Demand

Further to the above, there are a number of significant subdivision developments occurring now, or expected to occur in the near future, that will affect transportation network assets. These include:

- ◆ North eastern area of Ashburton township – development of new residential subdivisions
- ◆ Farm Road residential development – about 90% complete, and continuing
- ◆ Infill of industrial / commercial land in the Tinwald area
- ◆ 2<sup>nd</sup> stage of Lake Hood development
- ◆ Other factors affecting future demand for transportation network assets include:
  - ◇ Transport and car ownership trends
  - ◇ Changing user / customer expectations
  - ◇ Tourism
  - ◇ District Plan
  - ◇ Regional Land Transport Strategy
  - ◇ Heavy vehicle regulations

### F- 3.1 Transport and Vehicle Ownership Trends

Nationally, there was a trend since the mid 1980's for falling real costs for private motor vehicle travel. This suffered a hiatus during the oil shock of 2007/2008 but it is too soon to determine whether those changes will be lasting, and the effects they might have on long-term transportation network demand, locally; the extent of the offset has yet to be established nationally. One outcome of the reduced costs of motoring is increased trip making, and therefore increased traffic volumes. This has affected busy routes most, potentially increasing delays – through increased numbers of slower drives and trucks and reduced passing opportunities because of more on-coming traffic — and potentially increased safety risks. This is not only an issue for District residents, but also for travellers moving through the District (e.g. use of Thompson's Track route as an informal "State Highway bypass").

There has also been a national trend towards smaller households, and typically, each household owns more private vehicles. Thus, the number of vehicles in NZ has increased significantly over the last decade.

Another influence on road-use is the relationship between places of work and places of residence. The relevant statistics from the 2001 and 2006 censuses are:

**Table 1 Places of work and residence**

		2001	2006

These trends have will be a factor leading to increased use of the District's road network. It is also likely that recreational traffic (e.g., weekend trips) will be significant with Christchurch visitors travelling on the network.

**Table F-2 Car Ownership**

Vehicle Type	2000	2005	% growth
Passenger car/van	15,021	17,349	15%
Other Vehicles	12,476	13,957	12%
Total All Vehicles	27,497	31,306	14%

The number of licensed drivers in the District is currently 41,581.

New Zealand has a relatively high rate of car ownership (approximately 0.554<sup>1</sup> cars per person) that has been increasing at a uniform rate over time and throughout the country. The national ratio of vehicle ownership per person based on the medium population growth scenario is expected to increase by 17% over the next 20 years.

This will have different effects in urban and rural areas, given the changing demographic patterns in each. For example, increased housing in rural areas associated with “lifestyle living” is expected to result in increasing growth on rural roads.

The major influences on the level of car ownership are:

- ◆ general level of economic activity
- ◆ real cost of motoring
- ◆ public transport availability
- ◆ household structure
- ◆ population demographics (e.g. the effects of an ageing population)
- ◆ legal driving age, and
- ◆ road user preferences

The key features of national trends from the 1970's to 2001 are:

- ◆ The numbers of cars and goods vehicles have increased every year throughout this period except 1992, when the number of cars dropped slightly for the first time in 20 years.
- ◆ The number of motorcycles increased rapidly in the 1970's, peaked in the mid-1980s and has since decreased by almost half.
- ◆ Car ownership is increasing at a reducing rate over time. This is likely to indicate that car ownership is approaching saturation level.

### F- 3.2 Changing Customer Expectations

A continuing trend of increasing customer expectations is anticipated.

Factors include the steadily improving quality of the roading network throughout NZ, growing recreational use, personal safety and security perceptions, driver behaviour (e.g. inexperience on unsealed roads), and a general lift in peoples' expectations about their quality of life and how this is influenced by the quality of the built environment (e.g. urban residential streets).

These will affect a number of assets, such as unsealed pavements, footpaths, lighting, etc.

These factors will also influence demand for traffic control measures (e.g. to slow or reduce traffic) and safety improvements.

<sup>1</sup> From 2001 census

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### F- 3.3 Changing Land Use Patterns in Rural Areas

Farm conversions and on-going development of the dairy industry in Canterbury and, to a lesser extent, increasing forestry planting, harvesting and processing, are increasing localised heavy traffic movements on routes to and from processing and distribution hubs. For example, on-going growth is increasing traffic movements to and from the Clandeboye dairy plant located in the north-eastern part of the adjoining Timaru District, as milk product is moved from rural Ashburton District to the plant and to new dairy facilities near Studholme (Waimate District) and Dunsandel (Selwyn District).

These loadings are affecting pavement assets in particular, with significant growth in heavy axle loadings causing increased deterioration. Greater numbers of larger, heavier vehicles also affects the need for geometric improvements, such as seal widening, and can affect the need for seal extensions on affected routes.

Increasing horticultural use on the Canterbury Plains may lead to pressure to reduce dust levels by sealing unsealed roads.

There is some conversion of cropping land to horticulture and market gardening occurring. This will result in a change in transport demand – whereas wheat requires an intensive, short period of freight demand, horticulture has a more spread out demand resulting from employment and trucking needs.

### F- 3.4 Industrial and Commercial Trends

There is a steady build-up of industry in existing areas, such as Tinwald. In addition,

- ◆ the NE Ashburton industrial Estate is now open for occupancy
- ◆ Dobson Street West has been extended to the Riverside Industrial Area thus improving access and therefore the desirability of this area
- ◆ The Ashburton stadium complex and Museum/Art Gallery sites have been determined

The NE Ashburton Industrial Estate utilises land that was in rural use. Development will not necessarily be related to the land-use of the District, and possibilities for manufacturing and/or central South Island distribution hubs, served by road and rail access, have been identified. This development has the following implications for the local and state highway networks:

- ◆ local road widening has been required on the roads linking the development to the balance of the network;
- ◆ major upgrades have been undertaken at two local road/state highway junctions.

Possible development of the Riverside Industrial Area creates a number of potential problems and gives rise to some significant traffic flow issues in the residential areas to the north and north east. These will need to be considered and resolved during the examination of development concepts and the associated RMA processes.

A major issue for Ashburton is the bulk-retail developments in the Moore St / Kermode St / Dobson St / Park St area immediately to the west of SH 1 — see Figure F-4 below. Developments include a Mitre 10 Megastore, a new Harvey Norman store, expansion of The Warehouse and changes for Smiths City, New World and possibly others. This concentration of activity will continue to have significant consequences:

- ◆ The close proximity of a school on Moore St remains a key safety concern, and may prompt additional safety measures, such as speed control
- ◆ The lack of capacity, need for intersection controls on local roads and the State Highway and access to the state highway will be key issues.



**Figure F-4 Bulk Retailing Developments**



Residents of Ashburton township are also concerned about the effects of increased heavy vehicle use on local roads, and where these vehicles park. This is both an enforcement and aesthetic issue.

### F- 3.5 Town Centres

Development and aesthetic improvement to retail centres of townships is often considered important by those business communities and many residents. Because they are driven by architectural rather than by engineering considerations these needs do not follow the same cycles as those of other assets. Also, as each upgrade is designed to meet new levels of service each is substantially a new work rather than a renewal, although renewal of some elements that have reached the ends of their useful lives may be included.

The Council raises the possibility of a town centre upgrade with the appropriate community and discussion then occurs before formal consultation is undertaken and plans prepared. Costs are shared between the respective business community and the District's ratepayers, in proportions determined by the Council.

Currently (2011) an upgrade of the Allenton centre is being considered. This may be extended to include Netherby and areas of the Ashburton CBD.

### F- 3.6 Tourism

Tourist numbers have continued to grow nationally and within the Canterbury region. The growing trend to free independent travellers (FIT's) has also continued in recent years, with increasing numbers of self-drive national and international travellers using the roading network.

More details about tourism and growth projections are provided in the ADC Tourism Activity Management Plan. Site visitor numbers reported by the Ashburton and Methven Visitor Centres were

97,548 for the 2004/05 year. Generally, tourism growth is expected to be more rapid than population growth, being in line with the Canterbury Region as per NZ Tourism Council forecasts. Growth will be particularly associated with skiing and outdoor pursuits.

The main impacts tend to be on the inter-District routes, particularly those used as alternatives to the SH network.

While increased tourism will not impact on the capacity of the roading network, it will drive demand for the sealing of more unsealed roads, the enhancement of signage for navigation purposes (e.g., information signs), information about tourism sites, a “no surprises” driver environment, and increased safety (e.g., right-hand side driving).

Town signage and information signs are a level of service issue as noted in the Tourism AcMP.

### **F- 3.7 Passenger Transport and Cycling**

Experience, local knowledge and lack of public agitation all indicate that there is low demand for passenger transport in Ashburton and other parts of the District; there are no subsidised services operating within the District, other than rural school buses and “Operation Mobility” taxis (supported by ECan) in Ashburton. Commercial bus services link the District to other major centres to the north and south. There are no passenger-rail links.

As noted earlier, there is generally a high level of car ownership with much of the population living in widely separated and thinly populated rural areas. Future energy shocks have the potential for significant adverse effects on accessibility throughout the District, and the Council needs to consider the nature of possible responses that it can make. These could include development of passenger transport services (in association with other stakeholders such as ECan) and the provision of safe cycling facilities in urban and rural areas.

### **F- 3.8 Rail Transport**

The only rail freight linkage parallels SH 1 to the north and south. Thus, any “competitive” effect between road and rail freight is of little significance to the District’s roading network. Only if a new railhead were established off the main trunk would there be a significant impact on local road freight volumes.

The process of negotiation for relocating the rail-freight yards to the Ashburton Industrial Park is continuing (2011) and provision for the relevant expenditure is included in the long term financial forecasts. The future use and status of the current yards, in the centre of Ashburton, is included in the negotiations.

However, as the rail corridor runs through the middle of the Ashburton business area, it does at times adversely affect accessibility across the town – long trains passing through the town can effectively close all crossings except one. This can lead to congestion and vehicle delays, particularly if the train stops for a period.

### **F- 3.9 District Plan**

The District Plan was adopted during 2002 and is “operative”. A review is underway (2011). It is envisaged that this Plan will be in force for at least the next decade. It links to the ActMP by:

- ◆ Defining a roading hierarchy with associated design, road widths, subdivision and access standards
- ◆ Controlling access to the State Highway

- ◆ Encouraging infill and consolidated development of the District's towns predominantly within current boundaries, but also including some new development areas
- ◆ Encouraging areas of rural-residential living environments near the established areas of Ashburton, Methven and Rakaia
- ◆ Encouraging home occupations within the residential areas
- ◆ Ensuring off-road parking and loading is provided for most activities in order to limit congestion and the loss of efficiency of adjacent roads.
- ◆ Including Land Designations required for future roading. The review will consider the need for designation of land for roads associated with a second bridge over the Ashburton River.

The District Plan also specifies road corridor and carriageway widths for each level in the hierarchy, and whether or not footpaths and kerbs and channels should be provided. Although this is intended for application in new subdivisions, it also provides identified standards for assessing the overall status of the network.

### **F- 3.10 Regional Land Transport Strategy (RLTS)**

Environment Canterbury, as required by the Land Transport Management Act 2003, has prepared a Draft Regional Land Transport Strategy (RLTS) for the period 2012-2042. Ashburton District Council's roading programmes are required by the same legislation to be "not inconsistent" with this Strategy.

The Vision of the Strategy is that:

"Canterbury has an affordable, integrated, safe, resilient and sustainable transport system"

This vision is supported by objectives to:

- ◆ Ensure a resilient, environmentally sustainable and integrated transport system
- ◆ Increase transport safety for all users
- ◆ Protect and promote public health
- ◆ Assist economic development
- ◆ Improve levels of accessibility for all

To deliver on the objectives a set of regional transport outcomes have been identified:

- ◆ Reduced greenhouse gas emissions from use of the domestic transport system
- ◆ Improved resilience of the transport network to infrastructure damage or emergencies
- ◆ Improved resilience of the transport system to external changes
- ◆ Improved land use and transport integration
- ◆ Reduction in fatal and serious injuries for all modes
- ◆ Improved personal safety and reduced security risks to all transport users
- ◆ Improved health from increase in time spent travelling by active means
- ◆ Increased proportion of the population travelling by active means
- ◆ Reduced community exposure to vehicle pollutants, noise and vibration
- ◆ Improved journey time reliability on the strategic transport network
- ◆ Increased energy efficiency per trip
- ◆ Regional and inter-regional journey time reliability on key freight routes is maintained
- ◆ Freight hubs are protected and maintained
- ◆ Connectedness is enhanced
- ◆ Increased travel choices for households to access urban and suburban centres
- ◆ Improved mobility for the transport disadvantaged

The Draft RLTS has “region-wide” targets for the 30-year lifespan of the strategy. Interim targets have also been set to provide a focus for short to medium term efforts (during the 12 years to 2024). The targets affecting Ashburton District are:

- ◆ Return region’s transport related CO<sub>2</sub> emissions to 1998 levels: 1.45 million tonnes per annum by 2024, further reducing to 0.95 million tonnes per annum by 2042
- ◆ Fewer than 31 deaths on the region’s roads per year by 2024, falling to fewer than 26 per year by 2042
- ◆ A maximum of 250 serious injuries on the region’s roads per year by 2024, falling to a maximum of 200 by 2042
- ◆ Maintain relatively stable traffic flow on the strategic road network outside greater Christchurch to 2042
- ◆ Improve energy efficiency to reduce petrol consumption in the region to less than 600 litres petrol per person per year by 2024 and to 500 litres petrol per person per year by 2042
- ◆ Improve energy efficiency of commercial transport to reduce diesel consumption in the region to 22 litres diesel per \$1,000 of regional GDP by 2024 and then to 20 litres diesel per \$1,000<sup>1</sup> of regional GDP by 2042

The Inland Scenic Route (Route 72) and the state highways 1 and 77 form part of the “Strategic Transport Networks” within the region. These routes reflect routes of national significance and provide a high level of mobility for people and freight transport within the region

### F- 3.11 Heavy Traffic Regulations

There have been a number of national studies that have examined heavy haulage and maximum vehicle size and axle loading configurations over recent years, and there has been continual trucking-industry pressure on the Government to increase the total maximum load of heavy trucks. Changes to the Heavy Vehicle regulations come into effect in May 2010.

The changes in the sizes, loading limits of heavy vehicles may require the identification of routes within the District that are or are not suitable for such vehicles, including an examination of pavement and bridging strengths and their ability to carry such vehicles. In turn, this may lead to the need to increase investment levels in terms of pavement rehabilitation / strengthening and/or key bridge strengthening.

### F- 3.12 Climate Change

Section 7 of the Resource Management Act 1991, requires the Council to take account of the effects of climate change when developing and managing its resources. The Ministry for the Environment (MfE) has prepared a *Climate Change Effects and Impacts Assessment*<sup>2</sup> to support councils assessing the expected effects of climate change, and to help in preparing an appropriate response when necessary.

This section draws on the Climate Change Effects and Impacts Assessment; it aims to briefly explore the impacts of expected climate changes on the Council’s transportation network.

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<sup>1</sup> 2012 price

<sup>2</sup> Mullen, B., Wratt, D., Dean, S., Hollis, M., Allan, S., Williams, T., Kenny, G., 2008. Climate Change Effects and Impact Assessment: A Guidance Manual for Local Government in New Zealand 2nd edition. Ministry for the Environment.

### F- 3.12.1 Temperature Change

The following table shows that the mean annual temperatures in Canterbury are expected to increase in the future.

**Table F-3 Projected Mean Temperature Changes in Canterbury (°C)**

	Summer	Autumn	Winter	Spring	Annual
Projected changes 1990-2030	-0.2 to 1.3	0.1 to 1.1	0.3 to 1.8	0.0 to 1.3	0.2 to 1.4
Projected changes 1990-2080	0.0 to 3.3	0.4 to 3.5	0.8 to 3.9	0.3 to 3.1	0.5 to 3.4

Source: Climate Change Effects and Impacts Assessment — MfE 2008

### F- 3.12.2 Precipitation Change

A warmer atmosphere can hold more moisture, increasing the likelihood of heavy rainfall events. As the storm-water and road-drainage infrastructures are designed to cope with extreme events, rather than averages, the increased frequencies and intensities of these events will require the Council to act to assure the health, safety and wellbeing of the public, there is thus an increased likelihood of extreme rainfall events.

The following table shows that there is an expected decrease in mean annual precipitation in Canterbury from 1990 to 2080.

**Table F-4 Projected mean precipitation changes in Canterbury**

	Summer	Autumn	Winter	Spring	Annual
Projected changes 1990-2030	-6% to +8%	-20% to -1%	-12% to +10%	-11% to +4%	-10% to +1%
Projected changes 1990-2080	-12% to +38%	-36% to +8%	-28% to +9%	-21% to 0%	-17% to +4%

Source: Climate Change Effects and Impacts Assessment — MfE 2008

Diminishing precipitation, especially in the autumn and summer, will have a significant impact on the duration of the irrigation season and quantity of water used for this purpose. This may result in land-use changes, possibly even affecting some irrigated dairy-pastures and farming operations, with consequent changes to network demand.

Drought models predict an increased soil moisture deficit, with increases of 2 to 6+ weeks of pasture deficit. Irrigation will be necessary to keep the soil moisture deficit below the critical deficit (the point where soil moisture deficit starts to reduce yield), to prevent yield reduction from water shortage.

The projected increased frequency of extreme rainfall events (or the increase in rainfall intensities) could exceed the capacity of current stormwater networks and private drainage systems. River peak flows could increase and cause more bank erosion. The risk of river- and surface-flooding damaging properties and infrastructure will probably increase. Water quality within the network and at discharge points could be compromised by an increase in the frequency of sewage overflows entering the stormwater system.

These latter effects would, in turn, drive the need to:

- ◆ Review the design-capacities of culverts, bridges and other storm-water structures
- ◆ Consider the need for, and size of, storm-water treatment facilities associated with road-runoff.

### F- 3.12.3 Sea level Change

The Canterbury coast has experienced a historic sea level rise rate of 2.1 mm/year (200-mm over the past 100 years)<sup>3</sup>. A rise of 300-mm to 480-mm is expected by 2100. This is likely to accelerate the effects of coastal erosion (and deposition), flooding from the sea, and affect drainage in low-lying areas<sup>4</sup>. Areas potentially affected include:

- ◆ The South Rakaia Huts (Kingsbury Road) settlement on the south bank of the Rakaia River (not all on legal roads)
- ◆ Areas around the mouth of the Wakanui Creek and the Ashburton River Mouth
- ◆ Parts of Lower beach Road and other similar roads in the south east of the District.

### F- 3.12.4 Climate Change Summary

The potential climate change factors most likely to affect the Ashburton District, and possible individual and Council management responses, are summarised in the following table.

**Table F-5 Potential impacts of climate change for the Ashburton District<sup>5</sup>**

Climate influence	Water Resource Effects			Possible Management Measures
	Groundwater	Water Quality	Water Quantity	
Increased temperature, resulting in increased extreme rainfall events.	<ul style="list-style-type: none"> <li>• Higher groundwater use (irrigation &amp; residential)</li> </ul>	<ul style="list-style-type: none"> <li>• Decreased dissolved oxygen levels (affecting plant &amp; animal growing conditions).</li> </ul>	<ul style="list-style-type: none"> <li>• Increased evapo-transpiration</li> </ul>	<ul style="list-style-type: none"> <li>• Experiment with new crops with reduced evaporation</li> <li>• Maintain existing protective structures and assess future capacity</li> <li>• Assess, maintain and upgrade, where necessary, drainage capacity and sewer infrastructure</li> </ul>
	<ul style="list-style-type: none"> <li>• Increased frequency of groundwater level changes</li> </ul>	<ul style="list-style-type: none"> <li>• Increased incidences of sewer overflow.</li> <li>• Increased erosion from greater peak flows; contaminants reaching waterways, affecting water treatment processes &amp; ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Increased peak flows in streams</li> <li>• Increased flooding</li> <li>• Greater likelihood of damage to properties and infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Identify critical assets on riverbanks</li> <li>• Maintain &amp; enhance vegetation cover to prevent erosion</li> </ul>
Decreased precipitation	<ul style="list-style-type: none"> <li>• Extended periods of low soil moisture result in possible greater demand for groundwater supplied irrigation.</li> <li>• Localised aquifers could experience reduced recharge</li> </ul>	<ul style="list-style-type: none"> <li>• Increased nutrient concentrations and eutrophication caused by lower stream flows / lake levels</li> </ul>	<ul style="list-style-type: none"> <li>• Decreased availability of water for town use and irrigation because of lower stream flows / lake levels</li> </ul>	<ul style="list-style-type: none"> <li>• Stimulate on-farm soil water measurements / readings to optimise the effectiveness of irrigation applications</li> <li>• Consider water harvesting and storage practices</li> </ul>

<sup>3</sup> Bell, R.G., 2001. Impacts of climate change on coastal margins in Canterbury. NIWA Client Report CHC01/69.

<sup>4</sup> Tonkin and Taylor, 1999. Christchurch City Council: Study of the Effects of Sea Level Rise in Christchurch.

<sup>5</sup> Ridgen, J., 2002. Impacts of Climate Change on Christchurch. Christchurch City Council Technical Report 02/1.; and Mullen et al 2008 footnote 2

Climate influence	Water Resource Effects			Possible Management Measures
	Groundwater	Water Quality	Water Quantity	
Increased drought conditions	<ul style="list-style-type: none"> <li>Increased water usage will increase pressure on resource</li> </ul>	<ul style="list-style-type: none"> <li>Increased sedimentation in waterways caused by increased top soil loss</li> </ul>	<ul style="list-style-type: none"> <li>Decreased water availability</li> </ul>	<ul style="list-style-type: none"> <li>Drought proofing measures for agricultural crops and stock</li> <li>Maintain vegetation cover to prevent erosion</li> </ul>
Sea level rise	<ul style="list-style-type: none"> <li>Increased risk of saltwater intrusion in groundwater</li> </ul>	<ul style="list-style-type: none"> <li>Increased salinity and erosion</li> </ul>	<ul style="list-style-type: none"> <li>Increased possibility of flooding from the sea</li> </ul>	<ul style="list-style-type: none"> <li>Restrict new development in high risk areas</li> <li>Maintain vegetation cover to prevent erosion</li> <li>Maintain protective structures</li> </ul>

## F- 4 Summary of Impacts of Future Demand Trends

### F- 4.1 Traffic Growth

Most trends point to continuing traffic growth associated with local demographic changes, rural development, and recreation. Historical traffic volumes provide a picture of possible future demand. The following expected future growth rates are based on national statistics and are used, where applicable in this AcMP:

- ◆ Total traffic volumes 3 % per annum
- ◆ Heavy traffic volumes 4 - 5% per annum

In both cases the national range is a 1% band. The above figures are the values of the lower end of the ranges; this reflects an increased element of uncertainty in the growth rate due to increased fuel prices and the effects of other government policies.

Traffic volumes on SH 1 now exceed 20,000 vehicles per day, measured just to the south of the Ashburton River Bridge, a level where traffic delays on a 2-lane road can be of significance. Even though this road is a State Highway, the effects are also felt on side roads with growing delays accessing or crossing the highway.

Traffic growth on rural state highways is also reflected in growth on the local network, for example on District arterials, such as Thompsons Track and Maronan Rd, and on some local roads.

These trends confirm that traffic growth is on going in the District, with congestion effects starting to be felt in Ashburton town.

On major tourist routes traffic volumes are expected to increase more rapidly than the average, with projected traffic volumes varying from 4% to 8% or more per annum.

Measured traffic volumes on key routes provide data on traffic growth trends. Historically ADC has measured traffic volumes on Thompsons Track and the Arundel Rakaia Gorge Road around Xmas for seasonal variation with other sites counted to provide information to assist design for the annual resealing programmes. ADC does not currently have any continuous sites or sites counted at frequent frequencies (i.e. every 3- months). Council has recently (2011) made use of the RAMM Traffic Links Module to establish a district wide counting regime that will enable better assessment of traffic flows throughout the district as well as provide continuous counts at strategic locations to gauge traffic growth.

Traffic data and key growth trends will be monitored as inputs to reviews of this Plan and future LTPs, so that a full understanding can be developed of future capacity and renewal needs.

#### F- 4.1.1 **Summary of Impacts**

These trends will result in the need to develop new assets, as well as affecting the timing of renewals and the level of ongoing maintenance and operating costs.

The main impacts of known future growth and demand trends on ADC roading assets are:

- ◆ Increased trip making for social and recreation purposes – resulting in demand for better pavements, signage, delineation and footpaths
- ◆ Changing needs and expectations as the population ages – demand for “easier to read” roads, better footpaths, better lighting
- ◆ Increasing customer expectations and levels of service – resulting in a demand for better surfaces (especially unsealed – e.g., grading frequency of unsealed roads and to reduce dust and problems for normal car use), better lighting, better footpaths, traffic control and safety improvements
- ◆ Growth in the dairy farming sector significantly increasing the frequency of heavy loads on pavements along dairy routes, resulting in faster pavement deterioration, increasing maintenance costs, and increasing the demand for strengthening /sealing unsealed roads
- ◆ Similar, but lesser in extent, impacts arising from forest harvesting
- ◆ Growth in tourism is creating pressure for enhancement of signage for navigation purposes (e.g., information signs), a “no surprises” driver environment, and increased safety
- ◆ On-going need to subsidise the construction of new assets associated with residential subdivision and land development adjacent to existing roads
- ◆ Maintenance costs increasing due to the increased assets acquired by Council from subdivisions

The capacity of the road network (i.e., numbers of traffic lanes) will not require significant upgrading to accommodate growth within the 10 year planning period because of the relatively low current utilisation of roads compared with their potential maximum capacity. There will however be isolated locations where capacity improvements will be needed; these are likely to be at +intersections in particular.

The Ashburton District Development Plan identifies several key traffic needs for Ashburton:

- ◆ Undertake a study on heavy traffic issues around the outskirts of the town
- ◆ Identify entrance points to town - encourage through traffic to west side of town
- ◆ Encourage traffic decision making - stop and shop, or pass through
- ◆ Improve walking connections between east and west sides of the town centre

A transportation study of Ashburton traffic patterns has been initiated with The NZ Transport Agency. A further study for the NE Ashburton industrial area has been completed; this addresses the transport-network needs of that area, caused by the land-use changes. Further work is also needed in reviewing heavy traffic within Ashburton Township, including routes and parking.

#### F- 4.2 **Subdivision Development**

Developers pay the full cost of development within new subdivisions, with new assets being vested in Council upon completion and the issuing of subdivision titles.



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Improvements will often be made to the existing road network in association with subdivision, for example new footpaths and kerb and channel, access improvements, increased seal width, improved sight lines, etc. Typically, these are works that are directly associated with the subdivision itself, and have been 50% Council funded, 50% developer funded.

The policy for development contributions that may be charged for future subdivisions is established at a Council wide level, as provided for under the Local Government Act 2002. This Plan identifies those works that are known to be growth related, in whole or in part, and sets appropriate charges for development contributions under this policy (refer Appendix G).

The Ashburton District Development Plan (see Annex III ) signals extensive subdivision development in the north-west of the town, this will require the identification of a comprehensive roading plan in order that the roading pattern of adjoining developments can be coordinated.

Assuming that the national trend of reducing household sizes continues, then an estimate can be made of additional housing stock and thus roading needs given various assumptions. These include:

- ◆ a population rising from 27,372 to up to 37,700 between 2006 and 2031 (approx 1.5% pa)
- ◆ no other demographic effects
- ◆ 25 year household growth of 12% (consistent with CCC transport modelling forecasts between 1996 and 2021), or around 0.5% which is additional to population growth
- ◆ “new road” length requirement of 10 metres per household unit (typical urban development)

Overall, this population growth could increase the number of households by 100 per year, with an additional 50 households being formed due to smaller household size. Assuming that 80% of this need is met through new subdivision results in an overall “new roads” development of 1.2-km per annum.

In addition, new commercial and industrial development could result in further new roads being vested in the Council. Maintenance and renewal costs will increase for all assets as new developments are completed and vested in ADC.

#### F- 4.3 Small Towns

The small villages development plans require few new roads, with the vast bulk of their expansions being gained through redevelopment of existing titles alongside existing roads, or subdivision of larger titles on existing roads into residential lots.

This style of development will require:

- ◆ The standard of “urban facilities” to be provided in each township to be established, in consultation with residents, property owners and potential developers, before the village Development Plans are given effect. This should include consideration of:
  - ◇ carriageway widths and cross-sections
  - ◇ provision, or otherwise, of footpaths
  - ◇ the need for, and style of, kerb and channel
  - ◇ street lighting
  - ◇ pedestrian access between streets and to desirable destinations, e.g. shops, schools, village halls
- ◆ The method of funding these developments to be resolved, whether by development contribution, financial contribution, or ratepayer funding, and
- ◆ The impact of the ratepayers’ shares of the costs to be included in this Plan’s budgets and thence in the LTP.

The Improvement Needs section of this Appendix includes these items.

## F- 4.4 Tabular Summary

The following growth rates reflect the preceding discussions and observed changes in the network. They are used in development of the forecast budgets elsewhere in this AcMP.

**Table F-6 Growth Rates**

<b>Growth Type</b>		<b>Unit</b>	<b>Annual Growth</b>
Network	Total Network Growth	km	0.03%
	Traffic Network Growth	vkt/yr	2054.69%
	No Growth		Nil
Rural	Rural Network Growth	km	-0.02%
	Rural Sealed Network Growth	km	0.04%
Urban	Urban Network Growth	km	0.91%
	Sealed Network Growth	sq m*1,000	1.00%
Townships	Ashburton Network Growth	km	-2.21%
	Chertsey Network Growth	km	Nil
	Fairton Network Growth	km	-32.19%
	Hinds Network Growth	km	Nil
	Lake Hood Network Growth	km	70.27%
	Mayfield Network Growth	km	Nil
	Methven Network Growth	km	10.71%
	Mt Somers Network Growth	km	Nil
	Rakaia Network Growth	km	3.60%
Tinwald Network Growth	km	1.29%	

Source: [ADC TptAcMP Apx F Demand v1.0.0.xlsx]Growth > \$A\$10

## F- 5 ADC Responses to Growth

The Council is pursuing, or has stated it will pursue, a number of strategies in response to these growth and demand trends, including:

- ◆ Provision of alternative routes around Ashburton town for heavy vehicles that do not need to access the urban area. An example is the improvement of Winchmore-Dromore Road, which is currently unsealed
- ◆ Putting forward projects for “regional funding” in the NLTP, such as seal widening for Thompson’s Track and Maronan Road, in recognition of increasing volumes of through District traffic
- ◆ Development of Racecourse Road, in response to subdivision development that is expected to begin in the near future. Ashburton River stop bank raising works are underway, and completion of this work will eliminate the barrier to planned residential and greenbelt development proceeding
- ◆ A joint transport study of Ashburton town with The NZ Transport Agency, although this will not focus in any detail on the bulk shopping issues in Ashburton
- ◆ Roading improvement in industrial areas such as the widening of Company Rd
- ◆ Identification of future roading patterns, for example in peripheral low-density areas
- ◆ Coordination of overall infrastructure development or upgrade needs, including wastewater, water supply and stormwater
- ◆ Traffic counts at rail crossings, and providing these to On-Track for the review and upgrade of safety controls at crossings

The transport study examines the following aspects:

- ◆ Solutions to the effects of heavy traffic movement in the town centre
- ◆ Entry points to the town centre and how to attract passing car traffic without affecting the pedestrian environment in East Street
- ◆ The connections from the east to west across SH1 and railway line and facilitating pedestrian amenity
- ◆ Car parking in East Street and the balance with the amenity of the town centre
- ◆ Potential to limit traffic speed and increase the walkability of East Street
- ◆ Access to the northeast industrial areas and the mixed use areas

Strategies also need to be developed to coordinate the development of new assets and future renewals programmes. For example, a draft Footpaths Strategy was prepared several years ago, and the key actions are now incorporated in this Plan. Other studies and network analyses will be summarised / referenced in this Plan as they are completed. Planned work includes strategies for kerbs and channels, street lighting and pavements.

An extensive amount of work is required to assess properly all of the “growth related” expenditure upon which development contributions under the Local Government Act can be based.

## F- 6 New Works Requirements

New assets are provided through ADC works that upgrade or improve an existing asset beyond its original capacity or performance in response to changes in traffic needs or customer expectations, as well as those acquired through subdivision and other development.

Asset development will be carried out to meet future growth in demand or a significant increase in the levels of service expected by the community.

In summary, new assets result from:

- ◆ Road upgrading projects (e.g., seal extensions, minor safety improvements, road widening)
- ◆ New works (e.g., neighbourhood improvement works, new roads)
- ◆ Private developments (i.e. sub-divisional and commercial development)

The timing of development of new assets will reflect the community’s ability to pay as determined through the LTP consultation and consideration processes.

The current approach is to provide the most cost effective solution (using new technology and innovative options) to meet the minimum standards set out in ADC’s Code of Practice for Subdivision Development, which is NZS4404, the District Plan and other relevant roading standards.

The sources of new capital investment priorities include:

- ◆ Ashburton District Development Plan
- ◆ Outputs of network modelling studies
- ◆ Other technical assessments and reports

The capital programmes from the 2009-19 LTCCP and 2011/12 Annual Plan have been reviewed along with the above documents in preparing the capital programme proposed. Each asset group is individually discussed below. Professional services engineering fees and operations management costs are included in the following cost tables.

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## F- 6.1 Pavements

The development of the road network is undertaken in accordance with the District Plan, which indicates priorities for road widening and new construction. Road designations included in the District Plan form a major commitment that, under the Resource Management Act, must be constructed within the period described in the Plan.

The programme of new pavement asset development includes Road Construction, Seal Widening, Seal Extension and Minor Improvement Works.

Significant new pavement projects are typically justified and prioritised on the basis of a benefit/ cost analysis that accounts for:

- ◆ the benefit to the road user for reducing delays in the time to travel along a given route
- ◆ vehicle operating cost savings
- ◆ safety benefits
- ◆ intangible benefits, including community dislocation, environmental issues (pollution, dust nuisance, water quality, noise and vibrations), adjoining land use and other possible local, regional and national issues

### F- 6.1.1 Seal Widening

This provides for the widening of existing road pavements and road-reserves if necessary, to provide additional seal width. This type of work may be required to cater for increased heavy vehicle movements, to provide for increased light-vehicle use or, in some cases, to provide for increased cycle traffic in particular:

- ◆ Funding allocations have also been made for general widening of rural sealed carriageways to carry increased heavy-vehicle volumes reducing seal-edge maintenance needs and improving safety. An average of 6.2-km per year has been provided, from 2009/10 to 2015/16, continuing the provision commenced in 2007/08 in the previous Plan.

### F- 6.1.2 Road Reconstruction

This category is for specific improvement works such as constructing new roads, improving existing roads by providing additional capacity or improved road geometrics.

For convenience, these works are included here rather than being split between the different asset groups. Projects proposed for the first three years are scheduled below:

- ◆ There are no projects proposed for the 1st three years of this AcMP

### F- 6.1.3 Seal Extensions

The Council's "Policy for the Maintenance of Low Use Unsealed and/or Unformed Roads" guides the identification and prioritisation of roads for seal extension and unsealed rehabilitation (unsealed pavement renewal– see **Error! Reference source not found. Error! Reference source not found.**).

The programme of seal extensions will continue for subsidisable works, where possible completing seal extensions on the 69-km of roads previously rehabilitated (with funding assistance from the NZ Transport Agency). However, the Council does not intend to seal any existing rural roads for which it will not receive financial assistance, and there are therefore few of these, or any other unsealed rural roads, that are likely to be sealed.

#### F- 6.1.4 **Minor Improvements**

This is a separate allocation in the NZ Transport Agency programme, and works typically result in the creation of additional pavement assets (e.g. seal widening at or realignment of intersections) and other assets.

These projects do not require economic justification, but will typically be rated on actual or potential crash trends, and may cost up to \$250,000 for each individual project. NZTA fund works to a total value of 5% of the cost of maintenance and renewal projects. This currently equates to around \$500,000 annually. ADC's policy is to identify and programme works to this value each year.

Sites are identified from:

- ◆ Crash records,
- ◆ Known near misses,
- ◆ Network knowledge,
- ◆ Maintenance demand – e.g. migration of shingle onto the sealed roads,
- ◆ Need to control of influence traffic flow, and
- ◆ Known night time visibility problems – for minor streetlighting improvements.

For convenience, all these works are included under this category rather than being split between the different asset groups.

Prioritization is by assessment of greatest benefit.

Intersection seal-backs are continuing to receive attention under this category. These are short-length seal extensions where metalled roads join sealed roads, and potentially at the intersections of metalled roads, designed to improve safety, and reduce maintenance costs.

#### F- 6.1.5 **Associated Improvements**

Often, when a pavement is renewed, it is appropriate to address deficiencies in its width or to carry out other minor improvements, such as channelizing an intersection. This NZTA work category (Associated Improvements: W/C231) enables this work to proceed with a lower level of justification than would be necessary if the improvements were carried out in isolation; however, the value of drainage and seal width improvements must not exceed 20% of the cost of the basic renewal work.

These works are categorised as improvements in the Council's financial system.

#### F- 6.2 **Other Improvements**

Road upgrade works are planned in association with town centre improvements, which are linked to the Parks budget. The work can include pavement smoothing (thin AC) and is coordinated with kerb and channel, water, and wastewater renewal works. \$130,000 was provided in the Roding budget for 2010/11; however this may be carried forward pending finalisation of design concepts. Some work is renewals.

#### F- 6.3 **Drainage**

New kerb and channel assets are discussed under the heading "Footpaths" because of the very close relationship between new asset creation for these two asset types.

Drainage assets are also created in association with other roading projects, such as Minor Improvement Works, Road Construction and Seal Extensions, and in these circumstances are not programmed separately, although the assets created are separately identified and recorded.

## F- 6.4 Traffic Facilities

The need for new assets is determined by engineering staff, based on:

- ◆ perceived need (e.g. information signs for tourist industry)
- ◆ reported deficiencies
- ◆ crash reduction studies or safety audits and
- ◆ public requests

Traffic facility assets can also be created through Minor Improvements and other project budgets and in these circumstances are not programmed separately, although the assets created are separately identified and recorded. However, the number of new assets created this way is relatively minor.

The current national trend is for more signage and roadmarking assets, to improve traffic management and safety on the network. However, staff try to maintain a balance between providing sufficient information for motorists and removing all needs for them to make decisions. Financially assisted works fall into W/C 321: New traffic management facilities.

### F- 6.4.1 **Signs**

Curve warning signs (permanent signs or chevrons) are installed where there are sudden changes in speed environment or where inspections show that there is a likelihood of crashes occurring.

Changing sign standards were a significant factor influencing the rate of installation of new signs in the 1990s and early 2000s and may affect the renewal requirements in future years. Should there be similar changes in the legislative environment the effects are likely to be quite noticeable in the budgets; however, there is no current awareness of any pending change.

A specific allowance of \$6,000 per annum for new tourist signs is included in the budget.

### F- 6.4.2 **Markings**

A recent (2011) NZTA "Road Infrastructure Safety Assessment" commented on the following areas where they thought there was opportunity for improvement:

- ◆ Installation of white edge lines to create a sealed shoulder
- ◆ Provide consistency to the provision of centrelines, RRPMS and edge marker posts
- ◆ Curve warning signs to be installed to standard specification

It is planned to introduce edge lines on arterial and principal routes where there is sufficient width of seal. In other instances at this hierarchy level the seal will be widened during programmed area wide treatment works and edge lines added once a sufficient length is out to width to maintain consistency.

Curve signage and delineation will be inspected and where these are not to standard remedial work will be undertaken. Curves will also be speed checked to ensure that all curves are being delineated in a consistent manner. A nominal \$10,000 per annum will be included in the LTP over the next three years for this work.

### F- 6.4.3 Traffic Signals

The Council has no plans to provide any new traffic signals. However, it is not blind to the possibility of some being required to support future commercial or industrial developments. The NZ Transport Agency consults with the Council before it places new traffic lights on the state highway network.

### F- 6.4.4 Traffic Services

A small amount of work carried out under the maintenance contract involves new assets.

### F- 6.4.5 Street Lighting

Streetlights are acquired or upgraded by:

- ◆ extensions constructed by Council where no streetlights previously existed
- ◆ taking over new streetlights installed with subdivision development (constructed at the developer's expense)
- ◆ upgrading work to improve the level of service
- ◆ flag lighting isolated rural intersections or points where people may gather
- ◆ minor works

Development needs are largely identified through customer requests. Street lighting is well developed throughout the District although approximately seven new lights have been requested for the Riverside Industrial area. Requests for lighting in rural towns are very infrequent. There are no plans for upgrading the level of service, although towards the end of the 10-year period this may become an issue.

Only a small provision for the specific installation of new street lighting assets is included in the 10-year period, this being unsubsidised. To obtain subsidy, new street lights would need to meet NZTA's funding criteria or qualify as Minor Improvement Works.

## F- 6.5 Bridges and Major Culverts

New bridges and bridge widening / strengthening projects are prioritised by considering the total benefits to road users and the land transport system using the economic evaluation procedures in the NZ Transport Agency's Project Evaluation Manual.

**Error! Reference source not found.** in **Error! Reference source not found.** states that there are 45 idges and 1 major culvert whose widths are likely to be ambiguous to motorists. They are :

Table F-7 Bridges with Widths Ambiguous to Drivers

Road	Bridge / Culvert ID	Start RP	Width	Length	Materials
Ashburton Gorge Road	Bridge ID: 112	19,501	4.3	102	Concrete
Baxters Road	Bridge ID: 67	4,782	4.4	7	Timber
Blackford Road	Bridge ID: 73	8,937	4.3	65	Concrete
Blacks Road	Bridge ID: 103	442	5.9	4	Timber
Brothers Road	Bridge ID: 10	1,607	4.9	5	Concrete
Dawsons Road	Bridge ID: 84	1,800	4.8	6	Concrete
Double Hill Run Road	Bridge ID: 159	13,484	4.3	81	Concrete
Grove Farm Road	Bridge ID: 64	598	4.8	5	Concrete
Gundrys Road	Bridge ID: 40	1,247	4.5	5	Concrete
Hackthorne Road	Bridge ID: 92	12,853	4.5	6	Timber

Road	Bridge / Culvert ID	Start RP	Width	Length	Materials
Hakatere Heron Road	Bridge ID: 5	5,020	4.5	6	Timber
Half Chain Road	Bridge ID: 82	2,381	4.3	3	Concrete
Half Chain Road	Bridge ID: 83	3,138	5.1	8	Concrete
Lower Beach Road	Bridge ID: 15	2,323	4.6	4	Concrete
Lower Beach Road	Bridge ID: 16	2,738	4.8	4	Concrete
Lower Beach Road	Bridge ID: 17	3,913	4.3	7	Concrete
Lower Beach Road	Bridge ID: 18	6,426	4.5	4	Concrete
Lower Downs Road	Bridge ID: 50	849	4.5	38	Concrete
Lower Downs Road	Bridge ID: 51	6,722	4.4	51	Concrete
Mayfield Klondyke Road	Bridge ID: 48	2,216	5	5	Concrete
New Park Road	Bridge ID: 129	2,009	5	3	Concrete
New Park Road	Bridge ID: 130	2,797	5.5	5	Concrete
New Park Road	Bridge ID: 131	3,555	5.3	5	Concrete
Osborns Road	Bridge ID: 194	840	5.4	4	Concrete
Poplar Road	Bridge ID: 99	4,389	5.5	4	Concrete
Poplar Road	Bridge ID: 100	4,827	4.4	76	Concrete
Poplar Road	Bridge ID: 170	5,506	4.9	5.3	Concrete
Rawles Crossing Road	Bridge ID: 63	3,493	4.8	6.2	Concrete
Reads Road	Bridge ID: 9	7	5.1	2	Timber
Rutherfords Road	Bridge ID: 172	2,292	4.7	16	Concrete
Sawmill Road	Bridge ID: 41	472	4.9	6	Concrete
Scarness Road	Bridge ID: 137	871	5.1	5	Concrete
Shepherds Bush Road (Ruapuna)	Bridge ID: 95	10,045	4.5	8	Timber
Stranges Road	Bridge ID: 88	2,589	5.7	3	Concrete
Surveyors Road	Bridge ID: 134	6,120	5	6	Concrete
Terrace Road (Ashton)	Bridge ID: 86	2,097	4.3	3	Concrete
Upper Downs Road	Bridge ID: 145	10,412	4.6	43	Concrete
Upper Downs Road	Bridge ID: 192	950	4.3	38	Concrete
Wheatstone Road	Bridge ID: 167	1,267	4.3	5.1	Concrete
Wheatstone Road	Bridge ID: 183	282	5.5	4.8	Concrete
Wheatstone Road	Box ID: 4504	81	5.5	4.2	Concrete
Windermere Road	Bridge ID: 61	298	4.6	5	Concrete
Windermere Road	Bridge ID: 62	5,092	4.3	4	Concrete
Ocean View Road	Bridge ID: 53	2,753	4.6	6	Timber
Ocean View Road	Bridge ID: 54	4,231	5.4	7	Concrete
Ocean View Road	Bridge ID: 185	6,430	4.5	2.5	Concrete
<b>Total 46 bridges and major culverts</b>				<b>693.1</b>	

Source: [ADC TptAcMP Apx F Demand v1.0.0.xls]General; \$B\$37

The possible approaches to the problems presented by these bridges are:

- ◆ To widen them to at least the minimum two-lane width (6.5m)
- ◆ To narrow them to a clear single-lane width (4.2m), and sign them accordingly with give way signs
- ◆ To sign them as narrow bridges
- ◆ To sign them as single-lane bridges, without doing anything else.
- ◆ To do nothing

At present they are largely designated using the latter two techniques. While providing some indication to drivers these methods do not address the fundamental problem presented by the bridges and a long-term safe method of addressing the issues is only presented by the first two options. To ensure that the appropriate choice is made for each bridge it will be necessary to consider the crash-risk at each bridge, given the current and expected traffic volumes, and the likely changes in this risk if the bridge was narrowed or widened.



No allowance is made for either of these considerations, on a network-wide basis, or for any of the consequent works in this Plan; however, the identified improvement plan includes appropriate items.

It is assumed in this Plan that no bridge development (upgrading or new bridges) other than the second town crossing of the Ashburton River will be completed by ADC within the next 10 years.

## F- 6.6 Streetscape (Unsubsidised)

The construction of new Streetscape assets is influenced primarily by public expectations. There is no long-term programme of planned new work, although the town centre upgrade project could result in the addition of new assets.

New items of street furniture are included under Footpaths.

## F- 7 Footpaths, Cycleways and Kerb & Channel

### F- 7.1 New Footpaths

Footpaths are acquired as a result of:

- ◆ Extensions to the network constructed by the Council, where no footpath previously existed (with or without developer contribution).
- ◆ Taking over new footpaths constructed within sub-divisional development (constructed at the developer's expense).
- ◆ Upgrading work to improve the level of service (for example, in relation to special treatments in high profile commercial areas).

Future demand for new footpaths is mainly expected to arise from subdivisions where the paths are part of the development, and in small towns where new paths may be required to support development along existing streets (see F- 4.3 Small Towns on page 18).

Analysis of data on the current provision of footpaths produced the following table of summarised needs. This is based on the assumption that if a township, other than Rakaia, currently has footpaths on less than 50% of its streets then no more are proposed or planned, i.e. no footpaths will remain the norm. This assumption will need to be revisited after levels of service are agreed with the District's communities and after the development standards for small towns are finalised. Rakaia is an exception because the Council has already decided to service that township.

Table F-8 "Raw" Footpath needs

Community	Path both sides (path-metres)	Path one side (path-metres)	No Path(centreline- metres)	Need (path- metres)	
				Priority 1	Priority 2
Ashburton	56,968	17,693	14,886	14,886	88,321
Chertsey	48	792	2,477	-	-
Fairton	31	1,085	2,025	-	-
Hinds	364	953	4,220	-	-
Lake Hood	-	-	1,924	-	-
Mayfield	355	733	520	520	1,608
Methven	3,243	6,287	2,855	2,855	12,385
Mt Somers	250	739	2,300	-	-

Rakaia	1,869	3,690	11,239	11,239	16,774
Rural	-	-	-	-	372
Tinwald	11,756	4,161	3,484	3,484	19,379
<b>Totals</b>	<b>74,884</b>	<b>36,133</b>	<b>45,930</b>	<b>32,984</b>	<b>138,839</b>

Source: [ADC TptAcMP Apx F Demand v1.0.0.xls]General: \$B\$89

Priority 1 projects are those on streets where there is no kerb and channel and Priority 2 where it is on one side of the street only. Realistically, there may be many "Priority 2" streets where no work is required; the current provision being satisfactory. Rakaia and Methven Community Boards have requested that only new kerb and channel work is actioned within the immediate future.

The current level of footpath upgrading provides a long-term footpath asset that meets the current expectations of users. This level of service is not expected to change in the next 10-years although there may be a need to consider providing footpaths in selected rural areas at some locations in the district especially around the perimeter of urban development.

Opportunities for new footpaths are often identified through requests from the public. Each Community Board recommends projects reflecting local priorities that are assessed by the Council's staff. Prioritisation of works is primarily driven by Community Board preferences, although the following factors are also considered:

- ◆ kerb and channel development needs
- ◆ whether it is the first or second footpath on the street
- ◆ safety (proximity to carriageway and operating speed or adjoining road)
- ◆ pedestrian usage

The general future strategy is to provide safer and improved all-weather access for pedestrians by installing the lengths of new path listed in Table F-9 below by 2022. This will meet approximately 7.5% of the total deficiency. When this work is complete, approximately 12% of the "Priority 1" need will have been met, leaving about 29-km of Priority 1 work and all of Priority 2 to complete.

**Table F-9 Target Footpath Development Lengths**

Footpath Area	Future (10 year) Strategy
Ashburton	2.38 km of new footpaths (increase in network length 1.8%)
Methven	No new footpaths
Rakaia	No new footpaths
Rural towns	1.54 km of new footpaths (increase in network length 4.5%)
<b>Total</b>	<b>3.92 km of new footpaths (increase in network length 2.1%) over 10 years</b>

Source: [ADC TptAcMP Apx F Demand v1.0.0.xls] General: \$B\$109

### F- 7.1.1 Development Standards

New footpath works comply with NZS 4404:2010 Land Development and Subdivision Engineering, which outlines the standard width of footpaths and the depths of footpath formation required for concrete and asphaltic concrete type construction.

A key internal reference document is "*Minimum Standards for matters relating to footpaths, pedestrian crossings, berms and vehicle crossings*" (undated). It identifies a wide range of issues and management responses. It is intended that this document be reviewed for adoption as a policy document

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The current standard is to construct 1.5m wide asphaltic concrete footpaths with a grass berm. The standard is to locate the footpath against the kerb to provide access to and from vehicles directly to a hard surface, clearance from vegetation on private property and to allow an adequate area for underground power cables.

Annex II contains a summary of the rate and cost of development of new footpath assets by ADC.

## **F- 7.2     Kerb and Channel**

The construction of new kerbs and channels and associated assets is coordinated with the footpath extension programme. The previous 5 year programme has been completed and a new one is being prepared (2011/12). Kerb and channel development works are funded from four separate accounts

- ◆ Ashburton
- ◆ Methven
- ◆ Rakaia
- ◆ Rural towns

Although the NZ Transport Agency funds kerb and channel renewal it does not usually fund the construction of new kerb and channel, unless it is in association with approved capital construction projects that are justified by the B/C criteria.

New assets are also created as part of subdivisions and subsequently taken over by the Council.

Criteria used for justifying new kerb and channel construction include:

- ◆ evidence of ponding or flooding
- ◆ incompatibility with urban standards
- ◆ the need for definition of the edge of the carriageway

Kerb and channel also forms a significant part of the urban road and property drainage networks, where it is present. The pattern of the stormwater system in the Ashburton urban area is:

- ◆ Several pipelines running parallel to the State Highway and discharging directly to the Ashburton River – the “collectors”
- ◆ “Finger” pipelines connecting into the collectors – which tend to be installed in a reactive, needs basis rather than a planned way
- ◆ Many siphons that convey stormwater across road intersections

As discussed in Appendix H Resource Consents and Property Designations, ECan’s Natural Resources Regional Plan (NRRP) is of significance in relation to the treatment of stormwater discharged off roadways. The Transport Network activity relies on the piped stormwater reticulation system in urban areas, which is managed by Water Services, and it is likely that the future development of roading assets will be constrained by stormwater capacity and treatment needs. The full effects of the NRRP have yet to be determined.

Council staff will monitor the effects of the NRRP, and its stormwater-treatment requirements, over the next 3-5 years, with a view to determining the requirement for new works and other minimum upgrades at the earliest reasonable opportunity.

The Kerb and channel construction strategy is essentially that detailed in F- 7.1 New Footpaths, above. Kerb and channel financial projections are at Annex I to this Appendix, and summarised in Annex II .

### F- 7.3 Cycleway Facilities

The Council has adopted a Walking and Cycling Strategy and an associated Action Plan. These build on the limited networks in place prior to 2006. The objective is to develop the cycleway network based on:

- ◆ The “trunk” pattern defined by SH1 in the Ashburton urban area, this consists of Archibald St (SH1, Tinwald), East St, and West St (Ashburton) to Walnut Ave.
- ◆ Secondary level – provide additional off-road facilities, ensure key intersections can be safely used by cyclists

The NZTA is a party to the Strategy and funds its share of these works under Work category 452.

Current cycleways consist of the marked cycle-lanes on both sides of Walnut Ave between West St and Oak Grove, serving the College, cycle lanes on Archibald Street including the Ashburton River bridge, the west side of East Street from the Ashburton River to the railway crossing and a formed lit cycleway in the Ashburton Domain.

The SH 1 bridge over the Ashburton River has clip-on facilities, one of which is managed by the NZ Transport Agency and the other by the Ashburton District Council. While both sides can accommodate cyclists, only one side can accommodate pedestrians and mobility scooters. This presents passing difficulties for two-way scooter traffic. Resolution of this difficulty is being discussed with NZTA but in all probability will not be remedied until there is a second bridge crossing the Ashburton River.

## F- 8 Parking

This section will be prepared following completion of the Council’s Parking Strategy which is expected to be finalised during 2011/12. The Council is one party of a working group and public consultation has progressing since 2008.

## F- 9 Vested Assets

These are assets constructed by subdivision developers and vested in the Council on completion. An average annual assessment has been made, as described in section F- 4.2 above.

### F- 9.1 Works Associated with Subdivisions

Historically, ADC has allowed around \$100,000 for work where sub-divisional development occurs on roads that are only formed to “rural” standards. This generally involves the construction of new kerb and channel, footpaths, and some seal widening. Developers contribute 50% of the costs, and ADC then normally completes the work within 12 months.

In the absence of more detailed information this provision is continued, escalated to current dollars.

**Table F-10 Expected Vested Assets**

Asset Group	Annual Quantity	Unit	Annual Value
Pavements	1	km	\$253,000
Traffic Facilities	-	each	n/a
Street lights	-	each	n/a
Bridges / Structures	-	m	n/a

Asset Group	Annual Quantity	Unit	Annual Value
Streetscape	various	each	\$20,000
Footpaths	3	km	\$230,000
Kerb and Channel	3	km	

Source: [ADC TptAcMP Apx F Demand v1.0.0.xls] General: \$B\$129

## F- 10 Coordination with Other Utilities

Opportunities are continually sought to coordinate new asset development with other work, for example, under channel stormwater piping in association with new or replacement kerb and channel.

The Council has agreements in place with external utilities, e.g. Telecom and Electricity Ashburton, covering work that needs to be done on each-others' services and conflicts with ADC projects.

## F- 11 Summary of Future Costs

The summary tables analyse new work costs under three headings. This is necessary for two reasons:-

- ◆ First, Schedule 13(1)(a) of the Local Government Act 2002 requires the local authority to identify the total cost it expects to have to meet relating to demand resulting from growth when intending to introduce a Development Contributions Policy.
- ◆ Second, Schedule 10(2)(iv) of the Act requires the local authority to identify the estimated costs of the provision of additional capacity and the division of these costs between changes to demand for, or consumption of, the service, and changes to service provision levels and standards.

**Note:** Only the cost of new work is included here. If a part of the cost is more appropriately charged to renewals, then only the improvement portion is identified here, with the balance taken forward to the renewals schedule in Appendix I.

### F- 11.1 Summary of Proposed Future New Works Programme

The most significant areas of asset upgrade and new works in the next 10 years are in the areas of:

- ◆ Road construction
- ◆ Seal extensions
- ◆ Minor Improvement works
- ◆ Seal widening on arterial/principal routes

New works have been scheduled in the forward programme, Annex II summarises the new works proposals for the Transportation Network.

### F- 11.2 Private Development of New Infrastructure

Most new transportation network assets in the District are developed privately then passed into the Council's ownership. This activity, including transfer of ownership to the Council, is carried out entirely within the Resource Management Plan processes associated with the consents required for these developments.

The Council has established minimum engineering standards for subdivisions; and has adopted NZS4404. Its engineers review consent applications and assist the District Plan administrators in determining the particular aspects of subdivision standards to be applied, and the extent of that application.

Work procedures for engineering checks associated with processing the following documents have been developed during 2010/11:

- ◆ Property Information Memoranda (PIMs)
- ◆ Land Information Memoranda (LIMs)
- ◆ Land use consents
- ◆ Subdivision consents
- ◆ Water storage consents

## F- 12 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table F-11 Demand and New Works Improvement Needs**

Demand and New Works		
Item	Priority	Comments
F1	Medium	Traffic count sites have been identified using the Traffic Link module in RAMM and the first series of counts are to be undertaken during the latter part of the 2011/12 year
F2	High	Need identified in ADC Development Plan
F3	High	
F4	Medium	
F5	Low	
F6	Medium	Before plan changes are approved and development applications are received.
F7	Medium	
F8	Medium	
F9	Medium	See F- 6.5
F10	High	<ul style="list-style-type: none"> <li>• See F- 7.2;</li> <li>• with a view to determining future minimum new works and other minimum upgrading requirements at the earliest reasonable opportunity so that roading development and renewal can continue.</li> </ul>
F11	High	By June 2011

Annex I	New Works and Improvement Programmes
Annex II	Financial Summaries
Annex III	Development Plans

# Annex I New Works and Improvement Programmes

## I- 1. Seal Widening Programme

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Seal widening projects			
	<b>TOTAL SEAL WIDENING</b>			

## I- 2. Road “Reconstruction” Programme

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Unspecified			
	<b>TOTAL ROAD CONSTRUCTION</b>			

## I- 3. Subsidised Seal Extension Programme

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Unsubsidised seal extensions			
	<b>TOTAL SEAL EXTENSIONS</b>			

## I- 4. Minor Improvements Programme

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Various			



	TOTAL MINOR IMPROVEMENT WORKS			
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## I- 5. Other Improvements Programme

2011/12 Yr 0	Ashburton District Council Work Area	2012/13 Yr 1	2013/14 Yr 2	2014/15 Yr 3
	Various			
	TOTAL OTHER IMPROVEMENTS			

## I- 6. New Culverts Programme

2011/12 Yr 0	Ashburton District Council Work Area	2012/13 Yr 1	2013/14 Yr 2	2014/15 Yr 3
	Pavement maintenance – new culverts			
	TOTAL PROJECTS			

## I- 7. Traffic Services

2011/12 Yr 0	Ashburton District Council Work Area	2012/13 Yr 1	2013/14 Yr 2	2014/15 Yr 3
	Maintenance contract ??? Tourist signage			
	Other new Signs			
	New Lighting (other than Minor Improvements Lighting)			
	TOTAL			

## I- 8. New Bridges

2011/12 Yr 0	Ashburton District Council Work Area	2012/13 Yr 1	2013/14 Yr 2	2014/15 Yr 3
	“Bridge maintenance related “ projects			
	TOTAL PROJECTS			

## I- 9. New Cycleways

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	TOTAL CYCLEWAY CONSTRUCTION			

## I- 10. New Footpaths

Priority No.	Work	Cost			Cost of Renewals	Year	Total
		Catch-up / Maintain LOS	Increased Service Environmental Standards	Level of / Growth			
		\$000	\$000	\$000			\$000
<b>Ashburton</b>							
	New kerb and channel						
	New footpaths						
	New street furniture						
<b>Methven</b>							
	New kerb and channel						
	New footpaths						
	New street furniture						
<b>Rakaia</b>							
	New kerb and channel						
	New footpaths						
	New street furniture						
<b>Rural Towns</b>							
	New kerb and channel						
	New footpath						

	New street furniture						
<b>Total</b>							

### I- 11. ADC Share of Subdivision Works

2011/12	Ashburton District Council Work Area	2012/13	2013/14	2014/15
Yr 0		Yr 1	Yr 2	Yr 3
	Footpaths, K&C, Seal Widening			
	<b>TOTAL WORKS WITH SUBDIVISIONS</b>			

»

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# Annex II Financial Summaries

New Assets Capital Costs Summary

Activity	Year 1 12/13	Year 2 13/14	Year 3 14/15	Year 4 15/16	Year 5 16/17	Year 6 17/18	Year 7 18/19	Year 8 19/20	Year 9 20/21	Year 10 21/22
<b>Roading - Subsidised Physical Works</b>										
<b>Asset Additions</b>										
New Traffic Management Facilities	0	0	0	0	0	0	0	0	0	0
Replacement of Bridges and other Structures	0	0	0	0	0	0	0	0	0	0
New Roads	300,000	0	0	0	0	0	0	0	129,782	134,324
Road Reconstruction	0	0	0	0	0	0	0	0	0	0
Seal Extension	0	0	0	0	0	0	0	0	0	0
Minor Improvements	622,374	639,728	735,344	699,201	720,177	743,223	761,671	789,853	816,708	845,292
Pedestrian Facilities	0	0	0	0	0	0	0	0	0	0
Cycle Facilities	0	55,726	23,049	22,003	22,663	0	0	12,551	0	13,432
<b>Total New Assets</b>	<b>922,374</b>	<b>695,453</b>	<b>758,393</b>	<b>721,204</b>	<b>742,840</b>	<b>743,223</b>	<b>761,671</b>	<b>802,404</b>	<b>946,490</b>	<b>993,049</b>
<b>Roading - Non subsidised Physical Works</b>										
<b>Asset Additions</b>										
Subdivision Contribution	110,000	113,410	117,379	121,018	124,649	128,637	133,140	138,066	142,760	147,757
Miscellaneous Work	89,447	30,368	31,436	32,403	33,376	34,452	35,649	36,969	38,233	39,566
New kerb & Channel - Ashburton	0	0	0	0	0	0	0	0	0	0
New kerb & Channel - Methven	0	0	0	0	0	0	0	0	0	0
New kerb & Channel - Rakaia	0	0	0	0	0	0	0	0	0	0
New kerb & Channel - Rural	0	0	0	0	0	0	0	0	#REF!	0
Seal Extension	58,895	60,735	62,871	64,805	66,752	68,903	71,299	73,938	76,467	79,132
<b>Total New Assets</b>	<b>258,342</b>	<b>204,513</b>	<b>211,686</b>	<b>218,226</b>	<b>224,776</b>	<b>231,992</b>	<b>240,088</b>	<b>248,973</b>	<b>#REF!</b>	<b>266,454</b>
<b>Footpaths</b>										
Ashburton	7,598	0	3,447	0	3,664	0	3,913	0	4,196	0
Methven	0	0	0	0	0	0	0	0	0	0
Rakaia	0	0	0	0	0	0	0	0	0	0
Rural	0	0	0	0	0	0	0	0	0	0
<b>Total New Footpaths</b>	<b>7,598</b>	<b>0</b>	<b>3,447</b>	<b>0</b>	<b>3,664</b>	<b>0</b>	<b>3,913</b>	<b>0</b>	<b>4,196</b>	<b>0</b>
<b>Total All Asset Additions</b>	<b>1,188,314</b>	<b>899,966</b>	<b>973,526</b>	<b>939,430</b>	<b>971,280</b>	<b>975,215</b>	<b>1,005,672</b>	<b>1,051,377</b>	<b>#REF!</b>	<b>1,259,504</b>

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## Annex III Development Plans

Copies of the development plans adopted for the following towns are attached. They do not necessarily follow the page numbering and other conventions of this AcMP.

- ◆ Ashburton / Tinwald
- ◆ Methven
- ◆ Rakaia



Figure F-5 Ashburton/Tinwald Development Areas

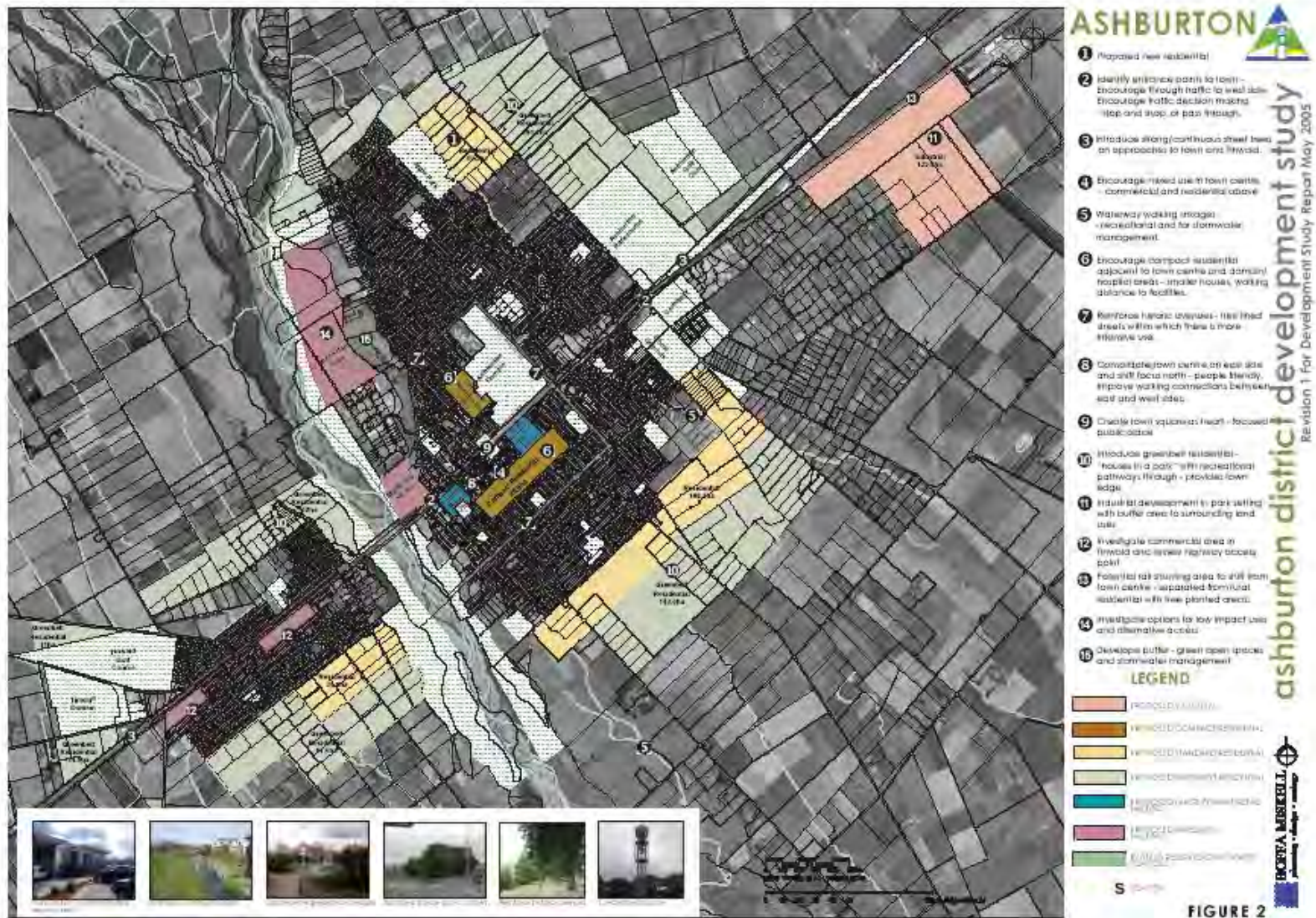






Figure F-6 Methven Development Areas

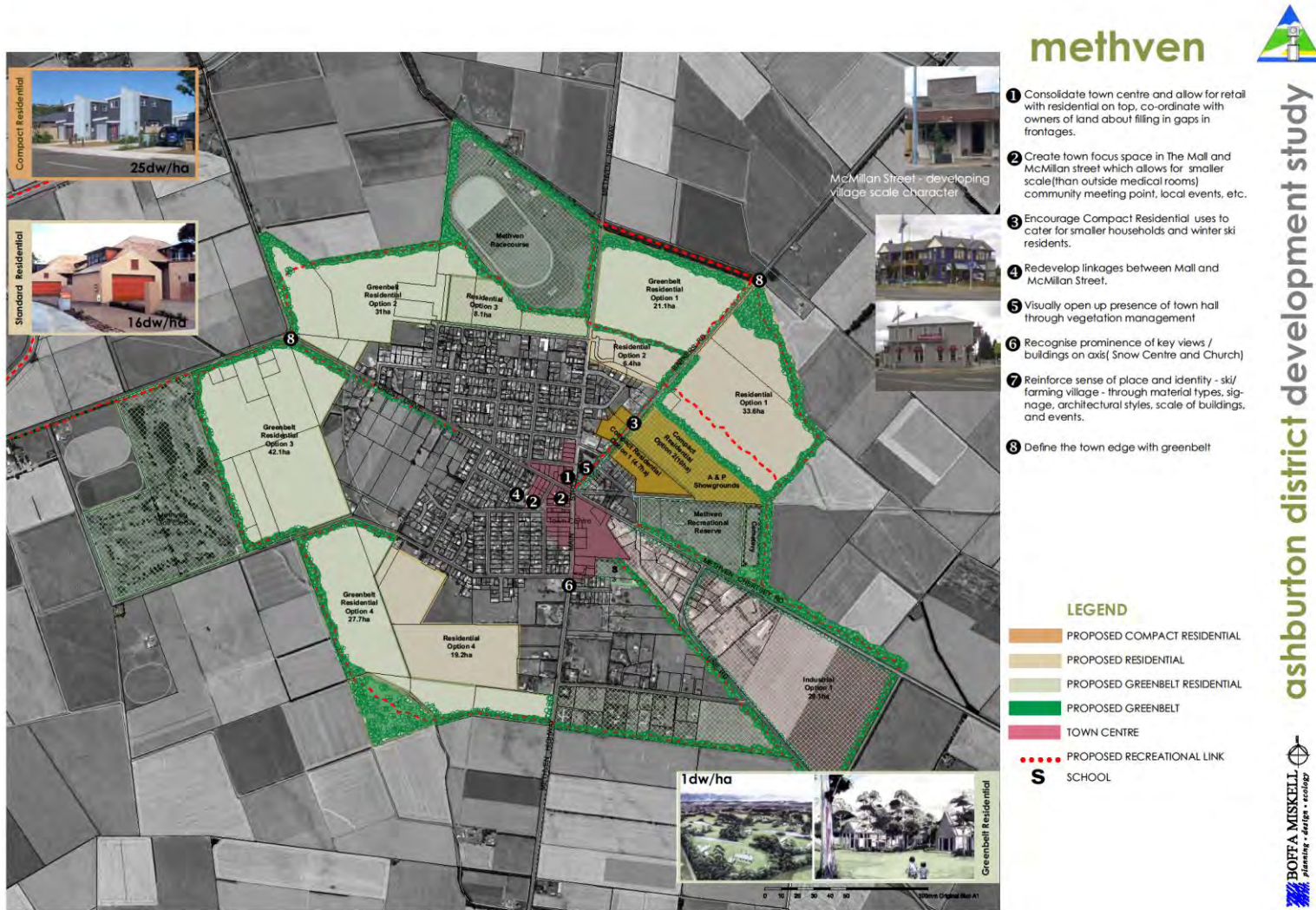


Figure F-7 Rakaia Development Areas



## rakaia



- 1 Consolidate town centre - encourage village scale development opportunities and commercial infill to develop street edge.
- 2 Develop round about as square - add trees for scale and structure.  
Encourage new uses for and protect BNZ building, Pub, Library/Community Centre, and Post Office - Look to revitalise these buildings and extend space outside in association with new uses.
- 3 Encourage new uses for and protect BNZ building, Pub, Library/Community Centre, and Post Office - Look to revitalise these buildings and extend space outside in association with new uses.
- 4 Develop residential uses facing onto Rakaia Domain to create outlook and 'eyes on' the area.
- 5 Establish Townbelt around township - Burrows Rd - to form Eastern Townbelt to define town edge and make recreational linkage around town
- 6 Encourage growth on west side (school and shops there) of Highway to limit connection issues across.
- 7 Provide for industrial growth to recognise main rail / road and proximity to Christchurch.
- 8 Link potential tourist site development S, E to historic town centre

### LEGEND

- PROPOSED INDUSTRIAL
- PROPOSED COMPACT RESIDENTIAL
- PROPOSED RESIDENTIAL
- PROPOSED GREENBELT RESIDENTIAL
- PROPOSED GREEN BELT
- TOWN CENTRE
- PROPOSED RECREATIONAL LINK
- S SCHOOL

ashburton district development study





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# Appendix G Development Contributions & Financial Contributions

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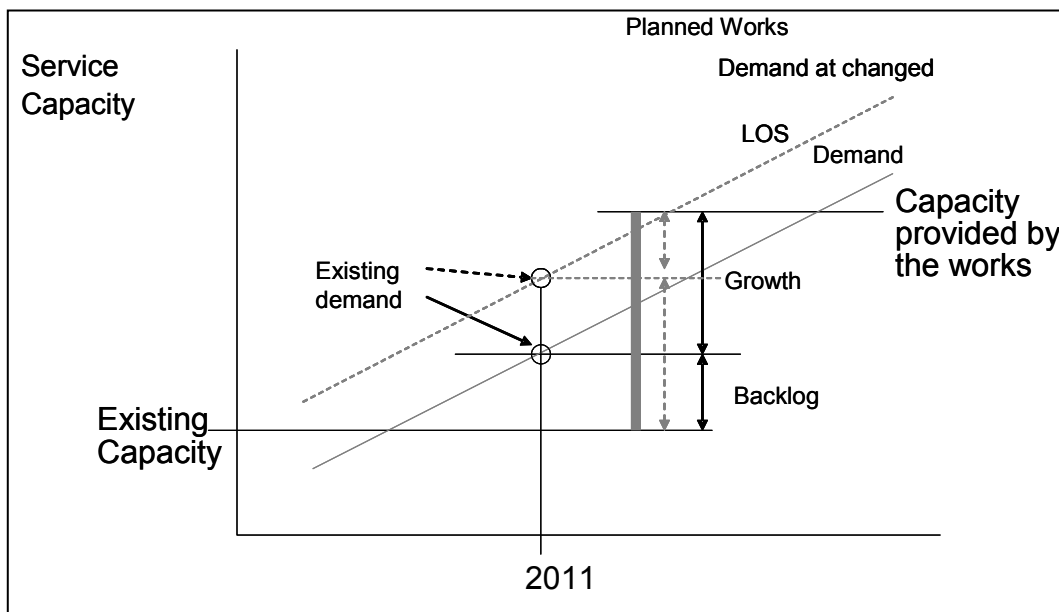
# Appendix G Development Contributions & Financial Contributions

*Legislative Background: Section 102(4)(d) and 106 and Part 8 Subpart 5 (Sections 197-211 and Schedule 13) Local Government Act 2002, and Section 108 Resource Management Act 1991*

## G- 1 Contributions and Charges

The relationship between capacity, growth, levels of service, and the delivered-capacity of new works is shown diagrammatically below.

Figure G-1 Service Delivery Shares



Those works that include a growth component, as highlighted in the diagram, can be considered for a development contribution – based on the cost of providing additional capacity for growth. Providing additional capacity for an enhanced level of service as well, shown here as the higher of the two sloping lines, may still attract a growth component but it will be of a lesser proportion.

At the time of writing of this Plan<sup>1</sup>, the Council had not prepared a Development Contributions Policy covering transportation works. Its reasoning for this being that new development work within the District usually only affects the land in question and the adjacent roads, and therefore Financial Contributions levied under the Resource Management Act 1991 as part of the subdivision / development approval processes ensure that the developers meet the reasonable costs of their developments.

<sup>1</sup> November 2011

Where a subdivision / development has frontage to an existing road that is not developed to the appropriate standard for that development, e.g. it has no kerb and channel or footpath and a carriageway with no provision for parking, the Council meets 50% of the cost of providing the additional facilities and the developer the balance. The actual shares required being stipulated by the conditions of consent and based on the assessed benefits to the existing road users and the development.

As described in **Error! Reference source not found.**, subdivision charges are levied for specific works that need to be carried out on roads adjacent to new developments, where the standard of the road is inadequate for the development. This work is funded 50% by ADC.

## G- 2 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table G-1 Development Contributions Improvement Actions**

Development Contributions			
Item		Priority	Comments
G1	Appendix G to be completed	Medium	Development calculations contributions

End of **Appendix G**



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# Appendix H Resource Consents and Property Designations

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# Appendix H Resource Consents and Property Designations

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*Reference / Reason: Resource Management Act 1991 and Public Works Act 1987*

## H- 1 Introduction

This section of the AcMP covers only those matters where the transportation network in the District is affected by the Resource Management Act and associated quasi-statutory documents such as Regional and District Plans. These plans control, among other things:

- ◆ Construction of bridges and culverts over water courses
- ◆ Diversion of natural water courses
- ◆ Disposal of stormwater
- ◆ Discharge of contaminants into the air
- ◆ Changes in the use of land
- ◆ Reservation of land for future use through the Resource Management Act land designation process
- ◆ The minimum standards that apply to aspects of transportation, particularly:
  - ◇ Parking
  - ◇ Road widths
  - ◇ Carriageway dimensions
  - ◇ Provision of footpaths
  - ◇ Separation of intersections
  - ◇ Separation of entranceways
  - ◇ Route security

The influence of this AcMP on consents issued by the Council is outside the scope of this Appendix.

There are two principal consenting authorities with jurisdiction over the matters covered in this plan. They are the:

- ◆ Ashburton District Council, and
- ◆ Canterbury Regional Council (Environment Canterbury (ECan)).

The District Council's requirements are covered by, the Ashburton District Plan and those of Environment Canterbury are included in the Canterbury Natural Resources Regional Plan. The Council has a set of minimum standards for transportation assets built as part of developments by parties other than the Council. While those standards ensure compliance with this AcMP their application is outside its jurisdiction, which is done through Resource Management Act processes.

### 1.1 Legislation

The principal legislation affecting this section of the AcMP is the Resource Management Act 1991. Virtually all sections of the Act have some relevance at some time or other.

The Public Works Act 1981 also contains a number of specific provisions including:

- ◆ Part 2 Acquisition of land for public works
  - ◇ Acquisition by agreement
  - ◇ Compulsory acquisition of land
- ◆ Part 3 Dealing with land held for public works
- ◆ Part 4 Gazetting, revocation, amendment, and registration of documents
- ◆ Part 5 Compensation
- ◆ Part 6 Grants of land, etc, in lieu of compensation
- ◆ Part 7 Surveys and investigations
- ◆ Powers of entry for certain survey purposes
  - ◇ 111 Powers of entry for other survey and investigation purposes
  - ◇ 111A Powers of entry for survey and investigation purposes other than by Minister or local authority
  - ◇ 112 Offence to destroy survey marks
- ◆ Part 8 Legalisation, stopping, and exchanging of roads
- ◆ Part 9 Roads
  - ◇ 133 Removal of trees, hedges, etc, that obscure visibility or interfere with a public work
  - ◇ 134 Service of notice
  - ◇ 135 Emergency work on trees, etc
- ◆ Part 13 Railways
  - ◇ 168 Compensation where road interfered with or wholly closed
  - ◇ 169 Access to land cut off from road or separated by railway
  - ◇ 170 Alterations to roads, drains, etc
- ◆ Part 21 General provisions
  - ◇ 233 Notice of entry to be given
  - ◇ 234 Emergency entry on land
  - ◇ 235 Power to alter or divert rivers, etc, for safety or maintenance of public work (Repealed)
  - ◇ 236 Imposition of building and other restrictions on land held for Government work
  - ◇ 237 Excavations near public works
  - ◇ 238 Controlling authority may bring action for damage to public work
  - ◇ 239 Removal and disposal of abandoned property from public works land
  - ◇ 240 Recovery of land from persons holding illegal possession
  - ◇ 241 Obstructing employees
  - ◇ 242 Offences and penalties

## H- 2 Types of Consent

The Council can hold up to three broad types of consent from ECan to cover its roading activities: Global consents, period consents and project consents. In addition, emergency consents, which may encompass one or more of these categories, may be held from time to time.

### H- 2.1 Global consents

Global or period consents are sought, and granted, to cover particular activities across the whole district such as disturbance of river-beds near bridges for bridge and culvert construction. These consents are generally sought for 35 years, the maximum possible.

### H- 2.2 Period Consents

These are issued for on-going activities in specific locations for periods of up to 35 years. An example of a period consent is one that might be granted for the discharge of contaminants to air from crushing operations in a gravel pit.

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## H- 2.3 Project Consents

As the name implies, are for specific projects. They are usually surrendered on completion of the project unless there is a specific reason for retention. Consents issued by the District Council are generally Project Consents and expire automatically when the project is completed. Project consents issued by ECan do not expire automatically and must be cancelled, by advice to ECan, to avoid the continual imposition of on-going consent monitoring fees.

## H- 2.4 Emergency Consents

Major wet weather events in particular can periodically cause widespread and significant damage to the roading network. Often the work required during and after such events requires consent from either or both ECan and the Ashburton District Council.

Emergency Consents may be applied for retrospectively. Sections 330 and 330A of the RMA 1991 apply. Such consents are usually Project Consents but there are circumstances where global emergency consents might be applied for.

The Council has adopted a best-practice method of informing ECan staff verbally, at the earliest opportunity, of the need for emergency consents and following this advice up by e-mail and a written application for consent made within the statutory time limit.

## H- 3 Approach to Resource Consents

The NRRP as notified requires resource consents to be obtained more frequently than in the past – for example consents now need to be obtained for routine maintenance work in river beds, and the installation of culverts.

Ensuring that all necessary resource consents are obtained in a timely fashion is a critical aspect of road and transport management. The Council is required to monitor the environmental impacts of its activities, accounting for such basic environmental matters as:

- ◆ the taking (and possible depletion) of natural water
- ◆ the diversion of natural water courses
- ◆ the disposal of waste into natural waters

From time to time, there will be work on the roads that does have specific consent requirements, such as bridge upgrade or replacement where the waterway may be affected, or issues of stormwater run-off being properly treated before discharging to waterways to avoid contamination. It is anticipated that the latter issue will require consenting prior to any work being done, and that this will be carried out by the Council's Water Services section under the stormwater activity.

The Council maintains a database of all the consents it holds, the majority of which are related to the operation of various utilities. This database is used in the management and monitoring of the consents and, in particular, to keep track of the expiry dates so that new consents can be applied for in a timely manner. Large consents, especially global consents, can take over a year to prepare, lodge and process and can be expensive.

### H- 3.1 Third-Party Consents

ECan requires developers to obtain resource consents for stormwater disposal from new roadways. These processes have resulted in the creation of urban drainage swales and storm-water treatment

areas that require on-going maintenance. The consents for these discharges and maintenance responsibility for the treatment areas and similar features is generally transferred to the Council when the 224C certificate<sup>1</sup> is issued for the development. In some cases, individual sites are also required to dispose of their own stormwater on-site.

### H- 3.2 Consents Held

Consents held by the Council for transportation asset activities are shown in Annex I to this appendix. Project specific consents are usually relinquished when the need for them has past, e.g. when a bridge reconstruction is finished; this saves ongoing consent supervision costs imposed by the consenting authority.

### H- 3.3 Monitoring and Reporting

The extent to which the Council has been able to meet all of the conditions of each consent is reported in its Annual Report each year.

## H- 4 Consents to be Sought

Analysis of the forward works programmes detailed elsewhere in this Plan indicates that the need for the consents detailed in Annex II should be considered in detail, and if confirmed should be commissioned in the years indicated in that table.

## H- 5 Property Designations

The Ashburton District Plan does not contain any specific designations for local roading purposes and there are currently no plans to change this. However, it does contain provisions requiring corner splays to be vested in the Council when these have not been previously created on the formation of new intersections.

From time to time work may be planned that may affect private land, or may require Council to secure areas of private land at some time in the future, e.g. for a re-aligned intersection. Designations are primarily used for this purpose; each case will be handled on its merits with full consultation with landowners with a view to getting their full agreement prior to formal proceedings under the RMA to complete the designation.

The District Plan records all designations.

Consideration of the effects of the growth described in this Plan, and the methods outlined in it to address and manage the effects of that growth, indicate that there is no need for new road alignments to be designated in the short, medium or long term.

## H- 6 Property Easements

There are no easements associated with the roading activity

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<sup>1</sup> The "completion certificate" issued under Section 224C of the RMA, stating that the conditions of consent have been met.

---

## H- 7 Conclusion

Resource consents are an important aspect of the activity, and this is expected to become more significant in the future due to the requirements of the NRRP.

## H- 8 Improvement Actions

Improvements identified in this section are:

**Table H-1 Resource Consents Improvement Actions**

<b>Resource Consents</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
H1	Document likely future resource consents	High	As required

Annex I      Current Consents  
Annex II     Proposed Consents

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# Annex I Current Consents

**Table H-2 Current Period Consents**

Location	Consent Issuer's No.	Ref	Consent No.	Purpose	Expiry Date
Double Hill Run Road & Hakatere Heron Road, Ashburton	CRC031632		CO6C/20383	To remove, erect, use and reconstruct structures over the beds of rivers.	09/06/2038
Hinds River at Boundary Road and Winslow Road, Ashburton	CRC051896		CO6C/22897	To disturb the bed of a river.	24/03/2040
Carneys Road Bridge, Ashburton	CRC051539		CO6C/22731	To remove a structure and place a structure in the bed of Taylors Stream.	10/03/2040
Carneys Road, Ashburton	CRC061053		CO6C/22731	To undertake works for, and the placement of, structures in the bed of an unnamed tributary of Taylors Stream to replace an existing ford with a culvert, including maintenance and reconstruction where necessary.	29/09/2005 Sec 37(1) Extend Initial 12/12/2040
Hakatere Heron Road, Ashburton	CRC021688.1		CO6C/19246	To disturb the bed to remove, place and reconstruct a culvert in Clent Hills Stream.	08/05/2037
River Road, Lower Ashburton River	CRC011696		CO6C/17730	To place and maintain a structure, to disturb and excavate the bed of the Ashburton River, and to remove and deposit vegetation.	05/06/2036
Double Hill Run Road, Rakaia Bridge #30	CRC110399		DM100154	To replace a bridge	
Bridge #146 Osborns Road, Tinwald	CRC110410		DM100155	Construct / Remove a bridge	
Dobson Street West, Ashburton	CRC103476		CO6C/31480	To discharge contaminants into surface water generated from approximately 5400 square metres of roading along Dobson Street West, Ashburton	29/11/2045
Dobson Street West, Ashburton	CRC103734		CO6C/31480	To undertake earthworks in the bed of an unnamed watercourse	29/11/2045
East Street and West Street Ashburton	CRC070615		CO6C/25712	To discharge contaminants to land	15/12/2026
Russell Avenue, ASHBURTON	CRC070799.1		CO6C/31425	Discharge of stormwater from 21 lot residential subdivision of lot 1 DP27482 at Russell Avenue, Ashburton	1/12/2041
Hackthorne Road Ashburton	CRC071563		CO6C/26087	To disturb the bed of the Hinds River	13/6/2042

Hackthorne Road Ashburton	CRC071565	CO6C/18370	To divert water from a re-alignment of the Hinds River at map reference NZMS 260 K37:8683-0435	13/6/2042
Arundel-Rakaia Gorge Road, ASHBURTON	CRC080803	CO6C/27342	To discharge contaminants to air being dust from the extraction of clay material at a pit on Arundel-Rakaia Gorge Road near the intersection with Lochheads Road, Buccleuch	19/2/2033
McLennans Bush Road, Ashburton	CRC091678	DM080147	To replace existing bridge	Activity ceased

**Table H-3 Current Project Consents**

Location	Consent Issuer's Ref No.	Consent No.	Purpose	Expiry Date

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## Annex II Proposed Consents

Location	Purpose	Period Required	Comments

**End of Appendix H**

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# Appendix I Renewals

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# Appendix I Renewals

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*Legislative Background: Schedule 10 Clauses 2(1)(d)(vi) and (2)(b) Local Government Act 2002*

## I- 1 Introduction

This section identifies the need for, and how, renewal and replacement of assets will be undertaken. It also contributes to estimating the expense of maintaining the identified levels of service, including the estimated costs associated with maintaining the service capacity and integrity of the assets. To do this it identifies renewal requirements, develops forward financial programmes for the principal sub-asset groups and explains the proposed future renewal strategies for each of those groups – a specific requirement of the Local Government Act 2002. In this context demand forecasting is particularly important as it provides the basis for the changing requirements for the service provided and the related costs.

A renewal is a major work that does not increase the asset's original design capacity or condition. Work over and above restoring an asset to original capacity is categorised as new work expenditure.

Renewal work therefore includes:

- ◆ Renewal and rehabilitation of existing assets to their original size and capacity that maintains the level of service provided by the assets
- ◆ Replacement of an entire component of an asset with a new one of equivalent size, capacity or a modern engineering equivalent of obsolete or obsolescent technology
- ◆ Replacement component of a new work that increases the capacity of an asset; i.e. that portion of an upgrading work that restores the asset to its original size and capacity and no more

Examples of renewals in the roading context include:

- ◆ Resurfacing of sealed and unsealed carriageways
- ◆ Over-laying existing pavements with new structural layers
- ◆ Extensive excavation of existing structural layers and their replacement with new material
- ◆ Replacement of road assets such as kerb and channel, footpaths, streetlights, etc at the end of their useful lives

Renewals are distinct from routine maintenance activities. The principal differences are that where routine maintenance is an on-going task occurring from day to day and is necessary to repair wear and tear and keep an asset operating safely, renewal works are periodic and often both expensive and extensive; they restore the service potential of the asset consumed by normal use. Asset renewal is undertaken when an asset, or significant component of an asset, has reached the end of its economic life. Renewals are normally considered at the level to which components are split for valuation purposes. Work that restores the structural integrity of components, e.g. repair of concrete spalling on a bridge, is therefore a maintenance activity as are owning and operating costs as defined by NZ IAS 16 and FRS 3.

There are a number of issues that influence renewal forecasting, and the associated works; they include:

- ◆ Wear and tear
- ◆ Climate and climatic changes
- ◆ Trends in usage
- ◆ Accuracy of predicted trends
- ◆ Local economic trends and the diversity of industries
- ◆ Changing technology and availability of materials
- ◆ Changing community expectations
- ◆ Changing legislation

Renewal works may be undertaken as separate contracts or be incorporated in maintenance contracts. The method of delivery does not alter the type of work, i.e. its status as a renewal. Nevertheless it is important that renewal costs are identified separately.

## I- 2 General Renewal Tactics

### I- 2.1 Identification

The purpose of cyclic renewal, replacement or rehabilitation strategies is to provide for the progressive replacement of individual asset components that have reached the end of their useful lives. This purpose is considered in the context of sound Infrastructural Asset Management, which is *“to meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers”*<sup>1</sup>. The effect of these two purposes, and of prudent financial management, is that renewal works should be scheduled to occur ‘just when the asset is worn out’. In roading, where there is a large asset base with a large number of different service lives and use-rates, this can be regarded as the work being carried out at a rate that maintains the value of the network in the long term.

The overall objective for rehabilitating and renewing pavements is to apply the correct treatments at the optimum time so that the required level of service is delivered whilst minimising total life cycle costs.

Renewals expenditure levels are set and adjusted on the following basis:

- ◆ the condition profile of the assets
- ◆ ongoing maintenance requirements and costs
- ◆ the age profile of roading and footpath assets
- ◆ the life expectancies of individual asset components

Failure to maintain an adequate cyclic asset replacement will result in a decline in the overall standard and performance of the asset or asset components and generally also lead to increasing costs of ownership and use, unless the component is abandoned and withdrawn from service.

The Council employs a number of techniques to assist it in establishing the optimal time in an assets life for renewal to occur. These techniques include:

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<sup>1</sup> International Infrastructure Management Manual – International Edition, 2011 ©

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## I- 2.2 End of Life Projections

Base lives and remaining lives are determined using the methodology set out in the International Infrastructure Management Manual (IIMM), and are documented in the current asset valuation.

Age, current costs and condition profiles are used to determine forward renewal programmes that are intended to maintain the overall standard of the system.

## I- 2.3 Demographic and Land Use Changes

The future effects of population and land-use changes can be assessed through monitoring of population data and, for example, by using aerial photography and the GIS system.

No such modelling or monitoring is currently being carried out and therefore this section of the plan is based on existing knowledge of current trends. However, this is not considered to be a particular vulnerability affecting Renewals.

# I- 3 Optimised Decision Making Framework

The NAMS Group's Optimised Decision Making Guidelines (published in November 2004) provides the framework for decision making for the maintenance, renewal and development of new assets, based on economic principles and multi-criteria objectives reflecting community well-being. It represents best practice, advanced asset management.

The ODM process involves the consideration of different options for solving a particular problem, allowing for different trade-offs and financial outcomes.

This framework from the Guidelines, shown in Figure I-1 below, can be applied to single project or network level decision-making processes. The process is closely linked to community outcomes, especially important for significant decisions.

## I- 3.1 Deterioration Modelling

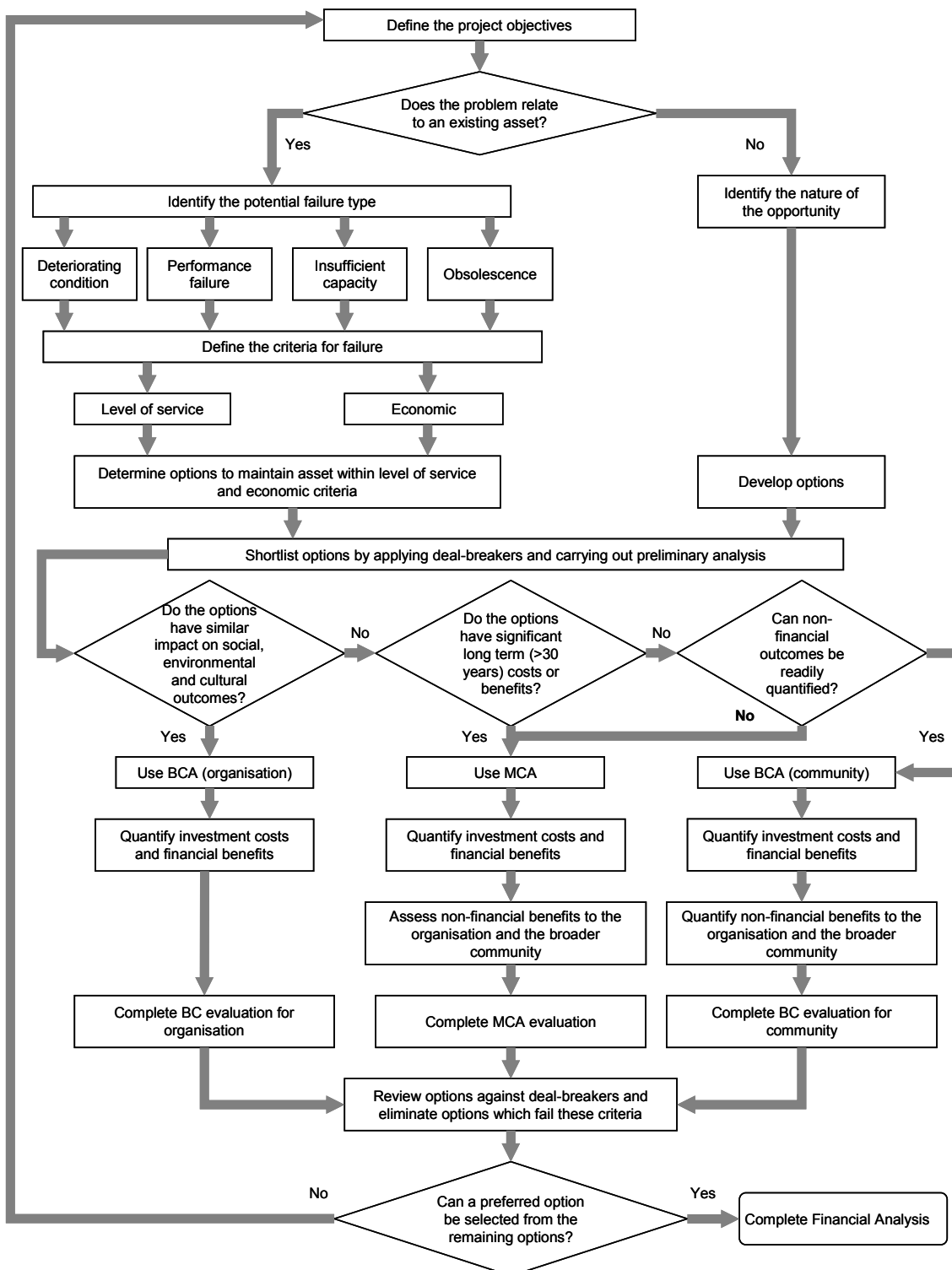
In this context, Deterioration Modelling is the predictive modelling of network components, network condition and use to:

- ◆ generate expected performance curves for asset components over time
- ◆ generate a list of feasible alternatives for addressing the deterioration of the asset
- ◆ include the costs borne by road-users in the decision making process
- ◆ optimise the available renewal strategies for different funding levels
- ◆ prioritise interventions for different funding levels



◆ report on the results of the analyses

Figure I-1 IIMM ODM Process



The Council is having an initial deterioration model completed during 2009/10 to provide a base that will be built on in future years and also to provide better information for preparation of LTPs by modelling pavement deterioration on the parts of the network where there are high traffic volumes and heavy axle loadings. Use of dTIMS is acknowledged by the NZ Transport Agency as being good practice in most cases; it provides outputs ranking optimised projects at a network level. dTIMS

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modelling is an operational cost and is included in the financial forecasts shown in Appendix E and summarised in Appendix L.

### **I- 3.2 Benefit:Cost Ratio Analysis**

Benefit:cost ratio, or more correctly social benefit:cost ratio, analysis is explained in Appendix I Renewals. In summary, it considers the costs of various project options over a 30-year period and the user and social costs associated with each option over that time to determine the best option for completing a project.

Benefit:cost ratio is essentially a project-level tool. The procedures and methodology for its use are established by the NZ Transport Agency.

### **I- 3.3 Net Present-Value (NPV) Analysis**

The difference between net-present-value<sup>2</sup> analysis and social benefit:cost ratio is that the least-cost analysis(NPV) considers only roading costs, ignoring those costs borne by road-users. NPV is required by NZTA for some renewal works, including kerb and channel replacement and some pavement-structure renewals.

NPV analysis is used at both project level and at network level. In the latter case, it is carried out using the Treatment Selection Algorithm included in the RAMM<sup>3</sup> software package.

### **I- 3.4 Financial Modelling**

To establish depreciation charges for the road network the Council values and depreciates its assets as required by law. Valuation and Depreciation of the roading asset are discussed further in Appendix D and Appendix J respectively. The results of the analyses required to establish the appropriate depreciation charges can be interpreted as a statement of the value of the service potential of the asset, or its components, lost or consumed through use.

If the asset is to be maintained in its optimal condition over time the long-term cost of depreciation should be matched by the long-term expenditure on renewals.

In most instances depreciation is used as a check against other predictions of deterioration, and vice-versa. However, in some cases, such as signs for example, it serves as the best proxy for the behaviour of the asset.

## **I- 4 Roading Activity Renewal Practices and Cost Projections**

### **I- 4.1 Engineering Costs**

Engineering design and contract supervision costs are included in all budget forecasts for renewals. In this respect, renewals are treated in the same manner as new works.

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<sup>2</sup> Present-value, net-present-value, least-cost, and least maintenance-cost have the same meaning in the context of this plan.

<sup>3</sup> Road Assessment and Maintenance Management System; this is standard software, developed and maintained by CJN Technologies, used by NZ road controlling authorities. Its use or an acceptable equivalent is required by NZTA.

## I- 4.2 Sealed Pavements

The types of pavement renewal work undertaken are summarised below.

**Table I-1 Pavement Renewal Work-types**

Work Type	Objective	Methods
Resealing/ Resurfacing	To maintain a waterproof and skid resistant road surface	<ul style="list-style-type: none"> <li>•Chip seal: a layer of sprayed hot bitumen or emulsified bitumen covered with a layer of stone chips, with the amount of bitumen being altered according to the chip size.</li> <li>•Slurry seal: mixture of fine aggregate and emulsified bitumen laid up to 6mm thick (very few used by ADC).</li> <li>•Asphaltic concrete: Mix of graded aggregate and asphaltic binder, generally in a 20-35mm layer.</li> <li>•Metal: mixed grade crushed metal with high proportions of fines, silt- factions are not –preferred but clay is acceptable, and a maximum size of around 20mm; this layer is bound by water.</li> </ul>
Re-construction / Rehabilitation / Area Wide Pavement Treatment (AWPT)	Restore sub-base and/or basecourse strength Alter road surface level to accommodate kerb and channel realignment	<ul style="list-style-type: none"> <li>•Sealed Reconstruction: Remove the existing seal, basecourse and/ or subgrade and replace with new material (normally undertaken as isolated areas of dig-out rather than full road reconstruction).</li> <li>•Stabilisation: Increase the strength of existing basecourse / sub-base materials in association with dig-outs by adding a stabiliser (hydrated lime or cement) and re-compacting.</li> <li>•Granular Overlay: In rural areas the construction of an additional layer of road metal on top of the existing pavement surface (most commonly undertaken)</li> <li>•Maintenance Metalling: Regular addition of additional basecourse / running course material to unsealed pavements</li> <li>•Unsealed Reconstruction: Construction of granular basecourse and clay-bound running course on heavily worn unsealed roads</li> </ul>
Smoothing	Smooth irregularities in road surface caused by differential settlement or compaction where the structural condition of the carriageway is generally sound	<ul style="list-style-type: none"> <li>•Shape Correction: Typically a rural treatment, placement of an additional surfacing on the existing sealed surface to smooth out irregularities. The materials used depend on traffic volumes/ road geometry and condition. (Typically undertaken in localised, pre-reseal areas).</li> <li>•Asphaltic concrete: Typically an urban treatment; may also be used on roads where there are high stresses or high traffic volumes.</li> </ul>

The selection of the actual sections of carriageway treated each year and the treatment used is based on a combination of the output from the dTIMS Modelling and the “treatment selection algorithm” output from RAMM. It is planned to improve the decision-making process by using dTIMS more rigorously to model future long-term pavement deterioration and optimal treatment needs at the network level – for higher trafficked sealed pavements initially. The recommendations from dTIMS will be verified by visual inspection before final prioritization.

Justification for pavement renewal treatment is based either on the economics of continuing to maintain versus undertaking the renewal (“agency costs” only), or on full project evaluation procedures (“total transport costs”). In the latter, a B/C ratio of 4.0 is currently used as the threshold for obtaining the NZ Transport Agency subsidy.

### I- 4.2.1 Sealed Pavement Surfaces

Reseals are selected using the following annual process:

- ◆ dTIMS Modelling undertaken with list of reseal sites investigated and verified by ADC staff
- ◆ Actual maintenance cost and records are assessed where available
- ◆ Final list is confirmed

There is a small amount of thin asphaltic concrete surfacing undertaken, mainly in urban areas. There is expected to be a steady increase in the length of roads with this surfacing to meet increasing traffic volumes and provide satisfactory service-lives in high-use areas. The strategy is to consider on a case-by-case basis, with the treatment options of rip and remake or overlay also considered. This work will often be related to pavement smoothing.

Expected lives are as follows. These lives are kept under constant review to ensure the Valuation and AcMP maintain consistency and that the expected lives reflect those being achieved.

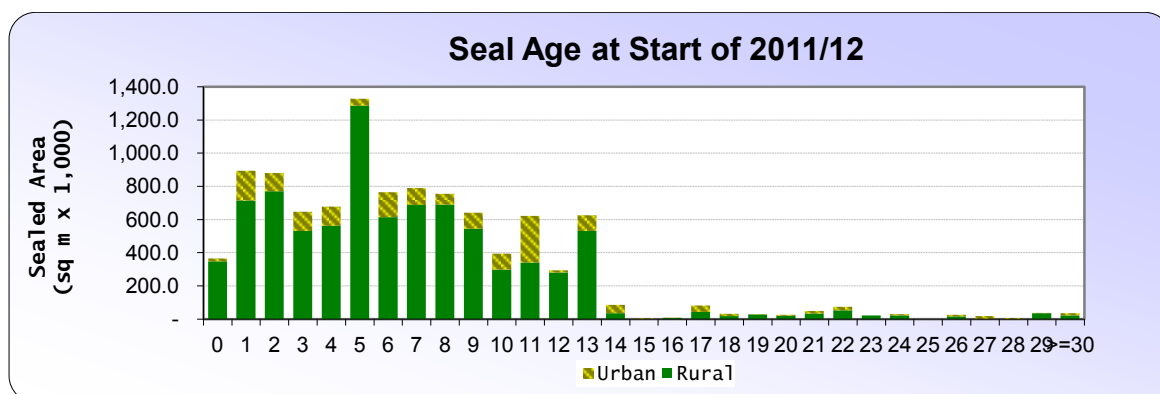
**Table I-2 Expected Surfacing Life**

		Expected Surfacing Lives						
		Traffic Volume						
Surface Material	Surface Function	ADT < 100	ADT 100-500	ADT 500-2000	ADT 2000-4000	ADT 4000-10000	ADT 10000-20000	ADT > 20000
Single Coat	1st Coat	3	2	2	1	1	1	1
	2nd Coat	11	10	8	7	6	5	4
	Reseal	11	10	8	7	6	5	4
Two Coat	1st Coat	8	6	5	4	3	2	1
	2nd Coat	16	14	12	11	10	8	6
	Reseal	16	14	12	11	10	8	6
Asphaltic Concrete	1st Coat	20	18	16	14	13	12	11
	Reseal	20	18	16	14	13	12	11
Brioche/Sandwich	Reseal	14	12	10	9	8	6	4
Racked-in Seal	1st Coat	4	3	2	1	1	1	1
	2nd Coat	11	10	8	7	6	5	4
	Reseal	11	10	8	7	6	5	4
Void Fill (G6)	Reseal	6	5	4	3	3	2	1

Source: [ADC TptAcMP Apx I Renewals v1.0.0.xlsx] Seal Life Renewals Info > \$A\$4

The seal age histogram Figure I-2 below shows that there are some top surfaces older than these ages.

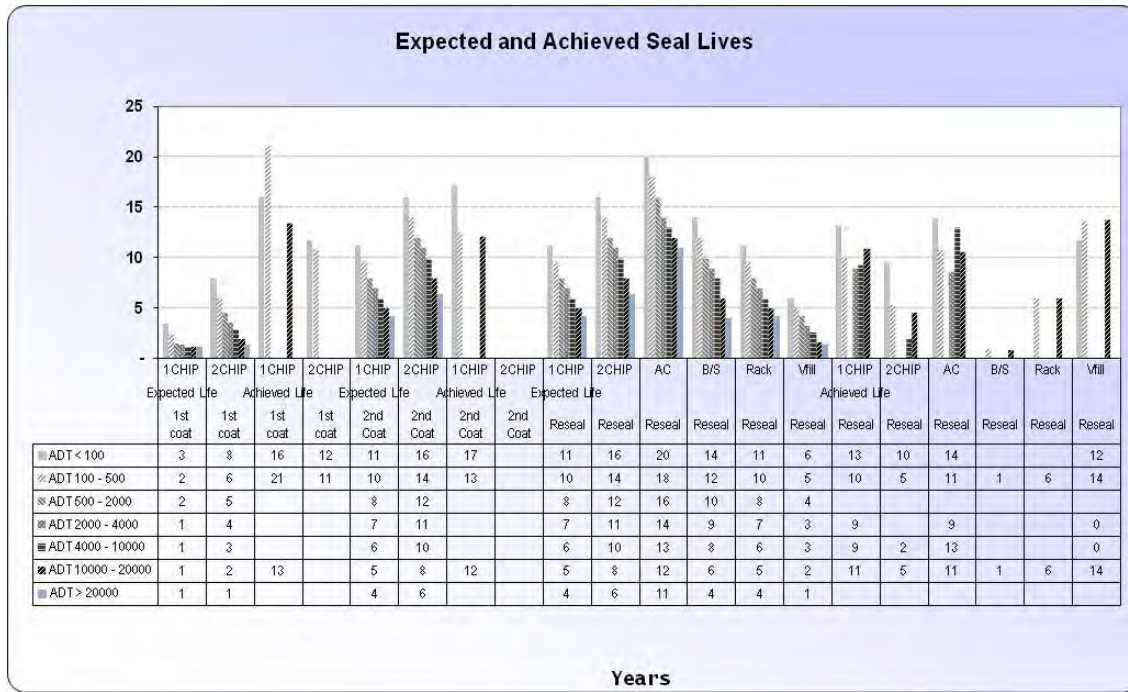
**Figure I-2 Seal Age Histogram**



Source: NZTA Annual Statistics via ADC TptAcMP Apx B Description v1.0.0.xlsx] Pavement > \$B\$320

Further analysis, outlined in the following chart, shows significant variations between expected and achieved lives; however, further analysis suggests that some of this difference may be because some reseals have not been recorded correctly in RAMM, resulting in excessive lives being calculated. During preparation of the resealing programme each year seal-age data for all "overdue" seals should be reviewed, and RAMM updated to reflect the assessed situation.

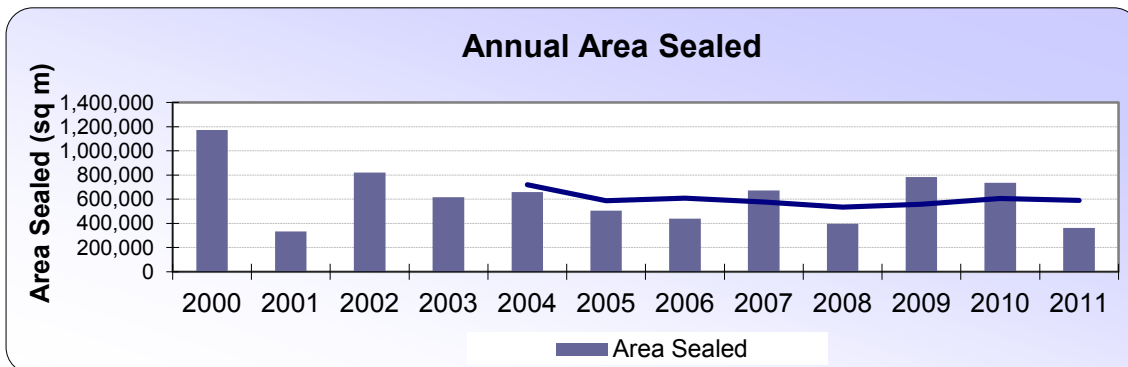
Figure I-3 Comparison between expected and Achieved Seal Lives



Source: [ADC TptAcMP Apx I Renewals v1.0.0.xlsx] Seal Life Renewals Info > \$A\$25

Historical resurfacing achievement is summarised in Figure I-4 below.

Figure I-4 Annual Area sealed



Source: [ADC TptAcMP Apx I Renewals v1.0.0.xlsx] Seal Life Renewals Info > \$A\$106

Over the next three years it is proposed to target 482,000m<sup>2</sup> per annum to allow an increase in rehabilitation works signalled by dTIMS and inspection. Costs are based on current contract rates, which have risen in recent years following changes in oil prices. Budgeting is made assuming steady state prices, however, factors such as competition and the cost of oil will have an impact in future years.

The strategy also involves a move to longer-life two-coat seals, such as grade 3/5 and grade 4/6 combinations. In addition to extending the operational life of the surfacing these seals also provide improved noise performance in urban areas.

Resealing is performed under an annual rates-based contract. Reseals once completed are recorded in RAMM, with the data including the date of the first coat seal, date of each reseal, and grade of chip.

I-4.2.1.1 Sealed Resurfacing

The average annual resealing requirements assessed on “Achieved life” and ‘Expected life” are:

**Table I-3 Approximate Annual Pavement Renewal Requirements**

Approximate Annual Pavement Renewal Requirements (Based on Achieved Life)						
Surface Type	Length (km)	Average Area (m <sup>2</sup> )	Av Life	Achieved Length / year (km)	Area / year (m <sup>2</sup> )	
Single Coat Seal	1,104.5	7,330,544	37	29.9	198,502	
Two Coat Seal	359.0	2,680,106	6	60.1	448,745	
Void fill seal	5.5	32,428	6	0.9	5,114	
Asphaltic concrete	10.2	100,918	12	0.9	8,706	
<b>Total</b>	<b>1,469</b>	<b>10,043,078</b>		<b>91</b>	<b>652,361</b>	

Source: [ADC TptAcMP Apx I Renewals v1.0.0.xlsx] Seal Life Renewals Info > \$A\$80

The estimated cost of this amount of work (2011 resealing contract rates) is \$2,635,184

**Table I-3.1**

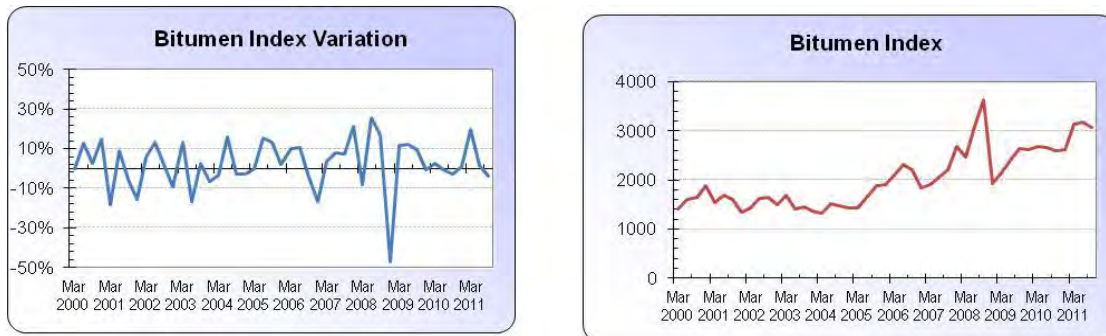
Approximate Annual Pavement Renewal Requirements (Based on Expected Life)						
Surface Type	Length (km)	Average Area (m <sup>2</sup> )	Av Life	Expected Length / year (km)	Area / year (m <sup>2</sup> )	
Single Coat Seal	1,104.5	7,330,544	13	84.0	557,597	
Two Coat Seal	359.0	2,680,106	10	36.5	272,221	
Void fill seal	5.5	32,428	4	1.3	7,600	
Asphaltic concrete	10.2	100,918	16	0.6	6,229	
<b>Total</b>	<b>1,469</b>	<b>10,043,078</b>		<b>122</b>	<b>837,418</b>	

The estimated cost of this amount of work (2011 resealing contract rates) is \$3,418,119

As the accuracy of the RAMM data improves and realistic expected lives are incorporated into the data these two tables will tend to converge on the actual network requirement.

The fluctuations in bitumen prices over the period since March 2000 are illustrated in the following diagrams.

**Figure I-5 Bitumen Index Variation**



Source: [ADC TptAcMP Apx I Renewals v1.0.0.xlsx] Seal Life Renewals Info > \$A\$125

#### I- 4.2.1.2 Programme and Financial Forecast

The forward programmes at 0 include detail of the roads planned for resurfacing. The financial forecast is at Annex II.

### I- 4.3 Sealed road-pavement rehabilitation

Annex II to Appendix D Asset Valuation outlines the expected lives of pavement layers.

This work is funded under NZTA work category 214.

#### I- 4.3.1 Sub-Base

Sub-bases on rural roads are considered to have infinite lives, and therefore do not require specific renewal. Loss of strength through use is addressed by granular overlay of the base when it has reached the end of its life.

In urban areas, a base renewal is usually achieved by removing the existing base and building a new one<sup>4</sup>. If the Sub-base also requires renewal it is anticipated that this would be done in conjunction with the base renewal work

#### I- 4.3.2 Base

A pavement-structure renewal programme is in place for sealed roads. The reconstruction programme for sealed roads is reviewed in line with the outputs of dTIMS modelling and site inspection.

The programme for sealed pavements is intended to address pavement deterioration that cannot be cost-effectively treated through a programme of planned maintenance and dig-out treatment.

#### I- 4.3.3 Renewal Techniques

- ◆ Granular Overlays are used where there has been significant deformation in the pavement, where pavement strength is known to be below the required level and where corrections are required to horizontal and vertical alignments. They are generally not suitable for renewing urban roads because of issues associated with kerb and channel levels and other urban services.
- ◆ Pavement Smoothing is the restoration of the ride characteristics of a pavement through the filling of surface depressions, usually by overlaying the pavement surface with a 50 to 75-mm layer of asphaltic concrete. This technique is not suitable for heavily loaded pavements, unless the underlying pavement structure is known to be sound, because it does not specifically restore pavement strength.

#### I- 4.3.4 Programme and Financial Forecast

The forward programmes at 0 include sites or roads where rehabilitation renewals are planned over the first three years of this ten year programme period.

The financial forecast is at Annex II.

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<sup>4</sup> Because of the constraints imposed by kerb and channel and other urban services.

#### I- 4.3.5 Improvement Needs

Life-cycle economics and road quality is being assessed using a treatment length approach. This may see a trend towards more granular overlays for sealed roads particularly as the road structure ages and loading continually increases, with a possible increase in the required budget.

### I- 4.4 Unsealed Pavements

All work described in this section is funded under NZTA work category 211.

#### I- 4.4.1 Unsealed Surfaces

Maintenance metalling is an ongoing renewal activity for the upper level of unsealed pavements, the total target application rate being 41,000 m<sup>3</sup> per annum, with a lifecycle of 8 to 22-years depending on the category of unsealed road, as detailed in Annex II to Appendix D. This is consistent with the asset valuation.

Total metalling costs should reduce over the years as the unsealed AWT programme takes effect.

#### I- 4.4.2 Unsealed Pavement Structure

The current strategy for pavement renewal on the more important unsealed roads is based on granular overlays. It includes reshaping, followed by placing a 150-mm layer of AP40 then a wearing course layer of 70-mm clay/lime bound AP20 material. Section B- 3.5.4 describes the process. Fifty road sections totalling 161.3 km of unsealed roads had been rehabilitated during the period 2000 to 2006 but are now in need of having the 70mm wearing course replaced, A further 189.1km have been identified as requiring treatment.

These roads are prioritised by traffic volume and maintenance costs. The strategy addresses the deterioration of unsealed pavements and roads that are of poor construction. Note that dTIMS has not been used to model unsealed pavements.

#### I- 4.4.3 Programme and Financial Forecast

The forward programmes at 0 include detail of the roads planned for wearing course replacement and rehabilitation.

Specific sites for metalling are assessed by the Service Provider and maintenance contractor, based on road condition and available metal depth, before submission to the Council's engineer for approval.

The financial forecast is at Annex II.

## I- 5 Drainage

Formal condition assessments are currently not undertaken to identify renewal needs. Staff make an annual visual inspection of known problem areas within the district to determine renewal priorities.

The following factors are considered when determining renewal priorities:

- ◆ asset condition needs



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- ◆ public safety
  - ◆ whether accelerated deterioration of the pavement is likely to occur due to poor drainage
  - ◆ coordination with other work programmes such as pavement reconstruction
  - ◆ degree of inconvenience occurring to road users, pedestrians and/ or property owners

A 75-year effective life is used in the asset valuation of sumps, kerb and channel and surface water channels recorded in RAMM. Culverts have a 100-year effective life.

This lifecycle is based on the observed condition of assets and historical renewal needs. The effective life will need to be reviewed when detailed condition and age data is available for analysis.

Renewal of drainage assets to protect pavement performance is funded from the Drainage Renewal category 213, with the "Footpath" accounts typically funding new kerb and channel.

Key renewal activities include:

- ◆ kerb and channel replacement, this is projected to increase over the next 10-20 years as the assets move further into their lifecycle.
- ◆ rural roadside drainage – principally swales associated with reseal and granular overlay projects. High-shoulders are removed prior to resealing and periodically on unsealed roads.
- ◆ culvert renewals are undertaken through the Maintenance Contract; these are not significant. While culverts are inspected for maintenance needs there is no formal condition-assessment programme for small culverts, and one is not warranted. Culvert renewals are therefore carried out on an as required basis.

### **I- 5.1     Rural**

The long-term rate of deterioration of rural roadside drainage capacity needs to be confirmed, so that an appropriate long-term lifecycle can be evaluated.

Current practice is to reinstate or upgrade rural roadside drains prior to or while undertaking reseal or granular overlay works. A life of 20-25 years is anticipated.

### **I- 5.2     Urban**

Given the current good condition and relatively young age profile of the existing kerb and channel, the renewal budget is considered reasonable at present. However Ashburton in particular has a large proportion of deep "D" drains that are increasingly requiring maintenance or removal by residents that find them awkward to step over etc. As the asset ages, the maintenance requirement will increase significantly. Age and condition profile data needs to be assessed for existing assets, to enable better forecasting of future renewal timing over the life of the assets.

### **I- 5.3     Programme and Financial Forecast**

The forward programme at 0 does not include details of planned small-culvert renewals, drainage renewals associated with granular overlays and resealing or swale renewals; rather, these are provided for within financial programmes only. However, proposed kerb and channel renewals are detailed.

The financial forecast is at Annex II.

## I- 6 Structural Component Renewals

This NZTA work category (215) definition provides for renewal of major components of structures where the structures themselves do not require replacement. The NZTA's Knowledge Base details the requirements for works to be included in this category. It is a funding mechanism only. The Council generally programmes its component renewals under the components' maintenance categories.

## I- 7 Environmental Renewals

This NZTA work category (221) provides for the renewal of stormwater-treatment areas associated with road runoff. As all these assets are quite new, no such work is planned over the next 10-years.

## I- 8 Traffic Services

MoTSAM and the Road Safety Manufacturers Associations' "*Compliance Standard for Traffic Signs*" have been adopted as ADC's codes of practice for sign maintenance.

The current focus is on renewing signs, and while there are increasing numbers of signs, the average condition is expected to improve.

### I- 8.1 Traffic Signals

The assumed effective lives for traffic signal components range from 15-years to 50-years as summarised in the following table.

All components with 15-year lives are expected to require renewal during the next 10-years. As there are only two sites, and as all work is likely to be done at about the same time a detailed programme has not been prepared. The financial forecast is at Annex II.

Table I-4 Traffic Signal Component Lives

Asset element	Unit	Expected Life
Cabling	Pole	50
Controllers & Cabinets	each	15
Detector Loops	each	15
Illuminated Signs	each	15
Pedestrian Lanterns	each	15
Push Button Assemblies	each	15
Signal Poles, Outreach	each	50
Signal Poles, Standard	each	50
Vehicle Lanterns	each	15

### I- 8.2 Signage

The following assets are renewed under this category:

- ◆ Signs
- ◆ Chevron boards at intersections
- ◆ Edge Marker Posts

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◆ RRPMs

The forward programmes at 0 do not include details of planned traffic services renewals because of the large number of relatively low-value items involved. The financial forecast is at Annex II.

### I- 8.3 Streetlighting

All townships are well provided for, and most of the older style mercury vapour lights have been replaced.

Renewal needs are identified from planned inspections and during the course of on-going maintenance works undertaken by the contractor.

Historically, renewal strategies were determined by Electricity Ashburton with limited input by Ashburton District Council, but Council staff are now more involved. The level of streetlight renewal depends on the age and condition profiles of the assets, the rate of the under grounding programme, the level of on-going maintenance undertaken and the economic lives of the materials and components used.

The Council has input in determining under grounding priorities, and 3-5 streets are typically treated each year. Upgrading of lighting is funded through Minor Improvement Works and renewal of existing light fittings is funded under this programme.

Obsolescent lanterns and fittings are removed, and older lanterns such as mercury vapour replaced with energy efficient high-pressure sodium (HPS) lighting. Replacement of existing bulbs and luminaries with HPS is funded as part of this programme.

All work is undertaken in compliance with the Electricity Act 1993 and Electricity Regulations 1993.

The forward programmes at Annex I include details of planned street light renewals but only financial provision for isolated renewals following failure of individual fittings. The financial forecast is at Annex II.

## I- 9 Bridges

NZTA categorises small bridge replacements as Minor Improvements (W/C 341) unless the works are likely to exceed \$5million in cost or have a benefit to cost ratio greater than 4 and therefore can proceed as a project in their own right. Bridge replacements are identified through the regular service provider bridge inspections.

Bridge component renewal needs are identified from the planned structural inspection programme, which was described in Appendix E Maintenance. Renewals are carried out following 3-yearly inspections rather than the industry minimum standard of 5-6 years. Prioritisation of the required work is generally in accordance with the engineering priorities advised by the Bridge Inspector. Occasionally these may be altered to conform to other programmed works.

The required level of renewal depends on the age and condition profile of the structures, the level of on-going maintenance and the economic lives of the materials used.

Overall, the bridge stock is generally in a sound condition and is being maintained in a manner consistent with accepted Local Authority rural bridge standards. However the timber bridges continue to deteriorate and over the next ten years attention needs to focus on the removal/replacement of these structures which are at or nearing the end of their life.

Replacement or reconstruction of a number of structures has been recommended in the Opus 2011-12 Bridge Management Report with a recommended average annual funding level of approximately \$205,000 pa.

Prioritisation of works and the selection of renewal options are based on economic evaluation using The NZ Transport Agency Evaluation Manual's criteria. Cost/ benefit calculations may also include an assessment of risks associated with earthquakes and floods.

The lowest cost option, considering all life cycle costs over a 25-year period, is selected, except where funding limitations necessitate shorter-term (lower cost) options for works that cannot be deferred. Bridge renewals are designed in accordance with the NZ Transport Agency 'Bridge Manual' and the Austroads guideline 'Waterways Design 1994'.

The forward programmes at 0 include details of planned bridge and large culvert renewals. The financial forecast is at Annex II.

## I- 10 Streetscape

Streetscape assets are:

- ◆ Seats
- ◆ Picnic tables
- ◆ Cycle stands
- ◆ Rest areas

Formal condition assessments are currently not undertaken to identify renewal needs. Staff make an annual visual inspection of known problem areas within the district to determine renewal priorities. Renewals are currently undertaken under the Footpaths Maintenance contract; however, these works are to be separated out in future.

## I- 11 Footpaths

Renewal work currently involves resurfacing and less-frequent reconstruction of footpaths; it does not receive financial assistance from the NZTA, except in specific circumstances. Replacement of kerb and channel that either is failing structurally, or is adversely affecting the adjacent carriageway's integrity, may be subsidised by the Agency. The two works are often carried out together.

The renewal strategy is based on the need to maintain the asset in a safe, efficient and cost effective manner.

Work needs are identified from visual inspections undertaken in association with annual budget preparation and customer complaints. Although there is no formal basis for prioritising works, the following factors are taken into consideration when programming work:

- ◆ safety issues (differential settlement/ cracks),
- ◆ age and physical condition,
- ◆ risk of accelerated deterioration,
- ◆ location and usage of footpath, and
- ◆ coordination with other works, such as kerb and channel replacement or relocation

A condition rating exercise was produced in 2010-11 and entered into RAMM.

General practice is for footpaths to be fully reconstructed and surfaced with asphaltic concrete where footpath structural layers have deteriorated to an extent where simple AC resurfacing is not practical. This decision will also be influenced by the presence or future likelihood of utility services below concrete paths. Chip seal surfaces are obsolete technology for footpaths and are steadily being replaced.

Footpaths are constructed to the width of the existing footpaths (minimum 1.5 metres). The opportunity to narrow footpaths to the minimum standards is not taken because of future ongoing cost considerations. Historically the Ashburton **County** Council mowed grass berms in townships under its control. The District Council has not continued this practice but residents in those towns object strongly to increased grass-berm width outside their properties.

The following general strategy forms the basis for establishing the annual target renewal programme for the AcMP. The surfacing lifecycle has been reduced to 25 years to reduce the need for full reconstruction through premature layer deterioration, and to improve the surface quality intervention level. The basecourse life is currently 50 years (except for concrete paths (75 years). This is consistent with the 2011 Valuation, and equates to an average of 8.2-km pa. The average width of all footpaths, from the table below, is 2.5m. Chip seal paths average 2.8m, and AC 2.1m.

Footpath base-courses are assessed to have total useful lives of 75-years, and surfacing 25-years. The average annual footpath renewal needs are summarised in the following table:

**Table I-5 Average Annual Footpaths Renewal Needs**

<b>Asset Component</b>	<b>Total Length (km)</b>	<b>Amount (m<sup>2</sup>)</b>	<b>Renew with ...</b>	<b>Lifecycle (yr)</b>	<b>Average Annual Need (km)</b>	<b>Average Annual Need (sq m)</b>
Asphaltic concrete (black)	97.9	224,471	Asphaltic concrete	25	3.9	8,979
Asphaltic concrete (red)	1.0	2,898	Asphaltic concrete	25	0.0	116
Concrete	6.0	9,032	Asphaltic concrete	75	0.1	120
Concrete (Black)	0.2	537	Asphaltic concrete	75	0.0	7
Interlocking blocks	1.6	4,652	Interlocking blocks	50	0.0	93
Metal	4.2	10,411	Metal	25	0.2	416
Seal	91.4	267,126	Asphaltic concrete	25	3.7	10,685
Slurry Seal	8.2	20,015	Slurry Seal	25	0.3	801
<b>Grand Total</b>	<b>210</b>	<b>539,143</b>			<b>8.2</b>	<b>21,217</b>
		Total	Asphaltic concrete			19,907
Basecourse Layers	210	539,143	Basecourse Layers	75	2.8	7,189

Source: S:\Operations Division\Ss\Activity Management Plan\Transportation\ADC TptAcMP Apx I Renewals v1.0.0.xlsx] Footpaths, \$B\$4

Historically, the resurfacing rate has been 8.2 to 8.5-km annually. Given that most footpaths are chip seal and older than 10 years, this renewal strategy is likely to take at least 10 years to convert the balance of these footpaths to AC. This may become a significant level of service issue, as performance of these footpath surfaces has been a concern to residents and users. This will continue to be monitored.

The forward programme provides for the following target rates:

**Table I-6 Target Footpath Renewal Rates**

<b>Township</b>	<b>Target Length pa (km)</b>	<b>Resurfacing</b>
Ashburton Methven, Rakaia, Rural townships	7-km 0.5-km min combined	
<b>TOTAL</b>	<b>7.5 km</b>	

The forward programmes at Annex I include details of planned footpath renewals. The financial forecast is at Annex II.

## I- 12 Parking Activity Practices

*To be completed*

## I- 13 Summary

Future likely renewal requirements are scheduled in Annex II to this appendix. It identifies major items separately and a bulk item each year for other items.

## I- 14 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table I-7 Renewals Improvement Actions**

<b>Renewals</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
1	Increase use of dTIMS to determine forward pavement renewals	<b>High</b>	I- 4.3
2	Establish deterioration curves for all major non-pavement assets to facilitate conditional prediction and management of renewals	<b>Medium</b>	
3	Carry out life-cycle analysis of non-pavement renewal needs	<b>High</b>	Helps avoid unexpected surprises and helps establish better-coordinated renewal programmes. Bridges should be accorded priority. I- 9
4	Update dTIMS modelling and assessments before next LTP funding programme is prepared	<b>Medium</b>	



# Annex I 3-Year Renewal Programme

## I- 1. Maintenance Chipseals

2011/12 Yr 0	ADC Work Area	2012/13 Yr 1	2013/14 Yr 2	2014/15 Yr 3

## I- 2. Thin Asphaltic Concrete resurfacing

2011/12 Yr 0	ADC Work Area	2012/13 Yr 1	2013/14 Yr 2	2014/15 Yr 3

## I- 3. Granular Overlay

2011/12 Yr 0	ADC Work Area	Project Cost			
			X		
			X		
				X	
				X	
					X
					X
					X

## I- 4. Pavement Smoothing

2011/12 Yr 0	ADC Work Area	Project Cost			
			X		
			X		
				X	
				X	
					X
					X
					X



I- 5. Isolated spot-renewals (digouts etc)

2011/12	ADC Work Area			
Yr 0				

I- 6. Maintenance metalling

2011/12	ADC Work Area			
Yr 0				

I- 7. Unsealed road reconstruction (Upgrading to Unsealed S

2011/12	ADC Work Area	Project Cost			
Yr 0					
			X		
			X		
				X	
				X	
					X
					X
					X

I- 8. Drainage renewal

	ADC Work Area			

	ADC Work Area	Project Cost			
	Large Culvert renewal •Site 1 •Site 2 •Site 3		X	X	X

	K&c renewal <ul style="list-style-type: none"> <li>•Site 1</li> <li>•Site 2</li> <li>•Site 3</li> </ul>		X	X	X
--	--	--	---	---	---

## I- 9. Signs

	ADC Work Area	Project Cost			
	Cyclic renewals Chevron boards at intersections Edge Marker Posts RRPMS				
	TOTAL CARRIAGEWAY LIGHTING				

## I- 10. Street lighting

	ADC Work Area	Project Cost			
	Cyclic renewals Programmed renewals <ul style="list-style-type: none"> <li>•Site 1</li> <li>•Site 2</li> <li>•Site 3</li> </ul>		X	X	X

## I- 11. Bridges

	ADC Work Area	Project Cost			
	Bridge renewals Load restricted bridges <ul style="list-style-type: none"> <li>•Site 1</li> </ul> Other bridge renewals <ul style="list-style-type: none"> <li>•Site 1</li> <li>•Site 2</li> <li>•Site 3</li> </ul> Major culvert renewals <ul style="list-style-type: none"> <li>•Site 1</li> </ul>	45  112 145 112 45	X  X	X  X	X  X

## I- 12. Footpaths

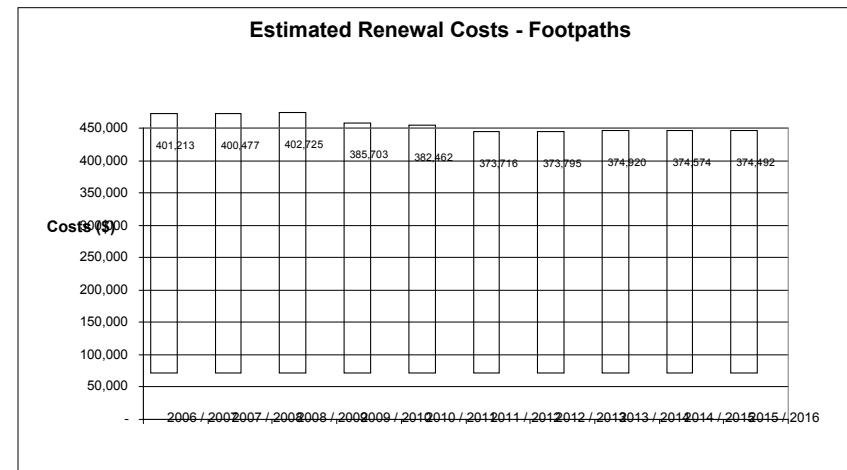
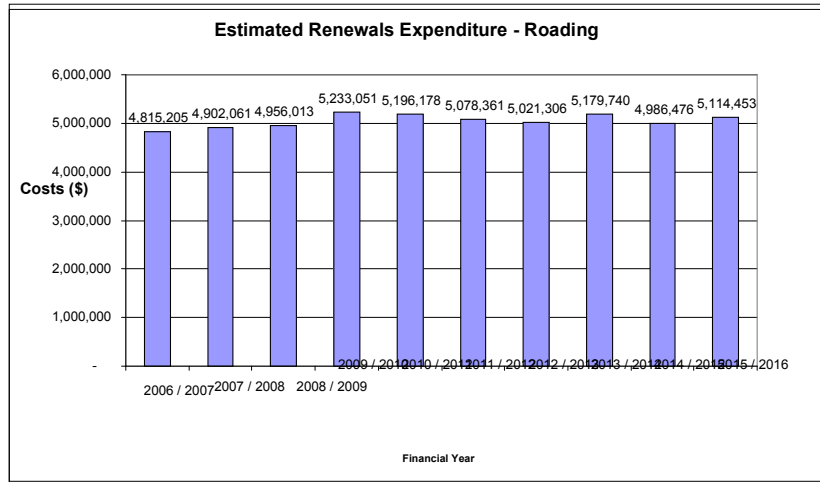
	ADC Work Area	Project Cost			
	Ashburton <ul style="list-style-type: none"> <li>•Site 1</li> <li>•Site 2</li> <li>•Site 3</li> <li>•etc</li> </ul>				
	Methven <ul style="list-style-type: none"> <li>•Site 1</li> <li>•Site 2</li> <li>•Site 3</li> </ul>				

	<b>ADC Work Area</b>	<b>Project Cost</b>			
	<ul style="list-style-type: none"> <li>•etc</li> </ul> <b>Rakaia</b>				
	<ul style="list-style-type: none"> <li>•Site 1</li> <li>•Site 2</li> <li>•Site 3</li> <li>•etc</li> </ul>				
	<b>Rural Towns</b> <ul style="list-style-type: none"> <li>•Site 1</li> <li>•Site 2</li> <li>•Site 3</li> <li>•etc</li> </ul>				

## Annex II Financial Summaries — Renewals

These summaries are presented **without predicted inflation or escalation**. This allows the relative changes in forecast expenditure between years to be clearly seen and interpreted.

The Financial Summary at Appendix L details expected inflation and includes the effect of it on the aggregate of the budgets shown here.



**Proposed 10 Year Budget Forecast**

<b>Activity</b>	<b>Year 1 2006 / 2007</b>	<b>Year 2 2007 / 2008</b>	<b>Year 3 2008 / 2009</b>	<b>Year 4 2009 / 2010</b>	<b>Year 5 2010 / 2011</b>	<b>Year 6 2011 / 2012</b>	<b>Year 7 2012 / 2013</b>	<b>Year 8 2013 / 2014</b>	<b>Year 9 2014 / 2015</b>	<b>Year 10 2015 / 2016</b>
<b>Roading - Subsidised Physical Works</b>										
<b>Asset Renewals</b>										
Pavement Maintenance CR	841,420	841,265	839,925	874,690	874,823	906,656	906,798	937,255	938,057	968,731
Area Wide Pavement Treatment CR	775,204	881,236	818,998	694,364	699,330	639,324	636,908	633,822	630,481	630,063
Major Drainage Control CR	459,207	459,114	458,383	407,130	364,665	407,434	351,108	350,786	260,655	287,062
Bridge Maintenance CR	97,151	44,489	44,418	75,559	75,570	44,635	44,642	75,558	75,622	44,610
Thin Asphaltic surfacing CR	-	-	52,190	52,406	52,414	52,446	52,454	52,406	52,451	52,416
Traffic Services CR	50,635	50,625	52,642	53,913	53,921	53,953	55,015	54,965	55,012	56,029
Carriageway lighting CR	18,735	18,375	18,346	18,422	18,425	18,436	18,438	18,422	18,437	18,425
Pavement Smoothing CR	-	-	102,869	103,294	103,310	-	-	103,293	-	103,313
Bridge Replacement CR	115,418	150,016	115,213	138,828	138,849	138,931	138,953	138,826	138,945	138,853
Maintenance Chip Seals CR	2,457,435	2,456,942	2,453,029	2,814,445	2,814,871	2,816,547	2,816,989	2,814,408	2,816,815	2,814,951
<b>Total Renewals</b>	<b>4,815,205</b>	<b>4,902,061</b>	<b>4,956,013</b>	<b>5,233,051</b>	<b>5,196,178</b>	<b>5,078,361</b>	<b>5,021,306</b>	<b>5,179,740</b>	<b>4,986,476</b>	<b>5,114,453</b>
<b>Footpaths</b>										
<b>Asset Renewals</b>										
Ashburton	337,977	341,235	348,520	351,171	352,114	353,179	352,736	353,798	353,471	353,394
Methven	20,942	13,370	14,511	11,492	11,936	4,722	5,265	5,281	5,276	5,275
Rakaia	17,638	16,275	8,943	7,657	7,901	5,271	5,265	5,281	5,276	5,275
Rural	24,656	29,598	30,751	15,383	10,511	10,543	10,529	10,561	10,551	10,549
<b>Total Renewals</b>	<b>401,213</b>	<b>400,477</b>	<b>402,725</b>	<b>385,703</b>	<b>382,462</b>	<b>373,716</b>	<b>373,795</b>	<b>374,920</b>	<b>374,574</b>	<b>374,492</b>
<b>TOTAL ALL ASSET RENEWALS</b>	<b>5,216,418</b>	<b>5,302,539</b>	<b>5,358,738</b>	<b>5,618,754</b>	<b>5,578,640</b>	<b>5,452,076</b>	<b>5,395,101</b>	<b>5,554,661</b>	<b>5,361,050</b>	<b>5,488,945</b>

Table Forecast Renewals Expenditure

End of **Appendix I**

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# Appendix J Depreciation and Change in Service Potential

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Annex I	Forecast Depreciation	

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# Appendix J Depreciation and Change in Service Potential

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*(Also see Appendix D – Asset Valuation)*

*Legislative Background: Local Government Act 2002 - Section 100 and Schedule 10 Clause 2(2)(b) and (c)*

## J- 1 Depreciation

Depreciation is referred to as DISP (Decline in Service Potential) in ADC's financial system. However, to avoid the invention of new words to describe the decline, over time, in the ability of the assets to deliver their original design capacities this appendix uses the terms as follows:

- ◆ **Depreciation** is the systematic allocation of [the cost of the asset, or other amount substituted for cost, less its residual value] an asset over its useful life.<sup>1</sup>
- ◆ **Service Potential** is widely defined as the anticipated future benefits to be obtained from an asset; it refers to the ability of the asset to provide a satisfactory level of operating capability into the future. The service potential of fixed non-tradeable assets such as the roading network is represented by its optimized depreciated replacement cost (ODRC)
- ◆ **Change in Service Potential.** The Office of the Auditor General uses depreciation as a measure of the annual decline in service potential of fixed assets. For asset management purposes the annual Change in Service Potential (CSP) is the difference between how much the asset has depreciated and the service potential that has been restored (appreciated) by renewing assets, i.e. :

$$CSP = Depreciation - \sum Renewals Expenditure$$

ADC revalues its transportation assets on an annual basis, and this establishes the forward depreciation requirement as an opening balance as at 1 July.

Each ensuing year, the work completed during the year, which is eligible to be capitalised, is added to the asset register and its depreciation component added to the opening value to obtain a year end figure for the Annual Report.

The Council's transportation network asset depreciation calculation policy is:

*“Roads and Footpath assets, other than land and buildings and plant associated with these activities, are valued on the basis of Optimised Depreciated Replacement Cost (ODRC) in accordance with NZIAS 16, with methodology as set out in the International Infrastructure Management Manual (IIMM).*

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<sup>1</sup> New Zealand Equivalent to International Accounting Standard 16: Property Plant and Equipment (NZIAS 16) section 6 definitions (Depreciation and [Depreciable Amount]) and superseded FRS3 in 2004.

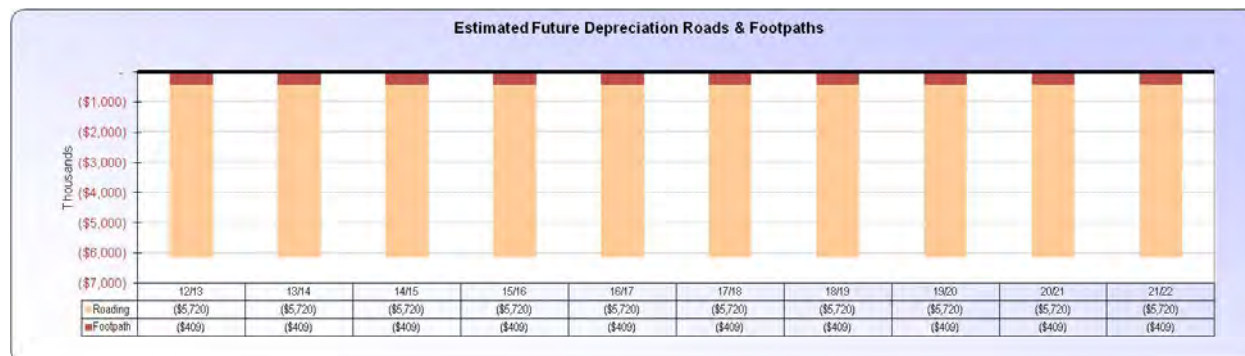


*The assets are depreciated on a straight line basis, with an appropriate depreciation rate determined for each major component type”.*

The weighted average expected useful economic lives and depreciation rates of the major roading components are detailed in Appendix D – Valuation,

Forecast depreciation for the next 10 years is summarised in Figure J-1 below. The overall projected depreciation is shown in more detail in Annex I to this appendix. It is based on the latest valuation and projected capital and renewal programmes and sourced from the Council's 2012/22 budget estimates.

**Figure J-1 Estimated Future Depreciation**



Source: [2012-22 LTP Roothing Budget AcMP Version v1.0.xlsx] DpcnFcst > \$A\$3

## J- 2 Background

Section 100 of the Local Government Act 2002 and Clauses 2(2)(b) and (c) of the Act's Schedule 10 state:

### 100 *Balanced budget requirement*

- (1) *A local authority must ensure that each year's projected operating revenues are set at a level sufficient to meet that year's projected operating expenses.*
- (2) *Despite subsection (1), a local authority may set projected operating revenues at a different level from that required by that subsection if the local authority resolves that it is financially prudent to do so, having regard to—*
  - (a) *the estimated expenses of achieving and maintaining the predicted levels of service provision set out in the long-term council community plan, including the estimated expenses associated with maintaining the service capacity and integrity of assets throughout their useful life; and*
  - (b) *the projected revenue available to fund the estimated expenses associated with maintaining the service capacity and integrity of assets throughout their useful life; and*
  - (c) *the equitable allocation of responsibility for funding the provision and maintenance of assets and facilities throughout their useful life; and*
  - (d) *the funding and financial policies adopted under section 102.*

---

*Schedule 10*

2 *Group of activities*

(2) *The information referred to in subclause (1)(e) is—*

...

(b) *the estimated expenses of achieving and maintaining the identified levels of service provision, including the estimated expenses associated with maintaining the service capacity and integrity of assets:*

(c) *a statement of how the expenses are to be met:*

...

This Appendix sets out the data showing how the Council's roading system is managed to ensure compliance with these requirements.

Section 100 (1) of the LGA 2002 requires that councils fund the decline in service potential of their networks, within the provisos at subsections (2). The Council measures the decline in service potential of its roading system across the entire network. Thus, depreciation generated from one asset element may be applied to another where there is a "spike" in demand. For example, the depreciation collected on relatively new assets can contribute to replacement of older assets.

The Council's funding and financial policies include the funding of depreciation across all of its activities only to the extent necessary to fund renewals and improvements. A side effect of this policy is that expenditure on subsidised renewals (e.g. reseals) serves to reduce the overall rates requirement, as the works generate income (financial assistance from the Crown) that reduces the requirement for rates to fund depreciation.

Appendix D of this Plan discusses valuation of the roading assets. Depreciation is determined by the Valuation process which is considered to be a reliable and appropriate way of determining it as it is based on current costs and achieved lives of asset elements; it is also an appropriate measure of the potential annual decline in service potential.

## J- 3 Summary of Renewals, Capital Expenditure and Depreciation

Previous appendices have covered the range of work considered necessary to be carried out over the next 10 years. Both new and renewal works have been covered.

The charts at Figure J-2 and Source: [\[2012-22 LTP Roding Budget AcMP Version v1.0.xlsx\] DpcnFcst > \\$A\\$33](#)

Figure J-3 below compare the annual expenditure on the renewal of assets and asset depreciation for Footpath and Roding assets. The difference between expenditure and renewals is the annual change in Service Potential, a financial measure relating to asset sustainability. It also demonstrates the importance of aligning the depreciation calculation with management practices and costs for renewal activity.

When annual renewals exceed the annual depreciation allowance, this results in an increase in service potential; when renewals are less than annual depreciation a decline in service potential occurs. Prolonged decline in service potential will result in a decrease in the ability of the asset to

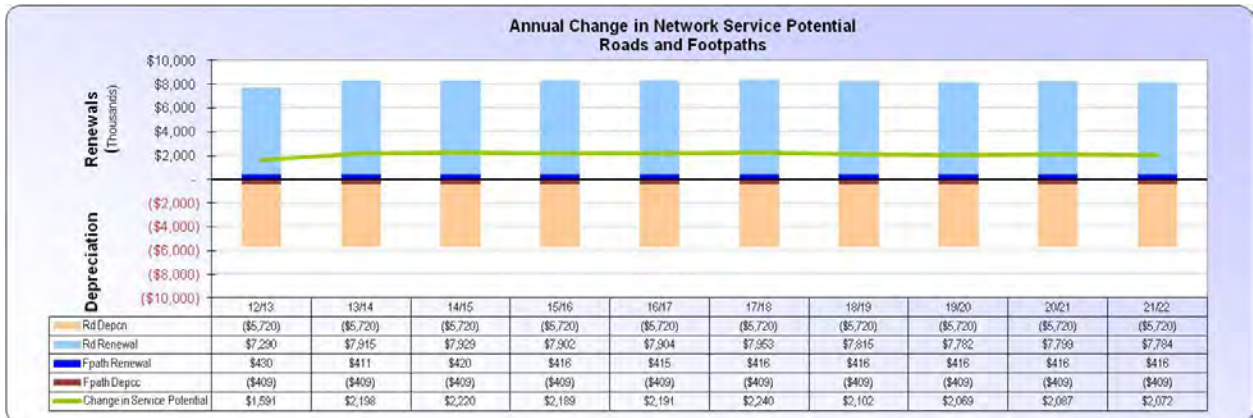
meet level of service targets. Over time the difference between these two amounts should be near or close to zero.

The diagrams show a steady annual net increase in service potential for both roading assets and footpaths. These differences can arise from any of the following circumstances:

- ◆ Over expenditure on renewals, this could lead to an increased level of service.
- ◆ Under-estimation of the annual depreciation charge; this can arise from:
  - ◇ Unit-rates being lower than costs
  - ◇ Assessed useful lives set longer than those being achieved
  - ◇ Data that under estimates the size, etc of the asset
- ◆ The assets being at stages in their life-cycles that require renewal expenditure

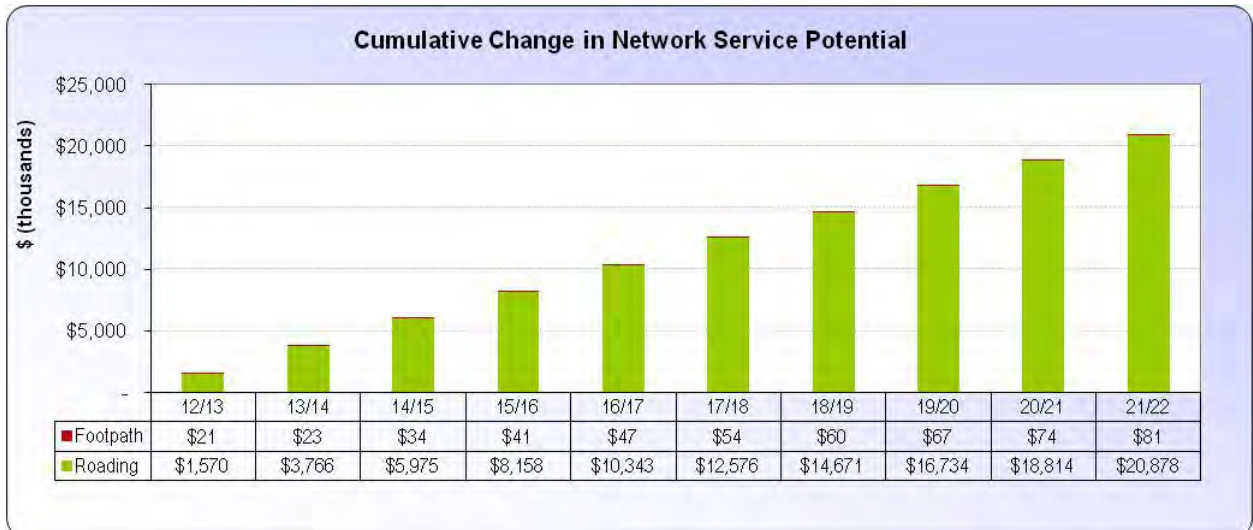
Further work is required to ascertain the combination of these effects at work and to provide fuller understanding of the change in service potential of the transportation network.

Figure J-2 Annual Change in Network Service Potential



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx] DpcnFcst > \$A\$33

Figure J-3 Cumulative Change in Network Service Potential



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx] DpcnFcst > \$C\$64

## J- 4 Analysis and Conclusions

The network and its components are in relatively good condition and that condition is quite stable (see Appendices E - Maintenance and Operation, I – Renewals and R - Levels of Service). The data outlined above which suggests that network renewal might be being consistently overfunded by around \$2million per year (2010 values). There are a number of potential credible explanations for this:

- ◆ Over expenditure on renewals, this could lead to increased levels of service in the longer term.
- ◆ Under-estimation of the annual depreciation charge; this can arise from:
  - ◇ Unit-rates being Lower than costs
  - ◇ Assessed useful lives set longer than those being achieved
  - ◇ Data that under estimates the size, etc of the asset
- ◆ The assets being at stages in their life-cycles that require renewal expenditure

The actual reason is likely to be a combination of factors, including some or all of those outlined above and should be investigated. Further work is required to ascertain the combination of these effects at work and to provide fuller understanding of the change in service potential of the transportation network.

## J- 5 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table J-1 Depreciation Improvement Actions**

Depreciation			
Item		Priority	Comments
J1	Review depreciation calculations, assigned lives, unit rates and asset data for errors and discrepancies	Urgent	... which might explain some of the difference between depreciation and renewals expenditures.
J2	Review Renewal programmes to determine a basis for the projected increase in service potential	High	
J3	Prepare Outline Lifecycle replacement programs for individual asset types to determine future peaks in demand and assist in identifying data-improvement needs.	High	
J4	Include historical depreciation and renewal data in depreciation charts	High	This will provide better information that can be drawn on when forming a view of the adequacy of network funding
J5	Correlate Change in service Potential data with network condition data	Medium	To determine any linkages and to provide better information that can be drawn on when forming a view of the adequacy of network funding

Annex I Forecast Depreciation

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# Annex I Forecast Depreciation

**Table J-1: Forecast Depreciation Requirements Next Ten Years (excluding asset write-offs)**

LTP	Year 1 12/13	Year 2 13/14	Year 3 14/15	Year 4 15/16	Year 5 16/17	Year 6 17/18	Year 7 18/19	Year 8 19/20	Year 9 20/21	Year 10 21/22
<b>Annual Depreciation</b>										
<b>Roading</b>										
Pavement surface	\$3,390,628	\$3,390,628	\$3,390,628	\$3,390,628	\$3,390,628	\$3,390,628	\$3,390,628	\$3,390,628	\$3,390,628	\$3,390,628
Pavement base	\$688,835	\$688,835	\$688,835	\$688,835	\$688,835	\$688,835	\$688,835	\$688,835	\$688,835	\$688,835
Pavement subbase	\$155,934	\$155,934	\$155,934	\$155,934	\$155,934	\$155,934	\$155,934	\$155,934	\$155,934	\$155,934
Pavement formation	-	-	-	-	-	-	-	-	-	-
Bridges	\$583,671	\$583,671	\$583,671	\$583,671	\$583,671	\$583,671	\$583,671	\$583,671	\$583,671	\$583,671
Major culverts	\$15,891	\$15,891	\$15,891	\$15,891	\$15,891	\$15,891	\$15,891	\$15,891	\$15,891	\$15,891
Culverts	\$185,698	\$185,698	\$185,698	\$185,698	\$185,698	\$185,698	\$185,698	\$185,698	\$185,698	\$185,698
Island	\$8,435	\$8,435	\$8,435	\$8,435	\$8,435	\$8,435	\$8,435	\$8,435	\$8,435	\$8,435
kerb and channel	\$248,355	\$248,355	\$248,355	\$248,355	\$248,355	\$248,355	\$248,355	\$248,355	\$248,355	\$248,355
Guard rail	\$130,790	\$130,790	\$130,790	\$130,790	\$130,790	\$130,790	\$130,790	\$130,790	\$130,790	\$130,790
Pavement markings	-	-	-	-	-	-	-	-	-	-
Signs	\$139,794	\$139,794	\$139,794	\$139,794	\$139,794	\$139,794	\$139,794	\$139,794	\$139,794	\$139,794
Berms	-	-	-	-	-	-	-	-	-	-
Traffic signals	\$9,416	\$9,416	\$9,416	\$9,416	\$9,416	\$9,416	\$9,416	\$9,416	\$9,416	\$9,416
Features	\$17,964	\$17,964	\$17,964	\$17,964	\$17,964	\$17,964	\$17,964	\$17,964	\$17,964	\$17,964
Lighting	\$138,881	\$138,881	\$138,881	\$138,881	\$138,881	\$138,881	\$138,881	\$138,881	\$138,881	\$138,881
<b>Total Roothing</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>	<b>\$5,714,292</b>
	5714300									
<b>Footpaths</b>										
Ashburton	\$343,230	\$343,230	\$343,230	\$343,230	\$343,230	\$343,230	\$343,230	\$343,230	\$343,230	\$343,230
Methven	\$28,950	\$28,950	\$28,950	\$28,950	\$28,950	\$28,950	\$28,950	\$28,950	\$28,950	\$28,950
Rakaia	\$16,540	\$16,540	\$16,540	\$16,540	\$16,540	\$16,540	\$16,540	\$16,540	\$16,540	\$16,540
Rural Townships	\$20,680	\$20,680	\$20,680	\$20,680	\$20,680	\$20,680	\$20,680	\$20,680	\$20,680	\$20,680
<b>Total Footpaths</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>	<b>\$409,400</b>
<b>Carparking</b>										
To be detailed later										
<b>Total Forecast Annual Depreciation, excluding asset write-offs</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>	<b>\$6,123,692</b>

**Note:** Because of the way the budgets are prepared the figures in this table do NOT include annual depreciation charges, but those charges are included in the summaries in Figure J-1 Estimated Total Future Depreciation 2012 / 2022, Figure 1 Annual Change in Network Service Potential and Figure J-2 Annual Change in Network Service Potential

Source: [2012-22 LTP Roothing Budget AcMP Version v1.0.xlsx] DpcnFcst > \$A\$89

End of **Appendix J**

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# Appendix K Likely Future Debt Requirements

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K- 3	Improvement Actions	2

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## Appendix K Likely Future Debt Requirements

*Legislative Requirement: Local Government Act 2002 Sections 102(4)(b) and 104, and Schedule 10(2)(1)(d)(v) and (vii) and (2)(2)(b)*

### K- 1 Debt Levels

Projected debt levels associated with the transportation network are shown in Table K-1 below. Debt is not raised for footpaths.

Current debt relates particularly to a small number of loans, typically raised for seal extension projects. The new loans projected for future years are to meet a shortfall in funding for those years. These loans may be raised internally or externally. The Council may consolidate this with other debt-funding requirements and raise only one loan to cover the total amount.

**Table K-1 Projected Public Debt — Transportation Network**

Year Commencing July ...	Opening Balance	Loan	Repaid Year	During	Raised Year	During	Closing Balance	Loan
2012	\$222,943		\$63,323		\$129,000		\$288,620	
2013	\$288,620		\$68,483				\$220,137	
2014	\$220,137		\$77,009				\$143,128	
2015	\$143,128		\$34,878				\$108,250	
2016	\$108,250		\$5,160				\$103,090	
2017	\$103,090		\$5,160				\$97,930	
2018	\$97,930		\$5,160				\$92,770	
2019	\$92,770		\$5,160				\$92,770	
2020	\$92,770		\$5,160				\$87,610	
2021	\$87,610		\$5,160				\$82,450	
2022	\$82,450		\$5,160				\$77,290	

### K- 2 Debt Servicing

Loans are usually serviced by two payments, annual interest charges and annual “sinking fund” payments. The latter represent the principal-repayment component of the loan; the sinking fund is held as a credit separately from the loan and is only credited against the loan at the end of its term,

Interest projections are based on an assumed interest rate scenario, and estimated future loan repayment costs, are shown in Tables K-2 and K-3.

**Table K-2 Estimated Future Loan Costs**

Year	Interest	Principal
------	----------	-----------

	<b>Payment</b>	<b>Payment</b>
2013	\$21,117	\$63,323
2014	\$17,317	\$68,483
2015	\$13,208	\$77,009
2016	\$8,904	\$34,878
2017	\$6,811	\$5,160
2018	\$6,502	\$5,160
2019	\$6,192	\$5,160
2020	\$5,882	\$5,160
2021	\$5,573	\$5,160
2022	\$5,263	\$5,160

## K- 3 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table K-3 Debt - Improvement Actions**

<b>Debt</b>		
<b>Item</b>	<b>Priority</b>	<b>Comments</b>
K1		

»

» End of appendix

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# Appendix L Summary of Overall Future Financial Requirements

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# Appendix L Summary of Overall Future Financial Requirements

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*Reason: Consolidation for the LTP*

## L- 1 Introduction

This section includes projected financial information relating to the Council's transportation network, its funding strategy, and a depreciation forecast. It also outlines the processes that are to be used to meet the relevant requirements of the Local Government Act 2002, New Zealand Accounting standards and practices (NZIAS16), and the expectations of Audit New Zealand and the Office of the Auditor General. It provides an overall financial summary for the next ten years.

All forecasts are presented in two forms:

- ◆ The amounts detailed in the AcMP, which do not include forecast inflation, and
- ◆ The amounts for inclusion in the Long Term Council Community Plan, which include forecast inflation as required by Audit New Zealand “*Specifically inflation must be taken into account in preparing financial forecasts [in LTPs]*”<sup>1</sup>.

This approach allows the relative changes in annual expenditure for specific items to be readily seen and trends to be understood while also ensuring that the financial data published in the LTP can be linked to its source in this plan.

## L- 2 Legislative Requirements — Financial Plans

Section 93 of the Local Government Act 2002 (LGA) requires local authorities to prepare a Long Term Plan (LTP) at least every three years. The content of the LTP is specified in Schedule 10 of the Act.

The principal disclosures required are:

- ◆ Rationale for delivery of a service including the outcomes to which it contributes
- ◆ Levels of service including performance measures/indicators that enables the reader to meaningfully assess whether they are being met
- ◆ Asset management information intended to enable the reader to assess whether the assets are being managed so their service potential is maintained
- ◆ Any significant negative effects from undertaking an activity
- ◆ Significant assumptions used in the preparation of the LTP

Section 95 of the LGA requires local authorities to prepare an Annual Plan in the years that a LTP is not prepared. The content of the Annual Plan is also specified in Schedule 10 of the Act.

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<sup>1</sup> Source – “Audit Guidance for Assessment of Significant Forecasting Assumptions, Uncertainties and Risks underlying Financial Estimates in LTP’s”

The intention is that the Annual Plan should be an exception document that details any changes from the latest LTP.

Schedule 10 of the LGA<sup>2</sup> requires the Council to identify the estimated costs of the provision of changes related to the demand for and consumption of its services separately from the costs of changes related to service provision and standards. As neither Maintenance and Operations nor Renewals alter planned levels of service this requirement affects only New Works and Disposals. The appropriate information is included in the sub-sections on those two matters, below.

Schedule 10 also requires the Council's financial forecasts to:

*2(1)(e) include the information specified in subclause (2)—*

*(i) in detail in relation to each of the first 3 financial years covered by the plan; and*

*(ii) in outline in relation to each of the subsequent financial years covered by the plan.*

These requirements are met by the inclusion of schedules of forecast works and schedules of expenditure in Annexes I and II of Appendix F "Demand, New Works and Improvements" and schedules of expenditure in this section.

## L- 3 Inflation

### L- 3.1 Past Inflation

Budget estimates are adjusted each year to compensate for inflation since the previous budget. Because of timing issues the budget adjustments are made initially to 30 June of the year preceding the budget year, but are then adjusted to 30 September. Significant budget items may be adjusted again before confirmation of the Long Term Plan if there are strong reasons for doing so.

### L- 3.2 Future Inflation

The audit department's requirement that the Council includes predicted future inflation in its financial forecasts was referred to in section L- 1 above; however, sound asset management requires that asset managers should be able to see and understand the trends in expenditure on their assets. These two requirements are in conflict as the allowances for future inflation can submerge and confuse the genuine trends in expenditure. To avoid this conflict this AcMP employs the following conventions:

- ◆ Predicted inflation is calculated at corporate level and the same values are applied to all the Council's activities.
- ◆ All financial forecasts and amounts in the body of the document (Appendices A to X) are prepared in constant dollars – those of the estimating year (year zero)
- ◆ The financial forecasts contain:
  - ◇ Summaries of the non-inflated forecasts,
  - ◇ Details of forecast inflation, and
  - ◇ The effects of that inflation on the forecast expenditures.

This approach allows the alignment between this AcMP, the Council's Activity Management Plans and its LTP to be readily understood and followed.

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<sup>2</sup> Section 2(1)(d)(iv)

The predictions used in this Plan are summarised in Section 0 of Annex I to this appendix.

## L- 4 Land Transport Programme

In addition to the requirements under the Local Government Acts of 1974 and 2002, this plan must consider the requirements of the Land Transport Management Act 2003 (LTMA). The purpose of this Act is to contribute to the aim of achieving an integrated, safe, responsive, and sustainable land transport system.

To contribute to that purpose, the Act—<sup>3</sup>

- ◆ provides an integrated approach to land transport funding and management; and
- ◆ improves social and environmental responsibility in land transport funding, planning, and management; and
- ◆ changes the statutory objectives of Transfund and Transit to broaden the focus of each entity; and
- ◆ improves long-term planning and investment in land transport; and
- ◆ ensures that land transport funding is allocated in an efficient and effective manner; and
- ◆ improves the flexibility of land transport funding, including provisions enabling new roads to be built on a tolled or concession agreement basis or on a basis involving a combination of those methods

The Act goes on to require indirectly, that the Council prepare a Land Transport Programme every year, for the next financial year. The requirement is indirect because the Land Transport Management Act Amendment Act 2008 revoked the earlier requirements for road controlling authorities to produce Land Transport Programmes and replaced them with a requirement for Regional LTPs. The Regional LTP is required every three years, matching Long Term Plan cycles, and cannot logically be prepared without input from the road controlling authorities in the region.

The Land Transport Programme must include all activities for which it seeks government financial support (subsidy), and it must be made available to the public in a written form<sup>4</sup>.

When the Region prepares its land transport programme, through the Regional Transport Committee, it must take into account:

- ◆ how each activity or activity class—<sup>5</sup>
  - ◇ assists economic development; and
  - ◇ assists safety and personal security; and
  - ◇ improves access and mobility; and
  - ◇ protects and promotes public health; and
  - ◇ ensures environmental sustainability
- ◆ any current national land transport strategy, National Energy Efficiency and Conservation Strategy, and relevant regional land transport strategies<sup>6</sup>

This plan has been prepared with the requirements of the Land Transport Management Act 2003 in mind and it complies as is appropriate with those requirements. Consequently, the Long Term Plan and Annual Plans containing forward programmes and other items detailed in this AcMP should comply with the requirements of the LTMA 2003. It is therefore the basis of the Council's input to the Regional LTP.

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<sup>3</sup> LTMA 2003 s3(2)

<sup>4</sup> LTMA 2003 s12(1)

<sup>5</sup> LTMA 2003 s12(3)

<sup>6</sup> LTMA 2003 s12(5)



## L- 4.1 Land Transport Programme Consultation

Consultation of the Council's Land Transport Programme is conducted, as part of the consultation on the Long Term Plan and by the Canterbury Regional Council (ECan) as one of its responsibilities to the triennial Regional Land Transport Programme.

## L- 4.2 Other LTMA Matters

The LTMA and its implications are discussed further in Appendix O

## L- 5 Financial Summary

Roading activity receives financial assistance from the NZ Transportation Agency and projections of this revenue are carried forward at the current financial assistance rate (FAR). The FAR has fallen significantly in recent years, and is currently at 46%. The NZ Transport Agency and the Council have agreed to hold the FAR at this rate until 2012/13. For planning purposes this rate is assumed to continue indefinitely.

If land values continue to rise in the District at a relatively greater rate than nationally or the Council does not maintain the relativity between its equalized land value (the basis for calculation of the FAR) and its network funding then the FAR could ultimately fall as low as 43% (the current minimum FAR paid by NZTA).

Expenditure is currently identified by asset group under the headings of:

- ◆ management (depreciation, AM planning, overheads, contract management, condition inspections, etc),
- ◆ maintenance (planned and unplanned),
- ◆ renewals (rehabilitation, renovation and replacement works, inc fees and overheads), and
- ◆ development (upgrading and creation of new assets, also inc fees and overheads)

The 10 year Transportation Financial Forecast is summarised at Annex I.

The funding apportionment rationale is summarised in Appendix M and described in the Council's Revenue and Financing Policy which is detailed in the Financial Policies section of its 2012/22 LTP.

## L- 6 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table L-1 Financial Summary Improvement Actions**

Financial Summary		
Item	Priority	Comments
L1		

Annex I	10-year Financial Summary
Annex II	Expenditure Forecasts by Type
Annex III	Asset Forecasts
Annex IV	Summary Statement of Financial Performance



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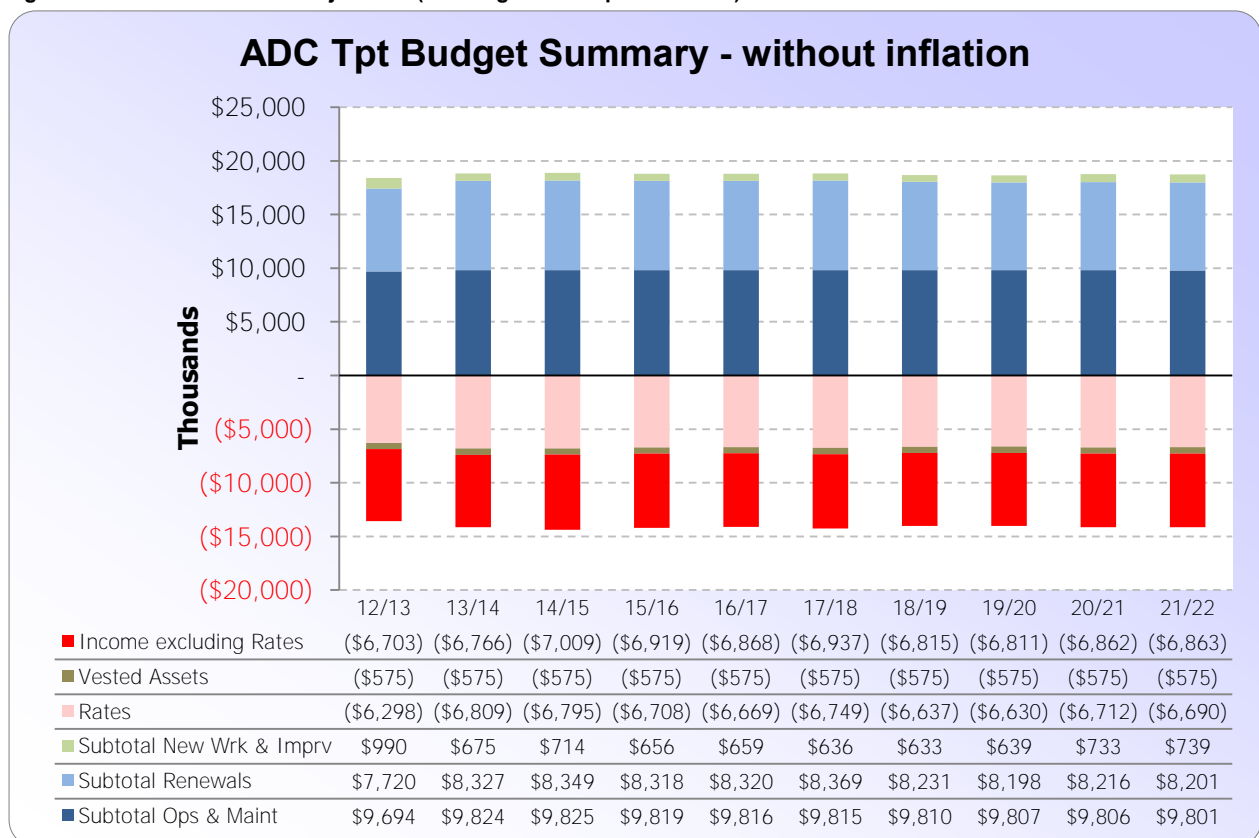
# Annex I 10-year Financial Summary

The significant features of the projections are:

- ◆ Relatively constant Operations and Maintenance costs over the 10 year period
- ◆ Renewals and New Assets expenditure is relatively constant
- ◆ Management and Depreciation expenditure increasing 31% over the 10 year period due to rising asset value and therefore increased depreciation funding requirements
- ◆ In addition, developers of subdivisions are expected to vest new assets with the Council. As there is some uncertainty in predicting this, specific allowance has not been made; however, this will result in additional provision for depreciation (DISP) and other costs over the 10-year period.

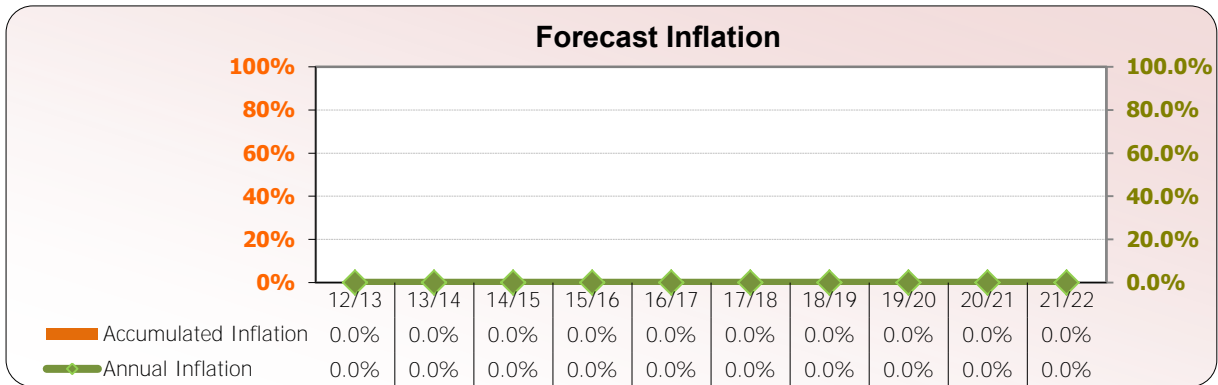
## I- 1. Income and Expenditure Summary Without Inflation

Figure L-1 10 Year Financial Projections (Roading and Footpaths assets)



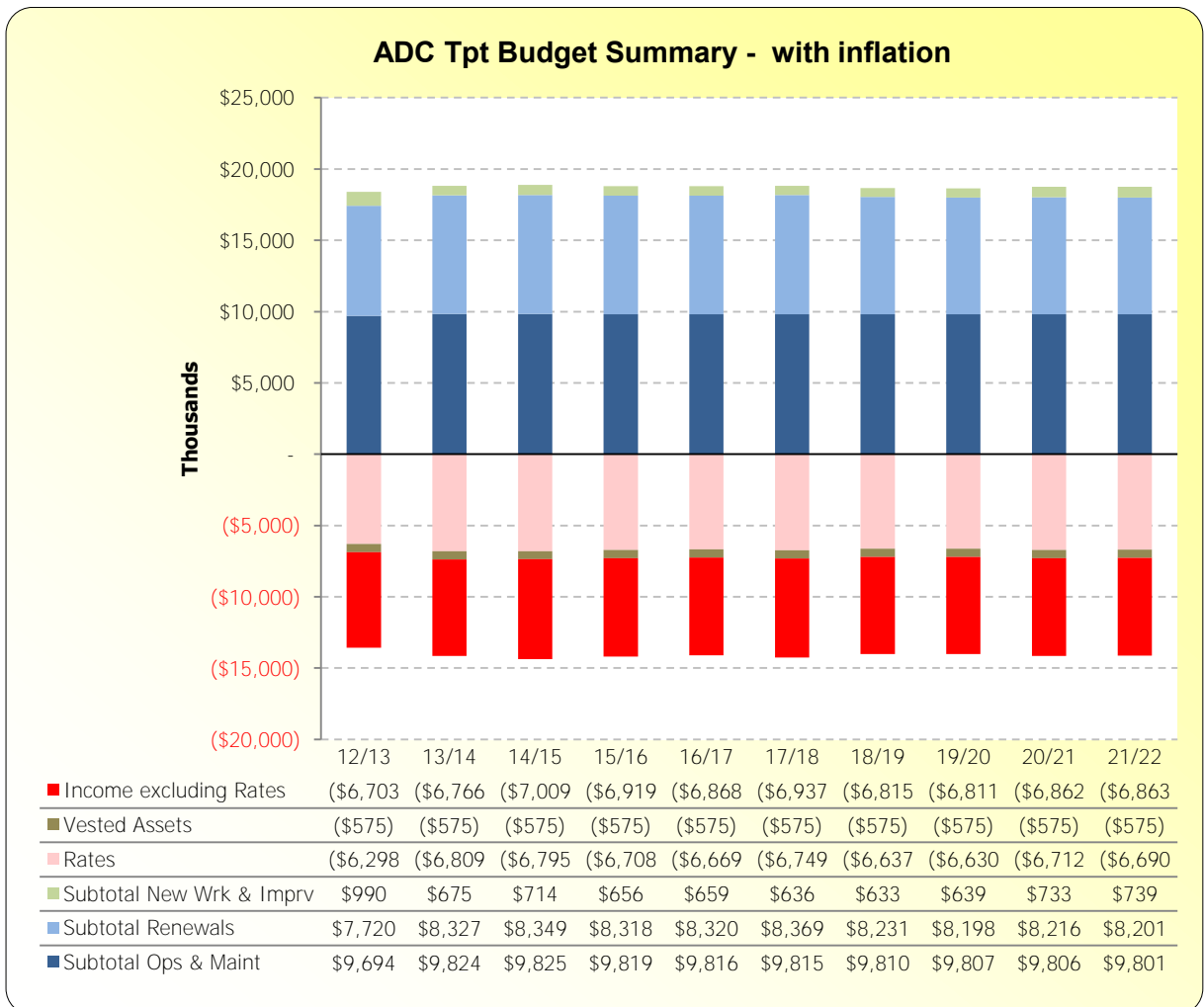
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## Expected Future Inflation



Source: [2012-22 LTP Rooding Budget AcMP Version v1.0.xlsx] AMP FinFst Charts > \$A\$40

## I- 1. Income and Expenditure Summary Including Inflation



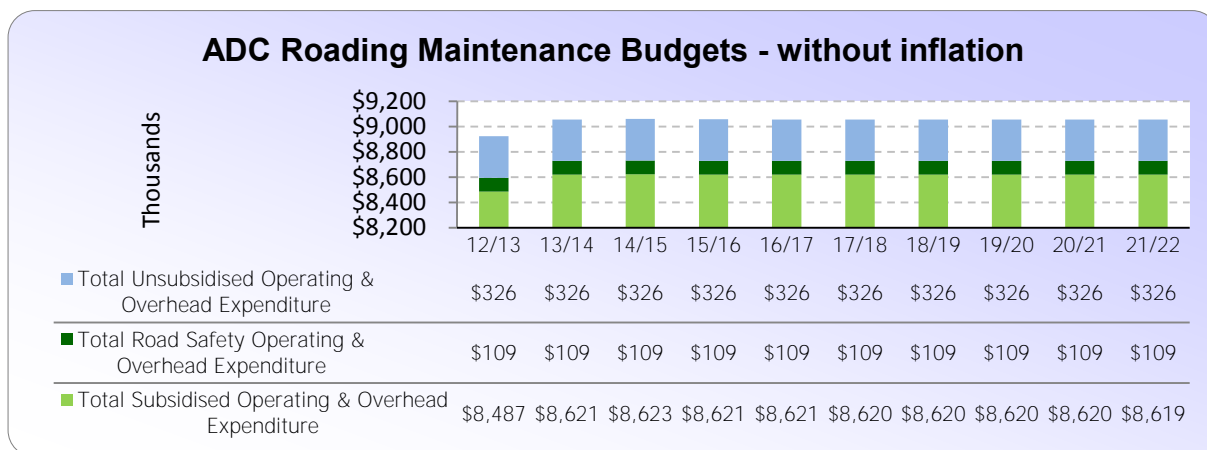
Source: [2012-22 LTP Rooding Budget AcMP Version v1.0.xlsx] AMP FinFst Charts > \$A\$57

## Annex II Expenditure Forecasts by Type

This annex extends the forecasts in Annex I providing more details of the breakdown of expenditures summarized in that annex. The values of expected inflation used are those detailed in Annex I.

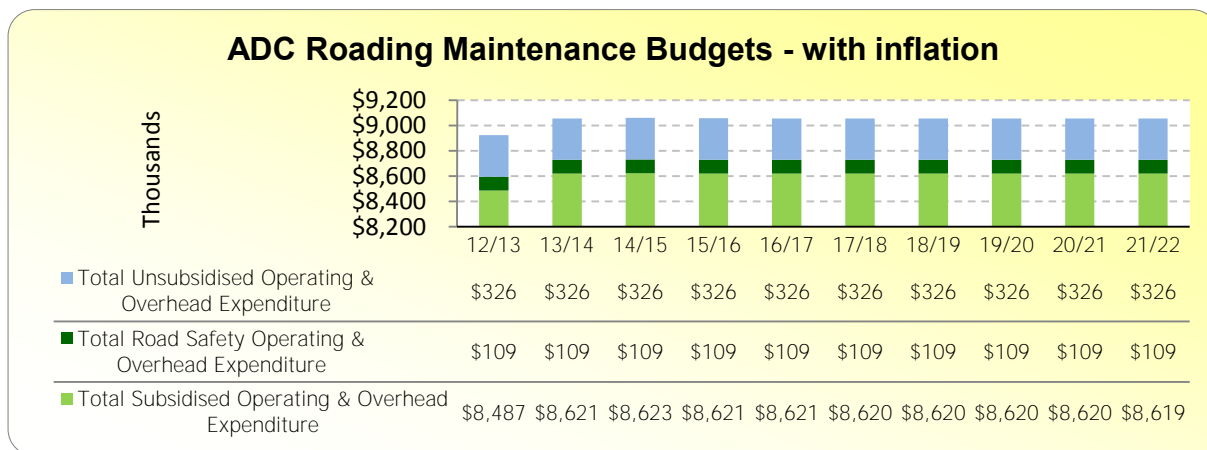
### II- 1. Maintenance and Operations Forecasts

#### II- 1.1 Maintenance and Operations Forecast without inflation



Source: [2012-22 LTP Roothing Budget AcMP Version v1.0.xlsx] AMP ExpndFcst Charts > \$A\$3

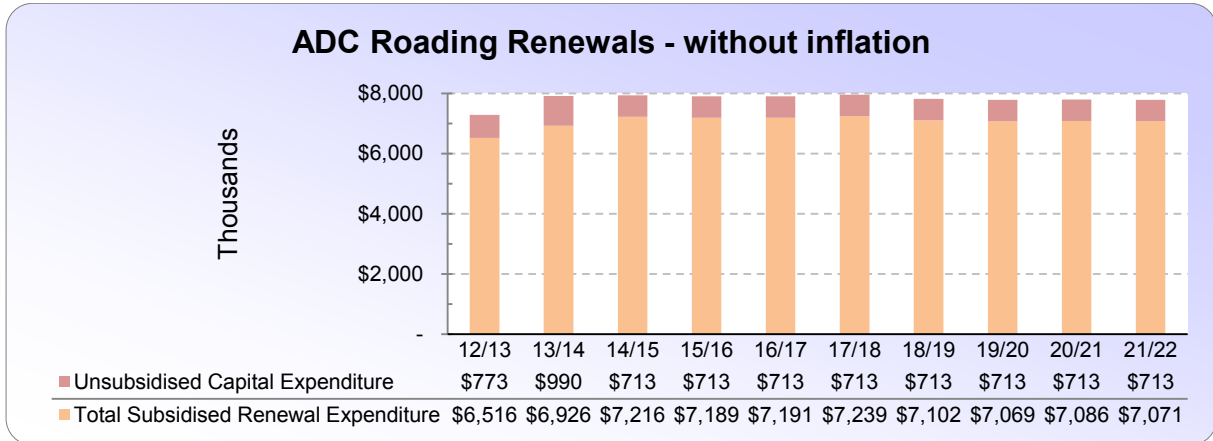
#### II- 1.2 Maintenance and Operations Forecast with inflation



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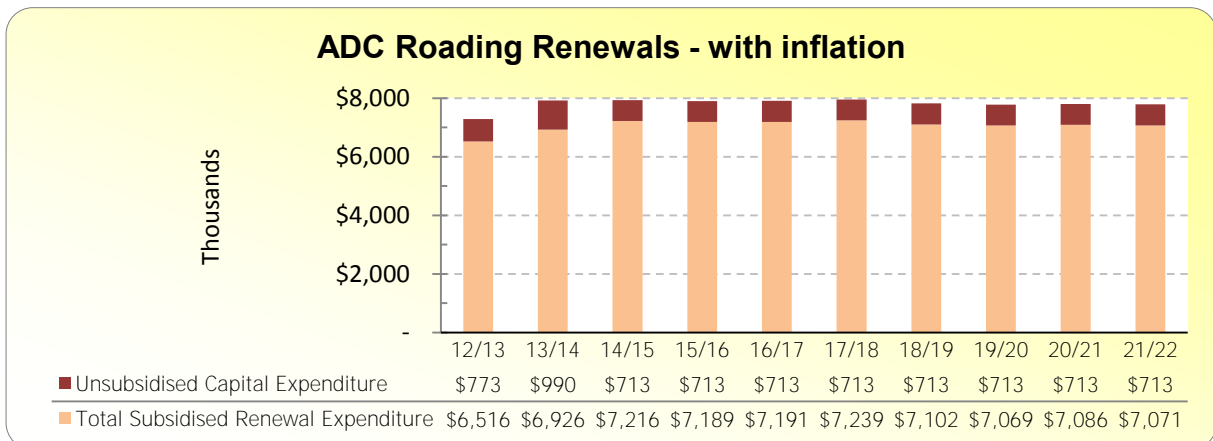
## II- 2. Renewals Forecasts

### II- 2.1 Renewals Forecast Without Inflation



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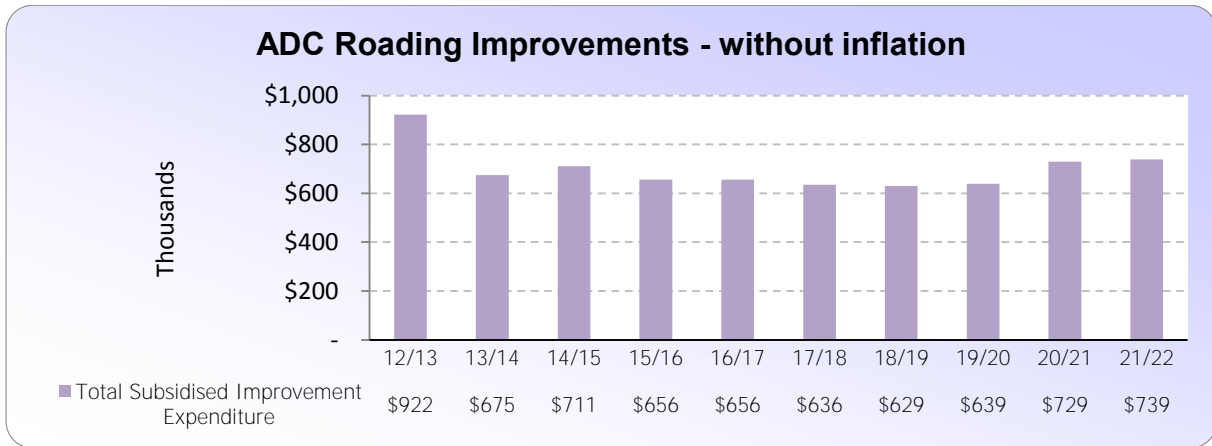
### II- 2.2 Renewals Forecast Including Inflation



Source: [2012-22 LTP Roothing Budget AcMP Version v1.0.xlsx] AMP ExpndFcst Charts > \$A\$63

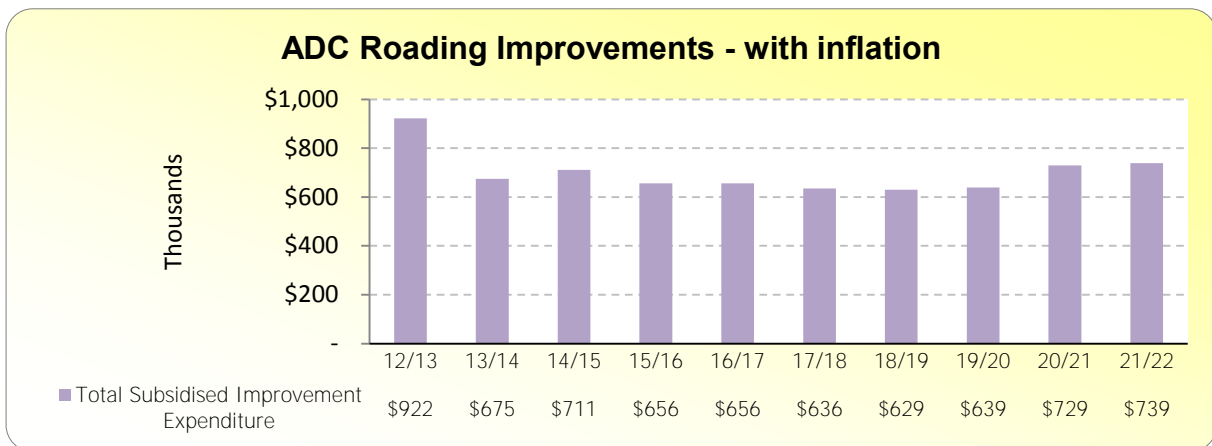
## II- 3. Improvements Forecasts

### II- 3.1 Improvements Forecast Without Inflation



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### II- 3.2 Improvements Forecast Including Inflation

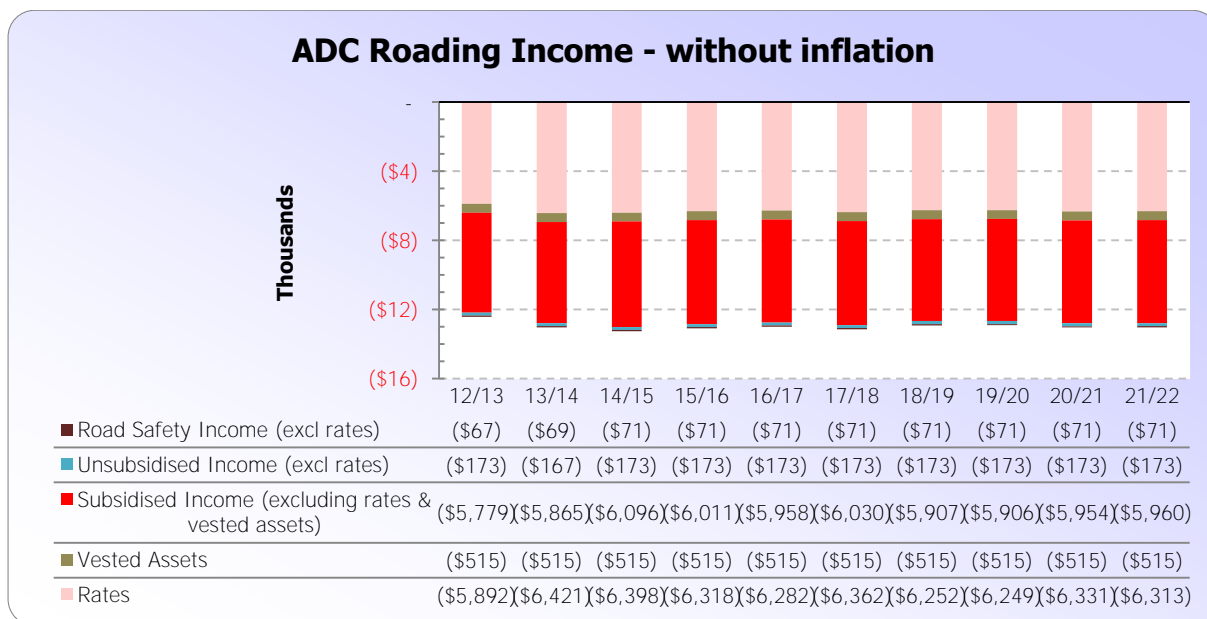


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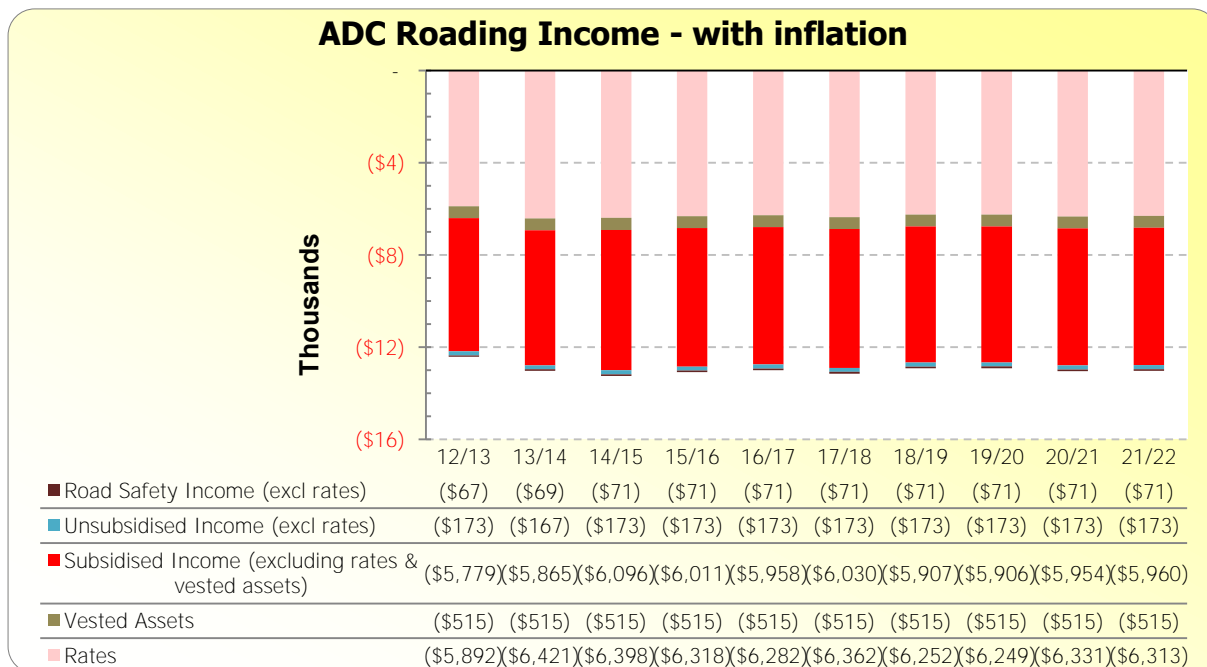
## II- 4. Income Forecasts

### II- 4.1 Income Forecasts Without Inflation



Source: [2012-22 LTP Roothing Budget AcMP Version v1.0.xlsx] AMP ExpndFcst Charts > \$A\$125

### II- 4.2 Income Forecasts Including Inflation



Source: [2012-22 LTP Roothing Budget AcMP Version v1.0.xlsx] AMP ExpndFcst Charts > \$A\$155

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## Annex III Asset Forecasts

The forecasts on the following pages show the data aggregated by asset type, e.g. pavements, bridges, etc. They are prepared separately from this AcMP and therefore do not necessarily follow its numbering and other formatting conventions.

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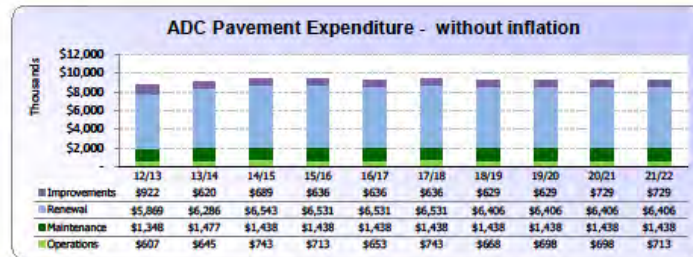


### Annex III Asset Forecasts

These forecasts show the data aggregated by asset type, e.g. pavements, bridges, etc.

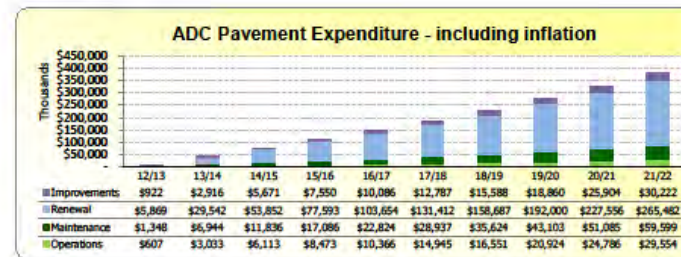
#### Pavement Expenditure

##### Without Inflation



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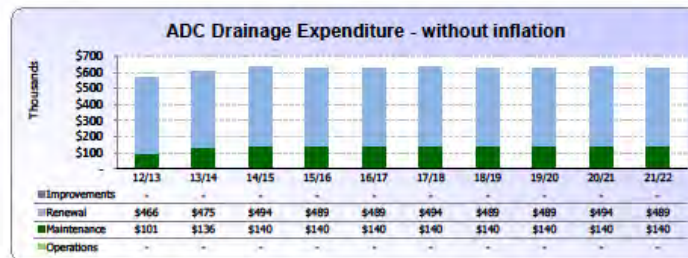
##### Including Inflation



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx]AMP\_ApxLAnx3 > \$Y\$7

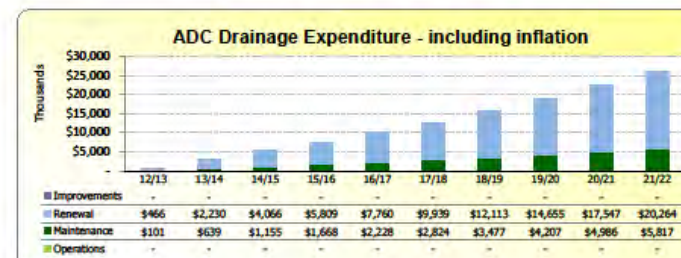
#### Drainage Expenditure

##### Without Inflation



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##### Including Inflation

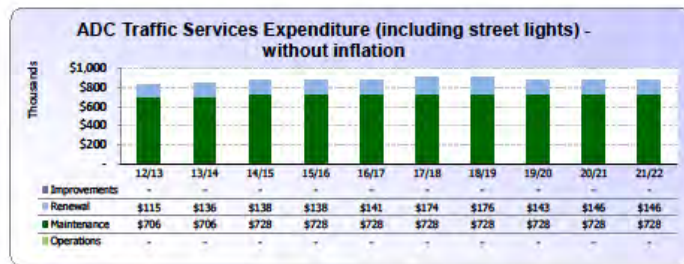


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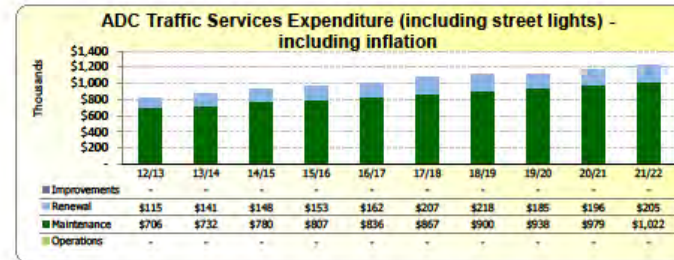
**Traffic Services Expenditure (including street lights)**

Without Inflation



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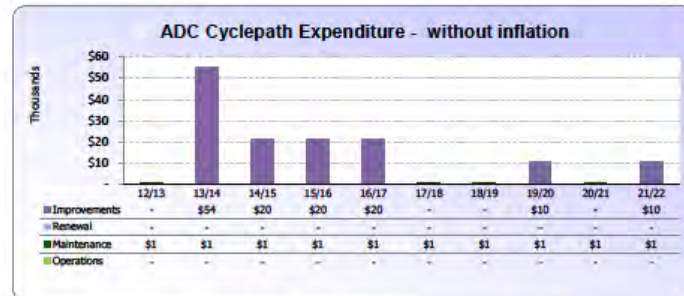
Including Inflation



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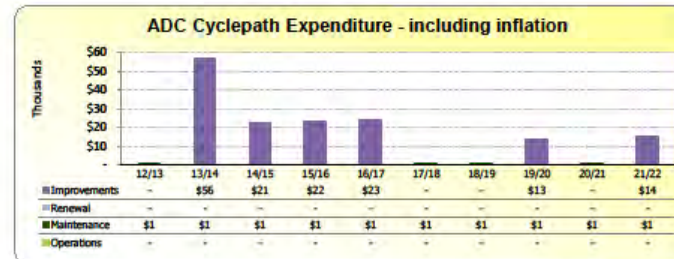
**Cyclepath Expenditure**

Without Inflation



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx]AMP\_ApxLAnx3 > \$Y\$75

Including Inflation

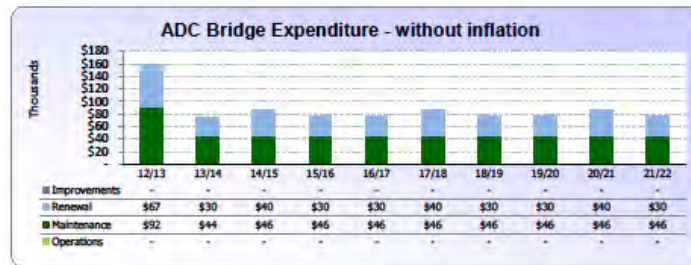


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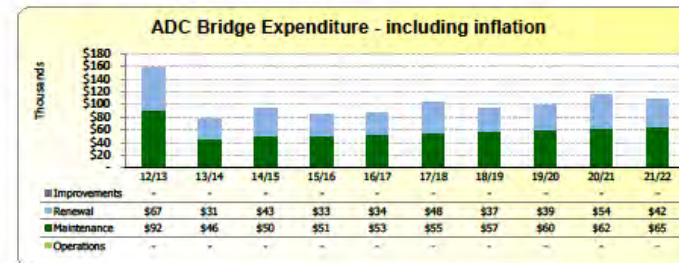
### Bridge Expenditure

#### Without Inflation



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#### Including Inflation



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx]AMP\_ApxLAnx3 > \$Y\$90

### Streetscape Expenditure

#### Without Inflation



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#### Including Inflation

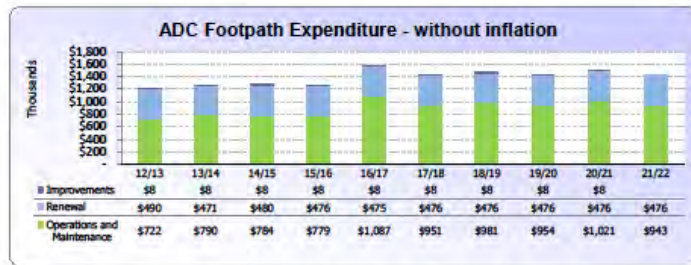


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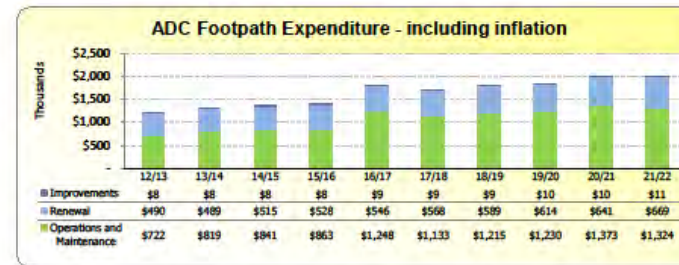
**Footpath Expenditure**

**Without Inflation**



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx]AMP\_ApxLAnx3 > \$Y\$141

**Including Inflation**



Source: [2012-22 LTP Roading Budget AcMP Version v1.0.xlsx]AMP\_ApxLAnx3 > \$Y\$142

**Carpark Expenditure**

**Without Inflation**

To be developed

**Including Inflation**

To be developed

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# Annex IV Summary Statement of Financial Performance

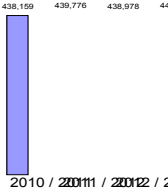
## IV- 1. Roothing

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Income</b>										
Petroleum Tax	274,768	274,768	274,768	274,768	74,768	274,768	274,768	274,768	274,768	274,768
Land Transport Assistance	5,258,215	5,365,258	5,605,416	5,549,126	5,505,243	5,586,217	5,470,680	5,477,847	5,533,161	5,546,272
Contributions Non Operating Income (Vested Assets)	53,500	53,500	53,500	53,500	3,500	53,500	53,500	53,500	53,500	53,500
Sundry Income	113,431	107,557	113,479	113,452	13,455	113,482	113,455	113,457	113,480	113,463
Internal Fees	0	0	0	0		0	0	0	0	0
Internal Recoveries (Rates)	63,722	63,722	63,722	63,722	3,722	63,722	63,722	63,722	63,722	63,722
Internal Recoveries (Gen fund int)	255,356	235,783	228,901	200,600	91,072	181,978	174,606	167,235	159,863	152,492
Funds Transfer from Reserves										
	<b>6,533,992</b>	<b>6,615,588</b>	<b>6,854,786</b>	<b>6,770,167</b>	<b>7,716,761</b>	<b>6,788,667</b>	<b>6,665,731</b>	<b>6,665,529</b>	<b>6,713,494</b>	<b>6,719,217</b>
<b>Expenditure</b>										
Operating Costs	3,179,299	3,314,330	3,318,900	3,318,591	3,318,281	3,317,972	3,317,662	3,317,352	3,317,043	3,316,733
Interest	13,376	9,577	5,777	1,783		0	0	0	0	0
Depreciation	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300
Overhead Costs	1,087,015	1,107,996	1,238,189	1,195,820	1,135,178	1,239,220	1,150,806	1,180,700	1,193,571	1,196,516
	<b>9,993,990</b>	<b>10,146,203</b>	<b>10,277,166</b>	<b>10,230,494</b>	<b>10,167,759</b>	<b>10,271,492</b>	<b>10,182,768</b>	<b>10,212,351</b>	<b>10,224,913</b>	<b>10,227,549</b>
<b>Operating Deficit</b>	<b>3,459,999</b>	<b>3,530,614</b>	<b>3,422,381</b>	<b>3,460,327</b>	<b>2,450,998</b>	<b>3,482,825</b>	<b>3,517,037</b>	<b>3,546,823</b>	<b>3,511,420</b>	<b>3,508,332</b>
Loans Raised	129,000	0	0	0		0	0	0	0	0
Loans Repaid	63,323	68,483	71,739	34,878	5,160	5,160	5,160	5,160	5,160	5,160
Capital Expenditure	1,695,716	1,610,027	1,402,493	1,348,900	1,348,903	1,348,923	1,342,653	1,342,654	1,442,671	1,442,659
Cyclic Renewals	6,516,235	6,925,876	7,215,586	7,188,586	7,191,016	7,239,350	7,101,842	7,068,509	7,086,062	7,071,063
DISP Funding available Increase (Decrease) in Sep Res	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300	5,714,300
<b>Rate Requirement</b>	<b>5,891,973</b>	<b>6,420,701</b>	<b>6,397,899</b>	<b>6,318,391</b>	<b>5,281,777</b>	<b>6,361,958</b>	<b>6,252,392</b>	<b>6,248,846</b>	<b>6,331,013</b>	<b>6,312,914</b>
Subsidised	5,311,762	5,642,100	5,884,456	5,811,491	5,806,385	5,885,569	5,776,969	5,773,417	5,854,662	5,837,389
Unsubsidised	538,387	738,627	475,435	469,038	37,528	438,383	437,556	437,570	438,372	437,626
Road Safety	41,824	39,973	38,008	37,861	7,863	38,006	37,866	37,858	37,979	37,898
<b>Rates Required</b>	<b>5,891,973</b>	<b>6,420,701</b>	<b>6,397,899</b>	<b>6,318,391</b>	<b>5,281,777</b>	<b>6,361,958</b>	<b>6,252,392</b>	<b>6,248,846</b>	<b>6,331,013</b>	<b>6,312,914</b>

Source: [2012-22 LTP Roothing Budget AcMP Version v1.0.xlsx] StateFinPerf > \$B\$2

# I- 1. Footpaths

<b>Footpaths</b>	<b>Year 1 2006 / 2007</b>	<b>Year 2007 / 2008</b>	<b>Year 3 2008</b>	<b>Year 4 2009 / 2010</b>	<b>Year 5 2010 / 2011</b>	<b>Year 2011</b>	<b>Year 7 2012 / 2013</b>	<b>Year 8 2013 / 2014</b>	<b>Year 9 2014</b>	<b>Year 10 2015 / 2016</b>
<b>Income</b>										
Vehicle Crossing fees	10,980	10,98	10,980	10,980	10,98	10,980	10,980	10,98	10,980	10,980
Interest - Income	31,204	31,20	31,205	31,205	31,20	31,205	31,205	31,20	31,205	31,205
Internal Recoveries Rates	12,764	13,16	13,561	13,935	14,28	14,617	14,930	15,21	15,466	15,721
	<b>54,948</b>	<b>55,351</b>	<b>55,746</b>	<b>56,120</b>	<b>56,471</b>	<b>56,802</b>	<b>57,11</b>	<b>57,396</b>	<b>57,651</b>	<b>57,90</b>
<b>Expenditure</b>										
Depreciation	359,60	372,239	386,178	399,18	412,031	423,333	436,82	448,519	460,770	472,96
Interest - Internal	107,850	105,778	102,510	99,243	95,975	92,707	86,857	83,590	80,322	77,055
Internal Charges	179,237	159,187	215,878	196,022	193,86	142,560	131,776	143,618	131,020	135,000
Interest - External	-	-	-	-	-	-	-	-	-	-
Operating Costs	283,028	429,122	432,342	435,600	438,15	439,776	438,978	441,776	443,073	443,139
	<b>929,724</b>	<b>1,066,325</b>	<b>1,136,908</b>	<b>1,130,053</b>	<b>1,140,028</b>	<b>1,098,376</b>	<b>1,094,439</b>	<b>1,117,502</b>	<b>1,115,185</b>	<b>1,128,160</b>
<b>Operating Deficit</b>	<b>874,776</b>	<b>1,010,974</b>	<b>1,081,162</b>	<b>1,073,934</b>	<b>1,083,557</b>	<b>1,041,574</b>	<b>1,037,324</b>	<b>1,060,106</b>	<b>1,057,534</b>	<b>1,070,254</b>
Loans Raised	410,484	-	-	-	-	-	-	-	-	-
Loans Repaid	459,913	45,298	-	-	-	-	-	-	-	-



End of Appendix L

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# Appendix M Funding Policy, Fees and Charges

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# Appendix M Funding Policy, Fees and Charges

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*Legislative Background: Local Government Act 2002 Sections 102(4)(a) and 103 and Schedule 10 Clauses 2(1)(d)(v) and (vii) and (2)(c) and (d)*

## M- 1 Introduction

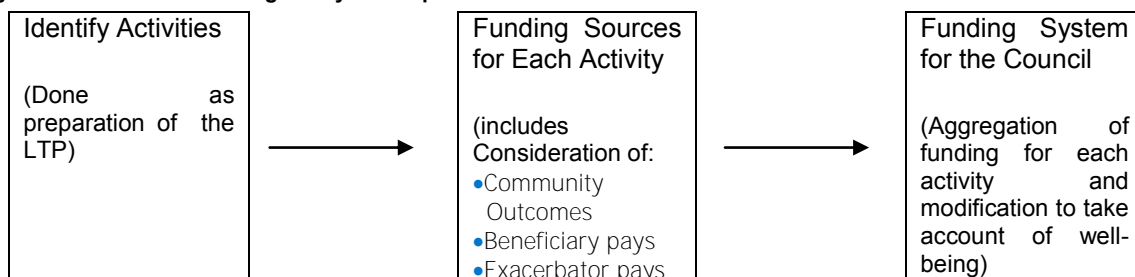
The Act requires:

*“The funding needs of the local authority must be met from those sources that the local authority determines to be appropriate, following consideration of:-*

- a) in relation to each activity to be funded:-
  - i) the community outcomes to which the activity primarily contributes; and*
  - ii) the distribution of benefits between the community as a whole, any identifiable part of the community; and individuals; and*
  - iii) the period in or over which those benefits are expected to occur; and*
  - iv) the extent to which the actions or inaction of particular individuals or a group contribute to the need to undertake the activity; and*
  - v) the costs and benefits, including consequences for transparency and accountability, of funding the activity distinctly from other activities; and**
- b) the overall impact of any allocation of liability for revenue needs on the current and future social, economic, environmental, and cultural well-being of the community.”*

This process followed by the Council when making funding policy is illustrated below.

**Figure M-1 Outline of Funding Policy Development Process**



## M- 2 Documentation of the Funding Process

The Council documents the results of this process in two places<sup>1</sup>:

- ◆ in the descriptions of the groups of activities in the LTP, and
- ◆ in its *Revenue and Financing Policy*

The focus of this Plan is identification of the optimum (lowest lifecycle) cost for each asset group necessary to produce the agreed levels of service.

## M- 3 Funding sources

Current funding sources available for transport network activities include:

- ◆ Rates
- ◆ NZ Transport Agency financial assistance
- ◆ Loans
- ◆ Use of reserve funds
- ◆ Private (developer) funded works
- ◆ Financial contributions as provided for in the Resource Management Act
- ◆ Development contributions as provided for in the Local Government Act 2002
- ◆ User charges are theoretically available for some aspects of the activity but in practical terms cannot be used

### M- 3.1 NZTA Financial Assistance rates

The Council has agreed with the NZ Transport Agency that the financial assistance rates for the period 2012/13 to 2015/16 will be:

**Table M-1 Financial Assistance rates**

Name of Rate	Value
Base	46%
New Works	56%
Admin	2.25%
Activity Specific (w/c 1/002)	75%
Rail Crossing Warning Devices	100%
Emergency Works	Determined by the scale of the need

Regional funding projects are eligible for a FAR which is mid-way between 100% and the capital rate (78.5%)

### M- 3.2 Fees & Charges

Table M-2 below lists the types of fees and charges imposed by the Council for activities that occur on the transportation network. There are no road opening fees charged to utilities or contractors who access or excavate the legal road for placement of services.

<sup>1</sup> The Local Government Act 2002: An Overview by the Local Government Know How Group

Current fees and charges are detailed in the Councils schedule of fees and charges, which is reviewed annually. The master copy of the schedule is held by the Democracy section in Community services.

**Table M-2 Transportation Network Fees and Charges**

<b>Fee / Charge</b>	<b>Comments</b>
Mobile shop licensing fees (Regulatory)	
Sealing or resealing rural gateways.	The applicant is to pay 60% of the cost to carry out the physical work (at the rates at the time of sealing).
Vehicle (Kerb and channel / footpath) Crossing	Application fee only, costs to construct carried by the applicant

## M- 4 Revenue and Funding Policy

The Council's Revenue and Funding Policy governing this activity is separate from this Plan. The policy is maintained by the Council's Finance Manager.

### M- 4.1 Roading

The funding policy was reviewed by Council during compilation of the 2012/22 LTP.

The Council's contribution to the Roothing activity is funded from a targeted rate on the capital value of each rateable property.

The Council considers that a Capital Value rating mechanism most appropriately reflects:

- ◆ property related benefit
- ◆ stakeholder and community interest and
- ◆ ability to pay

The NZ Transport Agency financial assistance will continue to be sought for operating and capital works as in the past.

### M- 4.2 Footpaths, Kerb & Channel

The last review confirmed no changes in the funding formula for footpaths. The Funding Policy also requires that the unsubsidised portion of the cost of new kerb and channel is shown as part of the Roothing activity (non-subsidised), being funded by the appropriate footpaths cost centre.

The footpath activity funding is raised as follows:

- ◆ Capital Value General Rate                      30%
- ◆ Capital Value Targeted Rate                      70%

In addition, there will be some revenue from charges for Crossing Fees, as noted above, but this is expected to be negligible.

The Capital Value Targeted Rate on the following ratepayers is considered appropriate as they directly benefit from the provision of footpaths in their areas to a greater extent than the general ratepayers of the District do.



- ◆ Ashburton Residential
- ◆ Ashburton Business
- ◆ Ashburton Inner CBD
- ◆ Methven Residential
- ◆ Methven Business
- ◆ Rakaia Residential
- ◆ Rakaia Business
- ◆ Rural – excluding Methven and Rakaia

### M- 4.3 Funding of Total Costs

The projected total annual costs for the next ten years, and the methods proposed to fund them, are as indicated in **Error! Reference source not found.** A fuller explanation of the funding regimes is in the Council's Revenue and Financing Policy.

### M- 4.4 Capital Works

#### M- 4.4.1 **Roading**

##### M- 4.4.1.1 Renewals

Renewal works are funded from annual depreciation charges and, where applicable the financial assistance provided for the project by the NZTA.

##### M- 4.4.1.2 New Works

The Council funds the cost of new works first by utilising the proceeds received from NZTA financial assistance, financial contributions or development contributions, as applicable, for the projects to which those funds are tied, and funding the balance from rates.

#### M- 4.4.2 **Footpaths, Kerb & Channel**

##### M- 4.4.2.1 Renewals

Renewal works are funded from annual depreciation charges, targeted general and capital rates and, where applicable the financial assistance provided for the project by the NZTA. The targeted rate is funded as outlined in M- 4.2 above.

##### M- 4.4.2.2 New Works

The Council proposes to fund part of the cost of new works by utilising depreciation funding available after expenditure for the renewal of assets each year has been deducted together with a 30% contribution from the general rate for new works, with the balance from targeted rate for the appropriate location.

The Council has indicated that it wishes to develop the rationale behind the footpaths and kerb and channel areas of benefit to include other township related benefits such as beautification. This will have affect on projected funding from these sources but those effects will not be included in the financial projections until the Council has determined the matter.

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## M- 5 Improvement Actions

Potential improvements identified in this section are:

**Table M-3 Funding Policy Improvement Actions**

<b>Funding Policy</b>		
<b>Item</b>	<b>Priority</b>	<b>Comments</b>
M1		

End of **Appendix M**

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# Appendix N Demand Management and Sustainability

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# Appendix N Demand Management and Sustainability

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## N- 1 Introduction

Demand management is the implementation of non-asset based solutions to manage demand for a service, with known or forecast outcomes.

To receive financial assistance for works on its road network the Council must have the works, including maintenance and renewals, included in the Regional Land Transport Programme. Section 14 of the Land Transport Management Act 2003 requires that:

*(a) the regional land transport programme—*

*(iii) is consistent with—*

*(B) any relevant regional land transport strategy*

Demand management is a core element of the Canterbury Regional Land Transport Strategy (RLTS). A Canterbury regional Travel Demand Strategy<sup>1</sup> has been adopted by Environment Canterbury and is incorporated into the RLTS.

Demand management refers to a range of methods that influence how we travel, when we travel and where we travel. Methods include encouraging travel behaviour changes through education, promotion and marketing, the use of parking controls and financial or pricing mechanisms. A key role of demand management is to maximise the efficiency of the transport system, by removing the least productive activities or shifting them to times when there is less demand on the system. This ensures the most productive trips are able to be undertaken effectively and efficiently thereby contributing to economic development.

The strategic approach adopted for the use of demand management in Canterbury is as follows:

- 1. Improve the range of transport options available, therefore giving people greater choice when deciding how to travel*
- 2. Establish land-use patterns that support the use of a wider range of transport modes and provide opportunities for people to travel less*
- 3. Increase use of promotion, education and marketing techniques (soft TDM measures)*
- 4. Implement parking controls to manage traffic growth and support the use of a wider range of modes (hard TDM measures)*
- 5. Implement restraint and pricing measures in the future (hard TDM)*

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1 Canterbury Regional Travel Demand Management Strategy 2008  
<http://ecan.govt.nz/publications/Plans/CanterburyRegionalTDMStrategy25July2008.pdf>  
last visited 7 Feb 12

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Source: Cant'y Regional TDMS p 1

The Council participated in preparation of a number of strategy documents prepared by ECan as part of the Demand Management measures arising from the RLTS. These were:

- ◆ Regional Cycle Strategy<sup>2</sup>
- ◆ Regional Freight Action Plan<sup>3</sup>

These strategies/plans will be implemented as circumstances require.

In addition to the specific requirement in the Land Transport Management Act for demand management to be addressed in every Land Transport Programme and Regional Land Transport Strategy, every Land Transport Programme must take into account the relevant RLTS and include demand management strategies – with appropriate targets and timetables, intended to reduce the levels of motorised road traffic.

## N- 2 Demand Management Strategy and Methods

A normal straight sealed road has a maximum hourly capacity of around 1800 vehicles / hr on each lane. This is equivalent to around 10,000 vehicles / day (vpd). Intersections have lesser capacities.

Most District roads do not carry heavy traffic numbers and generally, there are no issues of congestion. In recent years traffic growth has caused traffic delays at peak times, but these remain within tolerable levels. As examples, traffic volumes at the intersection of East St (SH1) (11,000 vpd) and Walnut Ave (7-8,000 vpd) indicate potential delay issues.

The ADC has a strategy to encourage economic development, and therefore is not in a position of seeking to reduce the use of the network for commercial purposes. Any demand management strategies would therefore relate to how activities are grouped to minimise the transport needs, and how land-use changes (particularly rural) are managed. These are controlled through District Plan processes.

Similarly, the ADC wishes to see tourism in the District encouraged, thus demand management will not focus on travel reduction but could focus on encouraging the use of cycling and in future the introduction of public passenger transport may be investigated.

For private travel including commuting, the impacts of predicted traffic growth on the capacity of the roading network are expected to be insignificant in the short term, and any demand management measures would be aimed at achieving environmental objectives. These conclusions are applicable throughout the District, including Ashburton and Tinwald.

The issue of preferred heavy traffic routes has been addressed in the District bylaws, but they will have a negative effect on residents who live on these routes. This is a result of the increasing numbers and size of heavy vehicles and the loads they carry. The effects of heavy traffic on the District's roads and the adjacent environment are likely to change over the next few years from 2010 following the introduction of High Productivity Motor Vehicle load limits on trucks.

Designation of heavy traffic routes is a management tool that reduces the number of people suffering negative affects from the movement of these vehicles through towns but increases the negative affects on those living along the chosen routes; regrettably, these increased negative effects largely

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<sup>2</sup> Getting Along — Cycling in Canterbury: Strategy for the development of a regional network of cycle routes <http://ecan.govt.nz/publications/Plans/CinC.pdf> last visited 7 Feb 12

<sup>3</sup> Getting Along — Canterbury Regional Land Transport Freight Action Plan <http://ecan.govt.nz/publications/Plans/FAP.pdf> last visited 7 Feb 12

cannot be avoided. There are steps the Council can take to minimise the effects of heavy traffic with the main issues being the apparent speed and noise. The former problem can be addressed by traffic calming measures to try to reduce speed, and the latter problem by providing smoother roads and providing rights of way to minimise acceleration and braking. There is little that can be done by the Council to affect vehicle size.

Demand management options that will be considered, and implemented as appropriate, are outlined below.

### **N- 2.1     Maintenance and Development of the Road Hierarchy**

The hierarchy has a long-term influence on traffic patterns and flows. As traffic volumes and the percentage of heavy vehicles continue to increase, the Council will need to review the road network and identify strategies to control or spread the demand. National policies are expected to be introduced that will promote:

- ◆ the use of alternative transport modes to reduce expenditure on new roading, and
- ◆ a more user pays approach to funding and managing roading networks generally

Responses to these initiatives may involve reviewing or developing transportation strategies, redefining road hierarchies or developing the roading network.

### **N- 2.2     Cycle Networks**

Provide more attractive and safe cycle networks as an alternative to car use.

The ADC has resolved to extend the cycle network in Ashburton and the forward programme includes provision for this work. Promotion of and education on cycling will be undertaken as part of the Road Safety Coordinator's annual work programme, and is funded as part of that budget.

### **N- 2.3     Pedestrian Networks**

Changing from driving to walking for short trips is a very effective means of reducing demand for road space. This is especially true for trips to and from school, as school traffic causes significant peaks and hazards.

The Council has resolved to improve the ease and safety of pedestrian movement in its towns and has included approximately 5km of new footpaths in the financial forecasts in this plan.

### **N- 2.4     Public Transport / Taxi Service**

Ashburton is too small for a public passenger transport system; a small-van initiative in the 1990's failed due to lack of patronage. However, this could be revisited using taxi service resources with the potential demand identified prior to seeking funding.

### **N- 2.5     Parking Controls**

There are parking meters in the Ashburton CBD; however, there are also large areas where parking is unrestricted and free. Establishing parking restriction time limits and charging are continually being addressed. Changes to parking will need to align with the Ashburton Parking Strategy 2010, be integrated with any future town centre upgrade project, and the Ashburton Transportation study.



The pressures to restrict parking needs to be balanced by consideration of the core purpose of the town, which is to service the surrounding agricultural areas, and the need for good and relatively unimpeded access to facilitate this.

### **N- 2.6 District Plan**

The Plan controls land-use and thus influences traffic demand. The bulk-retail area in Ashburton is permitted under the District Plan, and the traffic congestion associated with that is the subject of specific traffic analysis and a transportation study.

### **N- 2.7 Traffic Bylaws**

Traffic bylaws have been implemented to help change the demand on certain roads and alter parking habits. Bylaws are linked to transportation strategies, to provide a sound basis for their introduction and as a means to support and enforce strategies.

### **N- 2.8 Traffic Management**

Traffic management is generally only required in urban areas or on over-capacity arterial roads. Techniques include local area traffic management (LATM), that help to control traffic flows within residential areas, and intersection treatments — none are currently in use or planned in the Ashburton District.

### **N- 2.9 Management of the Road—Footpath Interface**

Increasing use of mobility scooters is putting pressure on the footpath networks and placing unexpected demands and hazards on them. Management of these vehicles will require consultation with user groups to identify areas where levels of service need to be improved to enable safe use of this mode, and possibly changes to the some of the Council's policies and standard practices.

### **N- 2.10 Reduced Levels of Service and Public Education**

With the trends of increasing vehicle ownership and increasing number of trips per household, traffic volumes are expected to increase and more delays can be expected. Mostly, the network will continue to meet level of service demands; however, in the medium to long term delays at key locations and periods will probably become an issue. When it does, the Council will need to consider whether it offers a lower level of service or invests in network improvements to maintain or improve traffic efficiency. Public education programmes could also be implemented to encourage the use of alternative transportation methods and accept reduced levels of service at peak times.

The Council will use a combination of internal resources and external providers in implementing demand management measures.

## **N- 3 Improvement Actions**

Potential improvements identified in this section are summarised below:

**Table N-1 Demand Management Improvement Actions**

<b>Demand Management</b>		
<b>Item</b>	<b>Priority</b>	<b>Comments</b>

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<b>Demand Management</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
N1	Identify LOS improvements for mobility scooters	Medium	
N2	Analyse / research travel demand Ashburton - Rolleston and Christchurch with a view to determining demand management options	Low	

End of Appendix N

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# Appendix O LTMA Matters

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## Appendix O LTMA Matters

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### *Legislative Background: Part 2 of the Land Transport Management Act 2003*

## O- 1 Legislative Requirements

The Ashburton District Council is an approved organisation under section 5(1)(c) of the Land Transport Management Act 2003.

The Land Transport Management Act 2003 was amended in July 2008. Prior to that date it required that every local authority prepare a Land Transport Programme **every year** for the next financial year, and that it make it available to the public in a written form. The Land Transport Management Amendment Act 2008 deleted this requirement and established a new structure for the proposition and approval of land transport programmes.

The requirement to prepare a Land Transport Programme now rests with the Regional Council, which has to prepare a Land Transport Programme every three years. The Act establishes a Regional Transport Committee to carry out this task for the Regional Council. Each regional land transport Programme (RLTP) programme is required to cover a ten-year period.

Consultation requirements are covered by s18 of the Act. The Ashburton District Council is no longer obliged by the Land Transport Management Act 2003 to consult on its Land Transport programme.

### O- 1.1 Core requirements of Regional Land Transport Programmes

Section 14 of the Act details the core requirements of Regional Land Transport Programmes as follows:

*When a regional transport committee prepares a regional land transport programme on behalf of the relevant regional council, the regional transport committee must—*

- (a) be satisfied that the regional land transport programme*
  - (i) contributes to the aim of achieving an affordable, integrated, safe, responsive, and sustainable land transport system; and*
  - (ii) contributes to each of the following:*
    - (A) assisting economic development*
    - (B) assisting safety and personal security*
    - (C) improving access and mobility*
    - (D) protecting and promoting public health*
    - (E) ensuring environmental sustainability; and*
  - (iii) is consistent with*
    - (A) the relevant GPS; and*
    - (B) any relevant regional land transport strategy; and*
- (b) take into account any*

- (i) *national land transport strategy; and*
- (ii) *national energy efficiency and conservation strategy; and*
- (iii) *relevant national policy statement and any relevant regional policy statements or plans that are for the time being in force under the Resource Management Act 1991; and*
- (iv) *relevant regional public transport plan; and*
- (v) *likely funding from any source*

## **O- 1.2 Content of the Regional Land Transport Programme**

Section 16 of the Act details the form and content of Regional Land Transport Programmes as follows:

- (1) *For the purpose of seeking payment from the national land transport fund, a regional land transport programme (for regions other than the Auckland region) must contain, for the 3 financial years to which the programme relates,—*
  - (a) *activities or combinations of activities, identified by approved organisations in the region, relating to local road maintenance, local road renewals and local road minor capital works, and existing public transport services; and*
  - (b) *the following activities or combinations of activities that the regional transport committee decides to include in the regional land transport programme:*
    - (i) *activities or combinations of activities proposed by approved organisations in the region, other than those identified under paragraph (a); and*
    - (ii) *activities or combinations of activities relating to State highways in the region that are proposed by the Agency; and*
    - (iii) *activities or combinations of activities, other than those relating to State highways, that the Agency may propose for the region and that the Agency wishes to see included in the regional land transport programme; and*
  - (c) *the order of priority, as determined by the regional transport committee, of the activities or combinations of activities that the committee decides to include in the committee's regional land transport programme under paragraph (b); and*
  - (d) *an assessment of each activity or combination of activities, prepared in accordance with subsection (5) by the organisation that identified or proposed the activity or combination of activities under paragraph (a) or (b), to include—*
    - (i) *the objective or objectives to be achieved; and*
    - (ii) *an estimate of the total cost and the cost for each year; and*
    - (iii) *the expected duration; and*
    - (iv) *any proposed sources of funding other than the national land transport fund (including, but not limited to, tolls, regional fuel taxes, funding from approved organisations, and contributions from other parties); and*
    - (v) *any other relevant information*

Although the Ashburton District Council is not required by the Act to prepare a Land Transport Programme, if the Council wishes to continue to receive financial assistance of the maintenance,

management and development of its transportation network, which it does, it must prepare and provide the details the Regional Council needs to include in its LTP.

The systems established by the Land Transport Authority under the pre 1 August 2008 Act have largely been retained by the NZ Transport Agency.

ADC completes its Land Transport Programme application on-line, using the NZTA prescribed format. Copies of the submitted and approved programmes are at Annex I and Annex II respectively.

## O- 2 GPS on Land Transport Funding

The directions set by the GPS (Government Policy Statement) on land Transport Funding are key considerations when the RLTP is being developed at regional and Council level. The GPS is available on-line at the Ministry of Transport website<sup>1</sup>. In the introduction to the GPS it is described as follows:

*The Government Policy Statement (GPS) on Land Transport Funding is the main guiding document by which the government can ensure that the land transport funding system focuses on the priority of generating economic growth and productivity. The GPS aligns investment in the land transport sector more closely with this priority. Further, the GPS closely reflects the modal choices that are realistically available to New Zealanders. Approximately 70 percent of all freight in New Zealand goes by road, and 84 percent of people go to work by car, truck or motorbike, so we need good roads to move freight and people. The government supports some mode shift over time, especially in our major cities of Wellington, Auckland and Christchurch, but considers that this should not be accelerated to the point where the outcomes are economically inefficient.<sup>2</sup>*

Under the Heading What the Government Wishes to Achieve the GPS summarises its goals as follows:

### **Short To Medium-Term Impacts**

*Impacts that contribute to economic growth and productivity*

- *Improvements in the provision of infrastructure and services that enhance transport efficiency and lower the cost of transportation through:*
  - *improvements in journey time reliability*
  - *easing of severe congestion*
  - *more efficient freight supply chains*
  - *better use of existing transport capacity*
- *Better access to markets, employment and areas that contribute to economic growth.*
- *A secure and resilient transport network.*

*Other impacts*

- *Reductions in deaths and serious injuries as a result of road crashes.*
- *More transport choices, particularly for those with limited access to a car where appropriate.*
- *Reductions in adverse environmental effects from land transport*
- *Contributions to positive health outcomes*

<sup>1</sup> <http://www.transport.govt.nz/news/newsevents/Documents/Final-GPS-May-09.pdf> last visited 19 Feb 2010 at 16:45

<sup>2</sup> Government Policy Statement on Land Transport Funding 2009/10 – 2018/19 May 2009; page 1



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Effects of the GPS on local roads, which include all ADC roads, include:

- ◆ Direction in the GPS is towards *Roads of National Significance* which restricts the availability of NZTA financial assistance to local roading projects, making funding of improvements to local roads more difficult
- ◆ Restrictions on maintenance funding detailed in the GPS have also had adverse effects of the Council's proposals for its network

## O- 3 Other LTMA Matters

Schedule 1 of the Act details the statutory minimum contents of land transport programmes. The matters are addressed below in the order they are detailed in the Act.

### O- 3.1 Outstanding Payments

#### O- 3.1.1 **Payments Due / Carry Forwards**

The approved activities and activity classes included in any earlier national land transport programmes for which any payments due from LTNZ are outstanding or for which any payments may become due after the programme year, and the amounts concerned, are declared each July to The NZ Transport Agency using its specified procedures. These procedures require electronic submission using a web page. A copy of the latest carry-forwards list is at Annex III

#### O- 3.1.2 **Variations to Activities or Activity Classes**

The Council has no current intentions to vary, suspend, or abandon any approved activity or activity class, or output. However, there are and will be, activity classes in which there is no scheduled expenditure for one or more years because the programmes developed elsewhere in this plan do not require it.

### O- 3.2 Activities

#### O- 3.2.1 **Prioritised Programme**

The Council is required to list all activities and activity classes, for which any payment is sought from the NZ Transport Agency in order of the priority that it thinks should be given to those activities or activity classes.

The Council's priorities are, in terms of activities, in descending order:

- ◆ Maintenance (Activity Class 1),
- ◆ Renewals (Activity Class 3); then
- ◆ New works.

Within The NZ Transport Agency Activity Class 5 Improvement of Local Roads a recommended priority is allocated to individual projects. The recommended priorities for the current year's projects are detailed in Annex I to this Appendix.

### O- 3.2.2 **Costs and Durations**

The total costs, proposed starting dates, and durations of the activities and activity classes included in the Council's Land Transport Programme are also detailed in Annex I .

### O- 3.2.3 **Options and Alternatives**

The options and alternatives (including demand management) considered for the activities and activity classes included in the Land Transport Programme are detailed in:

- ◆ Appendix E – Maintenance
- ◆ Appendix I – Renewals
- ◆ Appendix F – Demand and New Works
- ◆ Appendix N – Demand Management

These appendices do not go into detail on the options and alternatives for individual projects. Those are considered at the project scoping and design stages. Rather, the discussions in this plan are around the processes that are used to assess options.

### O- 3.2.4 **Expenditure funded by tolling revenue**

The Council has no intentions to fund any projects from tolling revenue and does not foresee any toll-funded projects arising in the District.

## **Financial Forecast**

The Council's financial projections for its LTP and for inclusion in the Regional Land Transport Programme for future years are summarised in Appendix L - Summary of Overall Financial Requirements.

## **O- 3.3 Objectives of Activities and How They Contribute to Purpose of Act**

The objective or objectives to be achieved by each activity and each activity class and how each activity or activity class contributes to the purpose of this Act are described in the appendices in which the different activities are described. In particular:

- ◆ Levels of service — Appendix R
- ◆ Maintenance and Operating — Appendix E
- ◆ Renewals — Appendix I
- ◆ New Works — Appendix F
- ◆ Disposals — Appendix W
- ◆ Consents and RMA Matters — Appendix H
- ◆ Risk Management — Appendix Q

## **O- 3.4 Assessment of activities**

The Council, in preparing its land transport programme, has taken into account how each activity or activity class—

- ◆ Assists economic development; and

- ◆ Assists safety and personal security; and
- ◆ Improves access and mobility; and
- ◆ Protects and promotes public health; and
- ◆ Ensures environmental sustainability, and
- ◆ The current national land transport strategy, National Energy Efficiency and Conservation Strategy, and the Canterbury Regional Land Transport Strategy

While these matters are not necessarily detailed in the appendices to this Plan they are detailed in the Councils submissions for projects to be included in the National Land Transport Programme. A copy of the detail in the current bid is included at Annex I to this Appendix

### **O- 3.5 Consultation**

Consultation on the Land Transport Programme is carried out, as permitted by s13 of the LTMA 2003, as part of the consultation on the Long Term Council Community Plan. Consultation carried out on the AMP is described in Appendix U

### **O- 3.6 Steps for Developing Options and Alternatives**

Options and alternatives for addressing issues and problems on the network are developed progressively for each site. The nature and extent of the works carried out by the Council on its road network are such that extensive and expensive investigation and option development in the preliminary stages of a project are usually not warranted or justified. Projects are typically programmed based on the most likely credible solution to the problem and detailed options for the site are investigated and considered during the design phase, which usually immediately precedes construction.

Design options consider the matters outlined in paragraph O- 3.4 above along with through-life costs, affects on adjoining properties, waters and users, road safety, the Council's policies and standards, total cost and affordability.

### **O- 3.7 Long-term Financial Forecast**

The long-term financial forecast, containing a forecast of anticipated revenue and expenditure on roading and transportation activities for the current financial year and the nine following financial years is at Appendix M of this Plan. The Long Term Plan is based on the financial requirements of this Plan which is, in turn, modified to reflect the approved financial allocations.

The financial forecasts anticipate approval for subsidised works which has not yet been received. This is a function of the NZ Transport Agency financial support system and if any of these projects are not funded by the NZ Transport Agency they will be reconsidered and re-prioritised.

### **O- 3.8 Policy Directions**

This requirement applies only to Transit NZ and The NZ Transport Agency.

### **O- 3.9 Form of NLTP Submission**

The Council's submissions to the NLTP are made on-line using the forms and other details that the NZ Transport Agency prescribes from year to year. A copy of the current bid is included at Annex I. The approved programme is in the information at Annex II.

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## O- 4 LTMA Matters Improvement Plan

### O- 5 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table O-1 Legislative Requirements Improvement Actions**

<b>Legislative Requirements</b>		
<b>Item</b>	<b>Priority</b>	<b>Comments</b>
O1		



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# Annex I Latest ADC LTP Submission

The ADC input to the National Land Transport Programme appears on the following pages. It is output from “Transport Investment Online”, a proprietary system operated by the NZTA. It does not necessarily conform to the layout and other conventions of this document.

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## Annex II Approved ADC LTP

The approved ADC Land Transport Programme appears on the following pages. It is produced by the NZTA. It does not necessarily conform to the layout and other conventions of this document.

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## Annex III ADC LTP Carry-overs

The requested carryovers of ADC LTP funding appear on the following pages. This list is produced separately and does not necessarily conform to the layout and other conventions of this document.

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End of **Appendix O**

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# Appendix P Significant Effects

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# Appendix P Significant Effects

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*Legislative Background: Schedule 10, Clause 2(1) (c) Local Government Act 2002*

## P- 1 Introduction

Clause 2 (1) (c) of Schedule 10 to the Local Government Act 2002 requires that each long-term plan, in relation to each group of activities of the local authority, must:

*... outline any significant negative effects that any activity within the group of activities may have on the social, economic, environmental, or cultural well-being of the local community:*

This section of the AMP describes and identifies some of the negative effects caused by the Council's transportation network, and by the uses people make of it. It outlines some of the measures the Council is taking to control these effects, and attempts to place the negative effects of the transportation network in context by canvassing its positive effects.

## P- 2 Positive Effects

### P- 2.1 Social

Transportation networks are at the core of our social well-being as individuals and communities, providing freedoms so fundamental to the operation of our society that they are often overlooked. The land transport network has an overwhelming on-going positive effect on our social, economic, environmental and cultural wellbeings.

The Ashburton District's land transport network provides people with a high degree of mobility, the ability to move freely between properties, towns and localities and the ability to travel further afield without the need to seek leave of any property owner or any other permission. The network also provides corridors through which telecommunications and other utilities essential for our social and physical wellbeing run.

### P- 2.2 Economic

The transportation network plays a vital part in the economic life of the District, Region and country. It:

- ◆ allows goods to be taken to markets
- ◆ enables other goods to be brought into the District
- ◆ supports tourism
- ◆ allows people to be educated
- ◆ allows people to provide for their physical and other needs

### P- 2.3 Environmental

Roads, by definition, form an integral part of the built environment. Their positive effects include:

- ◆ facilitating access areas that would otherwise not be accessible
- ◆ providing refuges for flora and fauna in severely modified landscapes
- ◆ reducing environmental damage that might otherwise occur through the passage of vehicles and animals over unimproved natural ground and through natural waterways

#### **P- 2.4**    Cultural

Any form of culture requires interaction between people. Without the ability to travel and communicate with others there could be no culture as we know it.

The economic and social benefits have some environmental costs.

### **P- 3**    Negative Effects

This section identifies any significant negative effects that the roading activity may have on the social, economic, environmental or cultural wellbeing of the community, and how the actual results will be measured and reported against these in future. Specific issues are described below, under the headings of the well-beings affected. Some negative effects influence more than one well-being.

#### **P- 3.1**    Social

- ◆ State Highway traffic affects the Ashburton, Methven and Hinds town centres
- ◆ The social costs to the community as a result of road congestion
- ◆ Road safety and the trauma of road crashes
- ◆ Growth in heavy vehicle numbers on rural roads, particularly where the width is narrow, as this leads to driver discomfort for other roads users (e.g. motorists and recreational cyclists) and potential safety effects

#### **P- 3.2**    Economic

- ◆ The economic costs to the community as a result of road congestion
- ◆ Road safety and the trauma of road crashes
- ◆ The close proximity of rail traffic to the central business area of Ashburton. The interface between rail shunting operations and road traffic movements, coupled with some 22 train-movements per day, has significant negative effects on access across the rail corridor

#### **P- 3.3**    Environmental

- ◆ The quality of the stormwater runoffs from roads that discharges into adjacent watercourses or groundwater layers
- ◆ Excessive noise from busy roads, in particular truck and trailer units
- ◆ Air pollution from motor vehicles

#### **P- 3.4**    Cultural

- ◆ State Highway traffic affects the Ashburton, Methven and Hinds town centres

## P- 4 Addressing the Negative Effects

State Highway traffic affects and the quality of the stormwater runoffs are taken into account in Appendix F, Demand.

Economic and social costs are recognised in the BCR method of evaluating capital projects, and road safety is addressed through the Safety Management System and road safety coordination.

Rail issues may be able to be addressed through the Ashburton Industrial area development, by relocating shunting operations.

The remaining issues need further work in order to quantify measures of their effect.

## P- 5 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table P-1 Significant Effects Improvements**

<b>Significant Effects</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
P1	Develop measures for effects of traffic on quality of life, noise and air pollution at District level	Low	This may be related to RLTS measures, as part of region wide assessments.



End of **Appendix P**

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# Appendix Q Risk

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## Appendix Q Risk

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### Q- 1 The Risk Management Approach

The specification for the optimised management of physical infrastructure assets prepared by the British Standards Institute (PAS 55) says that every organisation that has responsibility for physical assets should establish and maintain procedures for:

- ◆ the ongoing identification of asset or asset management related
  - ◇ hazards
  - ◇ failures
  - ◇ potential losses
- ◆ the assessment of their risk
- ◆ the identification and implementation of necessary control measures

PAS 55 notes that risk assessments should consider the probability of an event and all of its consequences, and should include:

- ◆ *physical failure risks, such as fundamental failure, accidental, or malicious damage*
- ◆ *operational risks, including the control of the asset, human factors, and all other activities which affect its performance, condition or safety*
- ◆ *natural environment events (storm, floods, etc)*
- ◆ *factors outside of the organisation's control, such as failure in externally supplied materials and services*
- ◆ *stakeholder risks, such as failure to meet regulatory performance requirements or reputation damage*
- ◆ *asset related design, specification, procurement, construction, installation, and decommissioning risks as appropriate*

Further guidance relating to the New Zealand context is provided in:

- ◆ New Zealand Standard SNZHB 4360:2000, 'Risk Management for Local Government'
- ◆ The SOLGM Legislative Compliance Project

A wide-ranging list of potential sources of risk is provided in this section. Those considered to be significant to the Roothing and Footpaths activities have been assessed and documented in a risk register, which is also included in this section.

For management purposes, a comprehensive list of all identified assumptions, uncertainties and risks is maintained in this appendix, with only the most significant ones taken into the Management Plan itself.

The overall objectives of a formal risk management approach are to:

- ◆ outline the process by which ADC will manage risk associated with its roading assets, so that all risks can be identified and evaluated in a consistent manner
- ◆ identify operational and organisational risks at a broad level
- ◆ allocate responsibility for managing risks to specific staff to improve accountability

- ◆ prioritise the risks to identify the highest risks that should be addressed in the short to medium term

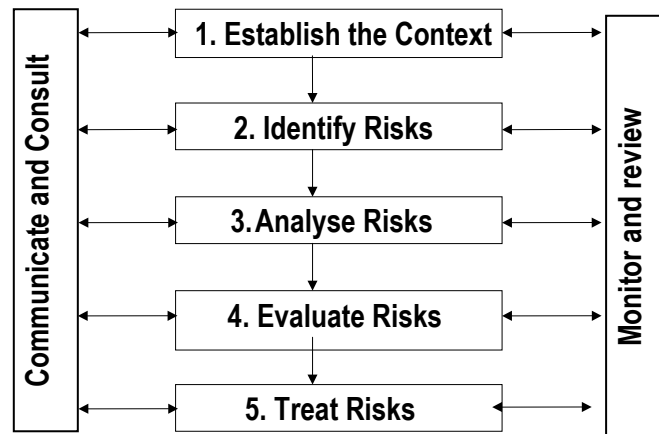
This section follows the process outlined in AS/NZS 4360: 1999, illustrated in the figure below.

### Q- 1.1 Context

While the process has not been fully completed, there is a risk management framework in place and an initial risk register has been developed.

The risk register is to be reviewed and updated on an ongoing basis, using the approach outlined. Future plan-updates will provide a more complete picture of risk exposure and a risk management strategy.

Corporate/finance risks are excluded from the scope of this Plan.



### Q- 1.2 Risk Identification

The roading system has been broadly assessed for potential risks. The risks have been described and their potential impacts and current controls assessed.

Two principal types of risk are examined – relating firstly to events that could affect the network, and secondly to the potential for asset condition or performance failure.

Earlier Appendices provide more detail on the potential modes of failure of assets and link this to maintenance and renewal tactics.

The risk register needs to be kept under continual review and development to ensure that all potential risks using the established criteria have been identified and are being appropriately managed.

### Q- 1.3 Risk Analysis and Evaluation

The risk analysis considers both the likelihood and consequence of events and asset risks.

The probability that a risk could occur is from Table Q-3 Risk Likelihood Table (Transportation Network). The consequences are shown in Table Q-4 Risk Consequence Ratings Table (Transportation Network). Both these tables are at Annex I

Careful consideration needs to be given to the weightings of consequences and the resulting risk rating. The Table Q-4 Risk Consequence Ratings Table (Transportation Network) infers, for example, that a direct repair cost of \$50,000 - \$200,000 is equivalent to receiving negative local media coverage. A risk of this level, if it had a probability of occurring once a year, would be identified as being a 'high' risk requiring a review of the risk controls and some improvement in those controls to reduce risk to 'moderate'.

The relative impacts are preliminary at this stage, and will need to be reviewed as the ADC risk management plan is developed.

The results of the risk evaluation process provide a risk rating of 'low', 'moderate', 'high', or 'extreme', depending on both the probability of the risk occurring and the potential consequences (Table Q-1 below).

### Q- 1.4 Risk Treatment

Once the risks have been assessed and rated, the most significant risks (for example, those of extreme or high risk) are isolated for treatment or control.

## Q- 2 Risk Assessment

Risk can be defined as *the consequence of uncertainty*. The Council uses a qualitative approach to the assessment of risks on its transportation network in which risk is "calculated" using a matrix that links the likelihood and consequence of an event.

The Risk matrix is:

**Table Q-1 Ashburton District Council Risk Matrix**

	Consequence				
Probability	Insignificant	Minor	Moderate	Major	Catastrophic
Rare	L	L	L	M	H
Unlikely	L	L	M	H	H
Possible	L	M	M	H	V
Likely	M	M	H	V	V
Almost Certain	M	H	H	V	V
Certain	M	H	V	V	V

The key to the risks developed in the matrix is:

- V: Extreme risk                      Immediate action required to reduce risk
- H: High risk                            Senior management attention needed to manage risk
- M: Medium risk                        Management responsibility must be specified and risk controls reviewed through the amp
- L: Low risk                                Manage by routine procedures

The inputs to this matrix are the assessed likelihood and consequences of each event.

---

## Q- 3 Schedules of Risks

Tables listing the assessed risks on the network are at Annex II to this appendix. They document the assessed risks facing the network and identify the current methods of managing those risks and outlining risk action plans for them. Separate tables provide for “asset based” risks, e.g., sudden pavement or bridge failure due to condition deterioration, landslides etc and “event based” risks such as earthquake or flood, loss of key staff, external factors affecting operations, business risks etc.

These tables need to be developed further, and linked to risk management at the corporate level. At this stage, they can be only regarded as providing broad assessments.

## Q- 4 Emergency Preparedness

A significant area of risk for ADC is bridge structures. Heavy rain in the foothills can result in large volumes of water in the rivers and streams across the plains. The loss of smaller structures would present no immediate problem where there is redundancy provided by alternative routes. The potential problems at the four main bridges that are the main entry point to the District are more significant, in terms of consequence; however, three of these bridges are beyond the control of the Council, with only the Arundel Bridge being the Council’s responsibility.

The Ashburton River is generally not suitable for fording, even when there is little or no visible flow in it.

Section E – Maintenance, includes discussion of the Council’s requirements under the Civil Defence Emergency Management Act, is also relevant in this context.

### Q- 4.1 Engineering Lifelines

Engineering Lifelines studies cover disasters and event-based risks that may affect the roading system and other infrastructural assets. They identify the vulnerability of engineering lifeline services (including roading, water supply, telecommunications, power, etc) and practical engineering strategies for reducing the likelihood or impact of damage arising from earthquakes, snow, flooding, tsunami and meteorological damage

A study has been completed covering the rural parts of the Canterbury region, focussing on major access routes such as State Highways, and investigating the vulnerability of bridges in particular.

At District level, a formal lifelines liaison process is to be established involving stakeholders in the District, to develop a better understanding of potential impacts and to identify mitigation strategies covering ADC assets.

### Q- 4.2 Business Continuity / Emergency Management

The heavy snowfall in June 2006 highlighted the need to have a clearly defined process by which the roading network is reinstated following emergency events such as heavy snow or flooding events.

The vital nature of the roading network for providing access to all residents, and to provide essential links for the business sector, make the maintaining of the network in a fully operational condition paramount. ADC has developed an “Emergency Event Roding Hierarchy” (Cat I routes). This highlights those routes that will be significant following the occurrence of a “Lifelines” event, and that therefore need priority action (see Section E- Maintenance) it has been tested and performed satisfactorily.

The Council will continue to enhance its emergency response and contingency plans, with the involvement of roading staff and providers.

### Q- 4.3 Provision of Access for Fire Fighting Purposes

The need for good, reliable access for fighting rural fires in the District is significant. The redundancy (alternative routes) available helps to maintain the system as fully functioning, and Council's contractors are required to respond as necessary to ensure that the network is always available. However, there could be an issue on roads no alternative routes are available, these are generally at the fringes of the network. It is not possible to predict all problems and the Council relies heavily on local knowledge and advice in these events. There are generally sufficient resources available for mobilisation to address any events that close District roads.

## Q- 5 Risk Management Strategy

Once risks have been identified and action plans defined, the implications on expenditure can be assessed. These may include, for example, strengthening key infrastructure or the creation of new assets.

At this stage, the AcMP has not scheduled any specific significant project expenditure for risk mitigation. It is currently assumed that the financial programmes proposed are adequate to cover the improvement tasks outlined in the Risk Action Plan above.

## Q- 6 Improvement Actions

Potential improvements identified in this section are:

**Table Q-2 Improvement Actions – Assumptions and Risk**

Assumptions and Risk			
Item		Priority	Comments
Q1	Establish Ashburton District Lifelines communication and planning process (Council wide)	Medium	
Q2	Review ADC emergency response, contingency and risk action plans after each event	High	



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# Annex I Risk Assessment Criteria

## I- 1. Likelihood

Table Q-3 Risk Likelihood Table (Transportation Network)

Likelihood		Interpretation
Code	Name	
A	Rare	Could occur only in exceptional circumstances (unlikely next 50 years)
B	Unlikely	Could occur at some time in the next 50 years
C	Possible	Could occur at some time in the next 10 years
D	Likely	Could occur once a year
E	Almost Certain	Is expected to occur several times a year
F	Certain	Occurs on a daily basis

## I- 2. Consequence

Table Q-4 Risk Consequence Ratings Table (Transportation Network)

Consequence		Interpretation					
Code	Name	Financial	Public health and safety	Economic impacts	Environmental and Legal Compliance	Asset Performance	Image, Reputation and Public Support
		Direct Costs (Repair, Lost Revenue, 3 <sup>rd</sup> party damage, legal costs)		...on users and businesses			
1	Insignificant	< \$10,000	No health or safety impact.	Equivalent to < \$10,000	No breaches	One-off minor failure to meet levels of service.	No media attention or damage to reputation.

Consequence		Interpretation					
Code	Name	Financial Direct Costs (Repair, Lost Revenue, 3 <sup>rd</sup> party damage, legal costs)	Public health and safety	Economic impacts ...on users and businesses	Environmental and Legal Compliance	Asset Performance	Image, Reputation and Public Support
2	Minor	\$10,000 to \$50,000	Minor safety impact on small number of people.	Equivalent to \$1,000 to \$50,000	Minor breaches affecting very small part of the network	Minor failures to meet levels of service.	No media attention, but minor damage to image to a small group of people.
3	Moderate	\$50,000 – \$200,000	Serious safety impact on small number or minor impact on large number of people.	Equivalent to \$50,000 – \$200,000	One-off major breach, affecting a small part of the network	One-off major failure or widespread minor failures.	Negative local media coverage, community concerned about company performance.
4	Major	\$200,000 – \$1,000,000	Extensive injuries or significant safety impacts, single or several fatalities.	Equivalent to \$200,000 – \$1,000,000	Several major breaches affecting a significant part of the network	Some major performance failures.	Negative national media coverage, major decrease in community support.
5	Catastrophic	>\$1,000,000	Widespread safety impacts; large numbers of fatalities.	Equivalent to > \$1,000,000	Widespread and major breaches of standards, failure to meet legislative requirements over most of system area / network	Major, widespread, unacceptable performance failure.	Negative international media coverage, loss of community support, loss of several key staff.

## Annex II Risk Schedules

**Table Q-5 Table Q-4: Event Based Risks**

Event	Risk Description	Potential Impact	Risk rating		Current Controls	Risk Action Plan
Snow	Major snow storm, with snow depths exceeding 300mm in townships and on rural roads	Closure of significant parts of the network to all but emergency traffic	3C	M	Priority road and footpath clearing schedules. Aim to minimise disruptions.	Contractor preparedness and response timeframes specified in contract
Earthquake	Major movement of the alpine fault, resulting in severe shaking on the Canterbury Plains	Failure of or damage to many bridges, significant disruption to network	4B	H	Contract C331 specifies inspection and reporting regime. Planned reconnaissance to be conducted after event to define needs	Check Cat I bridges for vulnerability and prioritise strengthening needs. Identify works to improve other Cat I sites.
Wind	Intense north-westerly airflow over the eastern coast of the SI	Trees and overhead services blown onto roads	3C	M	Liaison with forestry manager (re wind-blown trees).	Identify and map areas where forests / trees are likely to block Cat I routes.
Flooding	Overflow of the Ashburton river into the Ashburton township	Localised flooding of local roads	2B	L	Maintenance Contract C331 procedures – e.g. clean sump grates, sandbagging, keep abutments clear.	Keep drainage system clear. Identify flow paths. Contractor preparedness and response timeframes. “Sunshine” bridges.
Subsidence / slips	Failure of slopes, undermining of roads by rivers/ streams, blockage of roads by slips, etc	Closure of local access roads. In particular – Whisky Creek Mt Hutt, whole face movement likely.	2D	M	Maintenance Contract C331 procedures and response standards. Planned response to Whisky Creek failure.	OK
Frost conditions (road icing)	Shelter belts shade lengths of road leading to extensive icing and slippery conditions	Road crashes as a result of loss of control	4E	V	Contract C331 gritting of icy roads	Removal of trees where extensive shading and icing occurs.
Stock crossing roads	Stock effluent left on road surface, leading to slippery conditions, deterioration of surface, and which is potentially offensive to road users	Road crashes as a result of loss of control Complaints. Loss of pavement life.	3E	H	Policy in place, includes the provision of stock crossing mats or underpasses	OK
Loss of Key Personnel	Staff member(s) with essential knowledge depart suddenly	Loss of important information	2C	M	AMP documentation. Back-up staff / organisational resources in place.	Undertake process mapping. Put business continuance plans in place.
Materials price shocks	Escalation of prices of key materials, such as bitumen	Significantly higher costs to undertake roading	4C	H	Fixed price contracts. Term based contracts.	Continue with contract arrangements at present, consider alternative contract

Event	Risk Description	Potential Impact	Risk rating	Current Controls	Risk Action Plan
	and oil price shocks	activity – e.g. resealing, maintenance		Standard cost escalation clauses used.	packaging arrangements when due for review. Include provision for “real” cost escalation in budgets.
Unavailability of contracting resources					

**Table Q-6 Asset Based Risks**

Asset	Risk Description	Potential Impact	Risk rating	Current Controls	Risk Action Plan
Pavement surfaces	Poor skid resistance	Crashes in wet weather, potential serious / fatal injury.	4C H	Resealing programme considers surface texture	Use SCRIM skid resistance testing on key roads, and set target investigatory / intervention levels.
Pavement structure	Low strength structure affected by moisture and heavy loading leading to sudden pavement failure	Rougher roads. Increased maintenance costs.	2E H	Maintenance inspections Routine maintenance through contract C331 – technical LOS	Review AWT intervention levels and model effects in dTIMS.
Footpaths	Users tripping or falling because of the poor condition of the footpath	Personal injury. Adverse publicity	3E H	Contract C396 provisions for inspection and monitoring. Response to customer service requests (CSR system).	Timely completion of identified works.
Bridges with timber beams	Sudden or gradual failure of decayed timber beams	Collapse of structure, vehicle crash and potential serious / fatal injury	4B H	Routine inspections under Contract C331. Regular 3-yearly inspection by Opus Consultants, with work prioritised and completed. Bridge postings on load restricted bridges	Prioritise and upgrade load-restricted bridges.
Traffic Signs	Missing regulatory signs, such as Give Way or Stop	Motorists fail to realise that a hazard exists, potential serious / fatal injury	4D V	Maintenance Contract C331 provisions, including inspections, response times, and audit procedures. Safety Management System in place. Response to requests from CSR system.	OK

Asset	Risk Description	Potential Impact	Risk rating		Current Controls	Risk Action Plan
Road Markings	Badly faded, worn or missing markings	Vehicles not travelling on intended path, may cross "centre-line" or wander off seal edge	3D	H	Contract C304 provisions. Safety Management System in place.	OK

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# Appendix R Significant Forecasting Assumptions & Uncertainties

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## Appendix R Significant Forecasting Assumptions & Uncertainties

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*Legislative Requirement: Sections 84(4) (b) and 94(1) (b) and Schedule 10 Clause 11 Local Government Act 2002*



### R- 1 Assumptions and Uncertainties

The Local Government Act 2002, at s11 of Schedule 10, requires:

*11 Significant forecasting assumptions*

*A long-term plan must clearly identify—*

- a) All the significant forecasting assumptions and risks underlying the financial estimates;*
- b) Without limiting the generality of (a) above, the following assumptions on which the financial estimates are based:-*
  - (i) the assumptions of the local authority concerning the useful life of significant assets; and*
  - (ii) the assumptions of the local authority concerning the sources of funds for the future replacement of significant assets*
- c) In any case where significant forecasting assumptions involve a high level of uncertainty:-*
  - (i) the fact of that uncertainty; and*
  - (ii) an estimate of the potential effects of that uncertainty on the financial estimates provided*

#### R- 1.1 Assumptions

The assumptions in this plan include:

- ◆ There is a continuous and open-ended necessity for provision and maintenance of a road-based land transport network to meet the communities' needs for communication, commerce, essential services, tourism and recreation in the District and beyond.
- ◆ The Council will continue to be involved in the provision of transportation services within the District.

- ◆ The District's main business activities will continue to be rural agricultural activity and service to the agricultural sector
- ◆ Demand for roading from tourism activity will be mainly concentrated in specific areas, generally along the foothills
- ◆ There will be pockets of industrial development which will only have direct effects on roads in and adjacent to these areas
- ◆ Existing residential areas will be "ring fenced" with buffer zones to control their spread
- ◆ Land use changes will occur gradually, with similar change on transportation network assets
- ◆ The need to provide for different modes of transport such as cycles and motorised vehicles will continue
- ◆ The Council will continue its efforts to make the transportation network as safe as practical for all its users
- ◆ The true value of transportation assets, and the amount that has to be set aside annually for depreciation, can be expected to become more accurate as the Council's knowledge of these assets improves
- ◆ The financial assistance available from the NZ Transport Agency is 46% for maintenance, 56% for Construction and Community Safety projects. All expenditure is stated in dollar values as at the time of preparation (usually July and updated to September before submission to the Land Transport Programme and LTP / Annual Plan budget rounds), with no allowance made for expected inflation over the 10 year planning period
- ◆ The forecasts are based on the best available knowledge of asset condition and performance, and on the levels of service that are shown in this Plan
- ◆ The forecasts include allowance for costs such as corporate administration charges, interest costs, and other indirect overheads
- ◆ Planned upgrades to be carried out over the next 10 years are based on a local economy that will continue to grow and continue to diversify
- ◆ Renewal costs have been established based on historical costs, condition data and trends, and compared to the depreciation provision and funding
- ◆ All new loans will be able to be raised at an interest rate (fixed for at least the next three years) as established in the LTP
- ◆ The Council will receive from subdividers and developers financial contributions at the level shown in this Plan. If that is not the case, some of the programmed capital works may not be necessary (because development will not be occurring at the rate or perhaps in the manner envisaged) and may be deferred
- ◆ Replacement Cost, Depreciated Replacement Cost and Annual Depreciation are calculated for a 10-year period. The Council uses the straight-line depreciation method for calculating depreciation. The following formulae are used for calculating the values in ensuing years:
  - ◇  $RC(\text{year } y) = RC(\text{yr } y-1) + \text{new works}(\text{yr } y)$
  - ◇  $DRC(\text{yr } y) = DRC(\text{yr } y-1) + \text{new works}(\text{yr } y) + \text{renewals}(\text{yr } y) - \text{Depreciation}(\text{yr } y)$
  - ◇  $\text{Depreciation}(\text{yr } y) = RC(\text{yr } y) / \text{Average Asset Life}$ ,

Where:

RC	= Replacement Cost or Optimised Replacement Cost
DRC	= Depreciated Replacement Cost or Optimised depreciated Replacement Cost
Year y (yr y)	= the year for which the depreciation DRC / RC is being calculated
Average Asset Life	= $RC(\text{last valuation}) / \text{Depreciation}(\text{last valuation})$

- ◆ The standards of work comply with nationally recognised designs. To this end Council has adopted the design guides of "Austroads" standards as produced by the Australian Road Research Board
- ◆ In Methven and Rakaia new footpath work will be delayed until every street has kerb and channel installed. New footpaths will then be constructed on one side only until all streets have at least one footpath

- ◆ All footpath resurfacing on District footpaths will be carried out using asphaltic hotmix material
- ◆ New footpaths will be constructed with asphaltic concrete surface, or in concrete

## R- 1.2 Uncertainties

Uncertainties may arise in the following areas:

- ◆ Any significant weaknesses identified in any of the Appendices in this plan
- ◆ The degree of reliability that can be placed on the stated asset replacement and depreciated replacement cost values
- ◆ The degree of reliability that can be placed on the new capital forecasts
- ◆ The degree of reliability that can be placed on the operating and maintenance forecasts
- ◆ The degree of reliability of the renewals forecasts
- ◆ The degree of reliability of the age and condition data knowledge
- ◆ How accurate the stated remaining lives of the assets are
- ◆ The reliability of the depreciation calculations

## R- 1.3 Confidence Level in Financial Programmes

The confidence in the asset data used as a basis for the financial forecasts has been assessed using the following grading system from the NZWWA NZ Guidelines for Infrastructure Asset Grading Standards, final draft, August 1998.

**Table R-1 Confidence Levels**

<b>Confidence Grade</b>	<b>General Meaning</b>
A	Highly Reliable Data based on sound records, procedure, investigations and analysis that is properly documented and recognised as the best method of assessment.
B	Reliable Data based on sound records, procedures, investigations, and analysis that is properly documented but has minor shortcomings, for example the data is old, some documentation is missing and reliance is placed on unconfirmed reports or some extrapolation.
C	Uncertain Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolation from a limited sample for which grade A or B data is available
D	Very Uncertain Data based on unconfirmed verbal reports and/or cursory inspection and analysis

The confidence level is 'B' overall.

## R- 2 Improvement Actions

Potential improvements identified in this section are:

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**Table R-2 Improvement Actions – Assumptions and Risk**

<b>Assumptions and Risk</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>

End of Appendix R

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# Appendix S Levels of Service

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# Appendix S Levels of Service Performance Measures and Relationships to Community Outcomes

*Legislative Background: Sections 84(4)(c) and 94(1)(c) and Schedule 10 Clauses 2(1)(d)(i)(B) and 2(2)(a) Local Government Act 2002*

## S- 1 Introduction

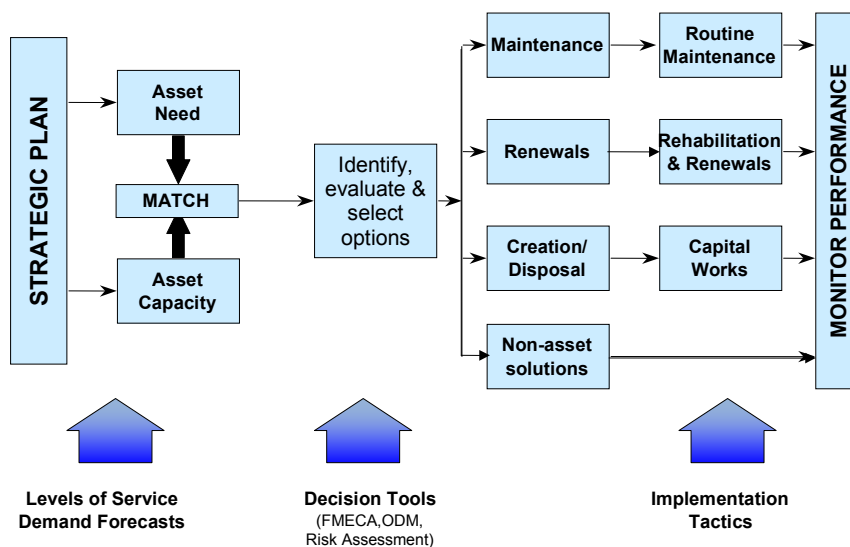
This section identifies Council's goals and objectives for the transportation activity, current levels of service (LoS) and proposed future levels of service. It also identifies targets and performance measures by which the achievement of LoS and the impact of the service on the achievement of Community Outcomes can be monitored.

The levels of service defined in this section will be used:

- ◆ to inform customers of the proposed type and level of service to be offered
- ◆ to enable customers to assess the suitability, affordability and equity of the services provided
- ◆ as a focus for the strategies to be used to deliver the required level of service
- ◆ to measure the effectiveness of the Transportation Activity Management Plan
- ◆ to identify the costs and benefits of the service offered
- ◆ to identify contractual requirements

The levels of service provided by transportation assets are of importance to all stakeholders as a means of specifying and measuring the service required. Figure S-1 below shows how they are a key input to the asset management planning process.

**Figure S-1 Levels of Service and the Asset Management Planning Process**



Levels of service establish the standard to which assets are to be developed and maintained, for example to a minimum desired level of condition or capacity. Intervention levels define the lowest level of acceptable service below which a maintenance or asset renewal action would be triggered.

The extent of backlogs of maintenance, renewal or new investments can all be assessed in physical and/or financial terms in relation to a specific LoS.

Levels of service need to define meaningful standards and performance measures that address the issues customers believe to be important. Therefore, a key objective of this AcMP is to match the level of service provided by the transportation network with the expectations of users. This requires a clear understanding of customers' needs, expectations and preferences.

The groups whose needs are to be considered in this plan are:

### **S- 1.1 Customers**

ADC's transportation customers are commercial, industrial and private users (including pedestrians and cyclists). ADC aims to provide transportation users with a safe and efficient transportation service.

### **S- 1.2 Partners**

With the advent of the Land Transport Management Amendment Act 2008 the Council has three principal partners in the operation and Management of the network:

- ◆ The NZ Transport Agency, in its funding role is a funding partner
- ◆ ECan, in its role as parent of the Regional Transport Committee (RTC), is a programming and funding partner
- ◆ The RTC itself is a programming and funding partner.

### **S- 1.3 Stakeholders**

A comprehensive list of stakeholders is Included in Appendix V – Stakeholders and Consultation In this appendix the following need to be especially recognised:

- ◆ The residents of Ashburton District, as the ultimate owners of roading assets, wish to ensure that their investment is secure and that the operational capability of the network is sustained.
- ◆ the NZ Transportation Agency, in its role as the State Highway Authority.

### **S- 1.4 Other Parties:**

Other parties with interests in the AcMP include:

- ◆ employees, consultants and contractors who manage and work on transportation assets,
- ◆ Canterbury Regional Council in its non-RTC roles

Ashburton District Council's broad responsibility is to maintain and manage the assets so that users and vehicles can move around the District safely and conveniently.

## S- 2 Community Outcomes

The Council's community outcomes and strategic objectives are outlined in the following table. The outcomes and objectives to which the Transportation activity primarily contributes are **emphasised**, those that affect how the transportation activity is delivered are *italicised*.

Table S-1 Community Outcomes and Transportation Activity

Community Outcome	The Council's Strategic Objectives	How the Transport Activity Contributes
<b>A thriving and diverse local economy that provides the foundation for a quality lifestyle.</b>	<ul style="list-style-type: none"> <li>● <b><i>Our community has access to quality infrastructure (roading, water, footpaths)</i></b></li> <li>● <i>We recognise the importance of access to sustainable water resources for our economy and work together to make a water storage facility a reality..</i></li> <li>● <b><i>Ashburton District has a growing population enjoying a high quality of life.</i></b></li> <li>● We have a prosperous and diverse local economy, and a skilled workforce.</li> </ul>	<ul style="list-style-type: none"> <li>● The roading network is an essential element in the local economy and provides access throughout the District to allow economic activity to grow.</li> <li>● Footpaths are an integral part of the networks which link the various sectors of the Community</li> <li>● The activity:               <ul style="list-style-type: none"> <li>○ provides and maintain transportation assets and footpaths that meet community expectations</li> <li>○ provides a responsive service to the community</li> <li>○ provides infrastructure and services that meet the intended levels of service.</li> </ul> </li> </ul>
<b>Natural and developed environments are sustained for the enjoyment of current and future generations</b>	<ul style="list-style-type: none"> <li>● <b><i>Water, land and air are managed sustainably.</i></b></li> <li>● <b><i>Our towns and rural areas are developed in ways that respect the local environment and meet the needs of the community.</i></b></li> <li>● Our community understands the need to protect our natural environment and acts to do so.</li> </ul>	<ul style="list-style-type: none"> <li>● The roading network has been developed to provide access to all parts of the District to allow residents to enjoy the environment.</li> <li>● The activity:               <ul style="list-style-type: none"> <li>○ provides and maintains infrastructure and services that contribute to sustainable lifestyles and mitigate or reduce environmental impacts.</li> <li>○ provides community information and education promoting sustainable uses of resources</li> </ul> </li> </ul>
<b>A community with a strong sense of identity and heritage, which welcomes new residents and encourages diversity.</b>	<ul style="list-style-type: none"> <li>● <b><i>Our district that has a strong sense of identity and people who participate in community life.</i></b></li> <li>● <i>Ashburton District is a community that attracts and retains new residents</i></li> <li>● <i>We have a community that values and encourages diversity</i></li> <li>● <b><i>Our community recognises and preserves the cultural and social heritage of our district.</i></b></li> </ul>	<ul style="list-style-type: none"> <li>● The roading network acts as a vital link between all the elements of the District to allow people to fully involve themselves.</li> <li>● Footpaths are an essential links within urban communities.</li> </ul>
<b>A community with access to quality education and life-long learning opportunities</b>	<ul style="list-style-type: none"> <li>● Employers and education providers work together to develop training programmes that meet the needs of the local economy</li> <li>● <b><i>People of all ages have access to opportunities to develop their skills and knowledge</i></b></li> <li>● Education providers have resources they require to meet community needs</li> </ul>	<ul style="list-style-type: none"> <li>●</li> </ul>

Community Outcome	The Council's Strategic Objectives	How the Transport Activity Contributes
<p><b>Healthy, Active People enjoying a good quality of life in a caring and safe community</b></p>	<ul style="list-style-type: none"> <li>• <i>We have healthy, active people with good access to health services.</i></li> <li>• <i>A range of agencies work together to create a safe environment</i></li> <li>• <i>Good systems are in place to plan for, and respond to, emergencies.</i></li> <li>• <i>Young people are supported to lead healthy and safe lives and are active participants in community life.</i></li> <li>• <i>We have a caring community that supports the elderly and helps others in need.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The roading network is essential to allow travel between the various communities for normal people-to-people interaction, and provides access to all parts of the District to allow individuals to pursue their preferred activity.</li> <li>• Footpaths provide a platform for recreational activity and exercise, and provide good access to homes and properties throughout the District. The paths and kerb and channel also provide a clear delineation between road users and foot traffic to enhance the safety between these two groups.</li> <li>• Community road safety initiatives in conjunction with the NZ Police, the NZ Transport Agency and community organizations</li> <li>• Working with and advocating to central government agencies to ensure that the transportation and footpath services provided meet the community's expectations and are safe and reliable.</li> <li>• Planning for and co-ordination of responses to emergency events.</li> </ul>
<p><b>A community with access to a variety of cultural , recreational and heritage, experiences and facilities that enrich our quality of life..</b></p>	<ul style="list-style-type: none"> <li>• <i>Cultural, recreational and heritage values are maintained and developed to meet community needs</i></li> <li>• <i>Cultural, recreational and heritage experiences and facilities are accessible to the community and actively used.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The roading network acts as a vital link between all the elements to allow people to fully involve themselves.</li> <li>• Footpaths are an essential link between communities.</li> </ul>
<p><b>A community that contributes to improving our quality of life through democratic participation.</b></p>	<ul style="list-style-type: none"> <li>• <i>Advocacy by community leaders for identified local concerns and issues at local, regional and national level.</i></li> <li>• <i>The community is provided with opportunities to participate in local decision making.</i></li> <li>• <i>There is active participation in elections and consultation processes.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The roading network is essential to allow travel between the various communities for normal people interaction, and provides access to all parts of the District to allow individuals to participate in democratic and consultation processes.</li> <li>• Footpaths provide a platform for recreational activity and exercise, and provide good access to homes and properties throughout the District. The paths and kerb and channel also provide a clear delineation between road users and foot traffic to enhance the safety between these two groups.</li> </ul>

**Key Service Criteria,** Accessibility, Asset Condition, Capacity, Cost Effectiveness, Customer Satisfaction, Efficiency, Environmental Standards, Health and Safety, Legislative Standards, Quality, Reliability, Responsiveness, Safety, System Management, Technical Standards, , , , ,

## S- 3 Activity Goals and Principal Objectives

The Council's goal for the transportation network activity is the residents and visitors are able to travel about the District safely and efficiently, and inter-regional links are provided and maintained.

Within this goal the Council has established the following objectives, that when met indicate achievement of the goal:

- ◆ To maintain transportation assets in accordance with a nationally agreed and accepted standards
- ◆ To maintain transportation assets to the levels of service agreed with the NZTA.
- ◆ To maintain transportation assets to the levels of service agreed with customers.
- ◆ To upgrade transportation assets where this is necessary due to deterioration and use, or where changes of use require that an improved asset structure should be provided
- ◆ To allow the extension of the transportation assets to occur through the construction of additional infrastructure
- ◆ To manage the maintenance, extension and upgrade of transportation assets within an identified budget structure which ensures that there is no reduction in value of these asset and to forecast the future cost of doing so
- ◆ To maintain an improving level of safety on transportation assets in line with nationally set objectives for accident reduction, by improving the standard of the network, and educating the users in the safe and efficient use of the roads
- ◆ To put in place a sound management regime for all matters relating to the maintenance, extension and upgrade of all transportation assets
- ◆ To work closely with the NZ Police, The NZ Transport Agency, The NZ Transport Agency and its other road safety partners to improve road safety in the District. A road safety strategy will be prepared and reviewed annually and a road safety action plan prepared
- ◆ To implement a road safety programme that works towards a continuing reduction in the number of injury crashes that occur in the District and in accident contributing behaviour.

### S- 3.1 Key Outcomes Performance

Historical trends (or those for which data will need to be collected in the future) are shown in Annex I to this appendix. These relate to the achievement of key outcomes which are specific to the transportation activity.

## S- 4 Current Levels of Service

The Council is aware of the increasing demands from road users to raise the standards of the transportation network to improve efficiency, comfort and safety. There is also a challenge in maintaining assets at an even standard at all times over the year due to varying weather and traffic conditions.

Analysis has identified increasing pressure on the roading network as a result of changing land use, and in a number of areas this changing use has been occurring faster than the Council's ability to upgrade the network to cater for this change. This has been compounded by the restriction of availability of our NZTA partner's finance which is necessary to meet this upgrade work.

The Council has commenced a comprehensive upgrade programme for those assets identified as being below the desired standard based on the intensity of use. The programme will continue for the next decade. Assets are maintained to an established set of standards, and the Council will continue to monitor and report its actual performance against these standards.

The levels of service for transportation assets reflect current industry standards and are based on:

- ◆ Customer Expectations
- ◆ Research
- ◆ & Information gained directly or indirectly from road users and the community on expected service standards.

- 
- |                             |   |
|-----------------------------|---|
| ◆ Statutory Requirements:   | Legislation, regulations and environmental standards that impact on the way assets are managed (i.e.: resource consents, health and safety legislation). These requirements set the minimum level of service that must be provided. |
| ◆ Strategies and Objectives | Provide guidelines and policies relating to the scope of current and future services offered, funding, the manner of service delivery, and define specific levels of service which ADC wishes to achieve.                           |

Levels of service outcomes may also be described for:

- |                              |  |
|------------------------------|--|
| ◆ Customer level of service  | Standards related to service outcomes from the customer's perspective. They may be measured and reported publicly, and can be used as a focus for customer consultation in the service level review process. |
| ◆ Technical level of service | Measures related to engineering or internal performance standards. They are routinely measured and used as a management tool and reported internally and to key stakeholders (e.g. The NZ Transport Agency). |

#### S- 4.1 Customer Expectations

The Council measures public satisfaction through its annual community survey. Satisfaction levels for roading and footpaths have risen slightly in recent years.

These surveys give a broad understanding of current customer satisfaction but do not attempt to determine levels of service desired by customers or reasons behind various satisfaction levels.

Customer expectations are generally understood, and the following are significant issues that customers have identified in the past:

- ◆ need for new footpath construction,
- ◆ need for new kerbs and channels,
- ◆ need for improvement of unsealed roads,
- ◆ desire for seal extensions,
- ◆ greater emphasis on providing for the needs of the disabled,
- ◆ poor roadside drainage, and
- ◆ signage of tourist routes.

Footpath and kerb and channel construction, area wide stabilisation treatment of unsealed pavements and seal extension programmes, together with increased budgets for water table maintenance, have been addressing these concerns.

Levels of service are to be reviewed through a consultation processes to determine community outcomes and develop input to the Long Term Plan (LTP).

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## S- 4.2 Statutory Requirements

The Ashburton District Council is defined under legislation as the Road Controlling Authority for the District's roads. As such it is required by law to control activities on roads, although it may choose the level at which it will maintain the assets providing these services.

There is a wide range of legislation and standards relating to the development, maintenance and control of roads. Together, these define minimum standards for some LoS. The Council has discretion to provide a higher LoS, if deemed appropriate through consultation and the community planning process. The two most specific pieces of legislation that control the Council's decisions with regard to the levels of maintenance are sections 319 and 353 of the Local Government Act 1974. Their requirements are:

### **319 *General powers of councils in respect of roads***

*The council shall have power in respect of roads to do the following things:*

*(a) To construct, upgrade, and repair all roads with such materials and in such manner as the council thinks fit:*

*(b) ...*

### **353 *General safety provisions as to roads***

*The council shall take all sufficient precautions for the general safety of the public and traffic and workmen employed on or near any road and, in particular, shall—*

*(a) Take all reasonable precautions to prevent accidents during the construction or repair by the council of any road, or when any opening is made therein by the council for the repair of drains or gas pipes or for any other purpose, and require other persons doing such work to take such precautions, by erecting barriers, devices to cause traffic to slow down, or fences across any such road or around any dangerous place therein, or otherwise, and shall cause, and require other persons doing such work to cause, any such dangerous place to be sufficiently lighted by night; and any person removing any such protective work, or removing or extinguishing any such light without the authority of the council, commits an offence:*

*(b) Require the owner or occupier of any land upon which there is any hole, well, excavation, or other place dangerous to persons passing along any road forthwith to fill in, cover, or enclose the same:*

*(c) Whenever the public safety or convenience renders it expedient, require the owner or occupier of any land not separated from a road by a sufficient fence to enclose the same by a fence to the satisfaction of the council.*

The requirements of Schedule 10 of the Local Government Act 2002 specify how the asset management implications of different LoS must be assessed – a role of the AMP as a key input to the LTCCP.

---

## S- 5 Proposed Levels of Service

### S- 5.1 Service Targets and Performance Measures

Service targets and performance measures to be reported through the LTCCP are listed in 0 below.

Specific measures relating to the maintenance and renewal of Roothing assets funded by the NZ Transportation Agency are defined in the annual guidelines issued by NZTA for Land Transport Programmes. In the 2009 - 2012 NLTP guidelines, a range of detailed measures are defined for each of the following key groups:

- ◆ Road User Satisfaction Measures
- ◆ Safety Measures
- ◆ Asset Preservation Measures

The overall desired outcome is that:

*“Roads are maintained at reasonable cost to a standard that satisfies the user, sustains the asset, provides safe travel, and is appropriate for their use”.*

These measures cover the following asset groups:

- ◆ Pavements – sealed and unsealed
- ◆ Cycleways
- ◆ Traffic Services
- ◆ Street lighting
- ◆ Traffic signals
- ◆ Structures
- ◆ Drainage
- ◆ Road shoulders
- ◆ Vegetation

Achievement of these measures is a requirement of this Plan.

Specific operational measures relating to ADC contractual response times are detailed in Annex III. The relevant Maintenance contracts reflect these requirements.

### S- 5.2 Possible Future Alternative LoS

Areas where alternative levels of service are to be developed for consultation include:

- ◆ Pavement material type and condition, e.g. roughness
- ◆ Development of new footpaths and kerbs and channels
- ◆ Lighting levels
- ◆ Seal extensions

It is intended that the current levels of service being delivered by the Council will be confirmed following consultation with key stakeholders and customers to provide a sound basis for the delivery of transportation and footpath services in future. The levels of service taken to into this process will be **specific, measurable, achievable, relevant and time-bound**, i.e. SMART..



### S- 5.3 Conclusions

The Council has been making steady progress in achieving tangible improvements on the network. As a result, key outcome indicators are typically improving, indicating the success of the programme in achieving community outcomes. The levels of service specified in this plan are intended to maintain this momentum.

## S- 6 Improvement Plan

Potential improvements identified in this section are summarised below:

**Table S-2 Levels of Service Improvement Plan**

<b>Levels of Service</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
R1	Establish data collection for those measures where data is limited at present	Medium	
R2	Confirm alternative LoS for future consultation	Low	
R3	Consult customers on current levels of service, confirming or amending them as appropriate,	High	This will establish a base-position from which all changes can be mad



# Annex I Current Service Targets and Performance Measures

**Table S-3 Service Targets and Performance Measures (LTP)**

Service Target	Performance Measures(3 years and 10 years)
<b>ROADS</b>	
All sealed roads in the District will provide a safe and smooth ride	Average roughness, and maximum roughness, on sealed roads to be at or lower than target values in The NZ Transport Agency maintenance guidelines for urban and rural roads. Annual roughness inspection carried out on sealed road network with 50% of network (urban and rural) measured annually <sup>1</sup> .
Consultation is carried out in compliance with legislative requirements	All consultation is carried out in accordance with the Local Government Act 2002 and the Land Transport Management Act 2003
Council customer response times for requests for service are met	At least 85% of Customer Service Requests are completed within the specified response times as set out in service-provider contracts or internal Council policy.
Residents are satisfied with the Council's roads	At least 80% of residents are satisfied with the cleanliness, standard and safety of the District's roads (as monitored through the Council's Annual Community Survey)
The annual road programme is completed to contract standards and within budget	The annual road programme is completed to contract standards and within budget
Carry out road safety education and associated projects to an approved standard	The road safety coordinator has carried out road safety education and projects to a standard approved by The NZ Transport Agency and the Road Safety Committee
The NZ Transport Agency funding is received and used in accordance with the NZ Transportation Agency's requirements	Land Transport New Zealand funding is received and used in accordance with the NZ Transportation Agency's requirements
Maintain the integrity, safety and serviceability of sealed roads by resealing roads on an average 12-year cycle.	8.5% of sealed roads (122 km) are resealed annually
To provide a higher level of service to selected unsealed roads by completing seal extensions on 69 kilometres of roads previously rehabilitated (with funding assistance from The NZ Transport Agency) <sup>2</sup> . This will provide safer roads less likely to deteriorate from heavy traffic movements or weather.	30-km of seal extension completed between 2006/2007 and 2008/09, with the balance being completed between 2009/2010 and 2015/2016.
Complete 56 kilometres of seal widening on existing sealed roads to cater for higher traffic counts and heavy commercial vehicles on roads providing access to existing and proposed industrial areas, and on Principal rural roads. This will improve the level of safety on the selected roads by providing a greater seal width for a wide range of road users.	Length of roads widened in 2006/07 to be 0.75 kilometres, and in 2007/08 to 2015/16 to be an average of 6.2 km per annum.
To maintain the integrity of the roading network by replacing all weight restricted bridges (with bridges that do not have weight restrictions) over the next 10 years <sup>3</sup>	At least 1 weight restricted bridge replaced annually.

<sup>1</sup> Current District roads are well within maximum target levels

<sup>2</sup> This will increase the length of sealed roads by 2016 by 4.8%.

<sup>3</sup> This will include the replacement of current weight restricted bridges and any additional bridges identified over the next 10 years. The replacement of 12 bridges represents 7.2% of the Council's bridge stock. It should be noted that speed restrictions may still apply on these bridges

Service Target	Performance Measures(3 years and 10 years)
Consultation is carried out in compliance with legislative requirements	All community consultation is carried out in accordance with the Local Government Act 2002
Council customer response times for requests for service are met	At least 85% of Customer Service Requests are completed within the specified response times as set out in service-provider contracts or internal Council policy
To resurface existing footpaths over the next 10 years in Ashburton at a rate of 7.0 km per annum using asphalt to provide a smooth waterproof surface without ponding from rain events <sup>4</sup> .	7km of footpath resurfaced annually.
To complete resurfacing of all footpaths in Methven, Rakaia and rural townships within next 10 years using asphalt to provide a smooth waterproof surface without ponding from rain events <sup>5</sup> .	A minimum of 500 metres of footpath in Methven, Rakaia and rural townships resurfaced annually. Annual Target: At least 200 metres of footpath resurfaced in Ashburton and Methven, 100 metres resurfaced in Rakaia and 150 metres resurfaced in rural areas.
To provide safer and improved all -weather access for pedestrians by installing new footpaths over the next 10 years as follows Ashburton 3.98 km of new footpaths (increase in network length 2.3%) Methven: 3.73 km of new footpaths (increase in network length 25.1%) Rakaia: 1.73 km of new footpaths (increase in network length 20.8%) Rural : 2.56 km of new footpaths (increase in network length 29.6%)	

Additional targets and measures, which are not reported in the LTP, are described in the following table.

**Table S-4 Service Targets and Performance Measures (AMP only)**

Additional Service Targets	Performance Measures
Meet statutory requirements	100% compliance with legislative requirements
Meet environmental standards	100% compliance with resource consent conditions
Design new roads in accordance with geometric design standards.	100% compliance with AUSTRROADS standards.
Sealed roads – percentage of vehicle-km travelled (vkt) on roads classified as “smooth” (Smooth Travel Exposure)	Rural = 100% Urban = 88% Overall = 96%
Pavement structure renewal cycle	AWT and/or rehabilitation 0.2% <sup>6</sup> of network length per year (equivalent to 2.8km)
Unsealed roads renewal cycle	AWT 31 km (2.6% of unsealed network) per annum <sup>7</sup> Metalling rate 37,000 m <sup>3</sup> per annum <sup>8</sup>
Condition of swales and road shoulders.	Compliance with swale drain standard. 18 year treatment cycle for rural roads (target length 150-180 side-km) <sup>9</sup>
Pram crossings on Footpaths	Provide at all intersections by 2013
Bridges meet normal traffic loading and capacity criteria	Widen 3 one-way bridges on the inland scenic route in the longer term

<sup>4</sup> This equates to resurfacing 4% of the Ashburton footpath network per annum

<sup>5</sup> This equates to resurfacing 8.6 km of footpaths which is 26.9% of footpath network in these areas

<sup>6</sup> 0.1% (economic) and 0.3% (performance based) indicated through dTIMS, 0.2% is similar to average 3 year committed treatments from 2001/02 to 2003/04

<sup>7</sup> Expected to reduce to <6km per year after 2006

<sup>8</sup> Expected to decline at around 1% per annum due to reduced lengths of unsealed roads and AWT's.

<sup>9</sup> This may reduce after 10 years, as a backlog is currently being addressed

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Additional Service Targets	Performance Measures
Position, size, reflectivity & visibility of signs, markings & delineation devices	Full compliance with MoTSAM, RTS 5 & other appropriate standards.
Develop cycleways network	TBA

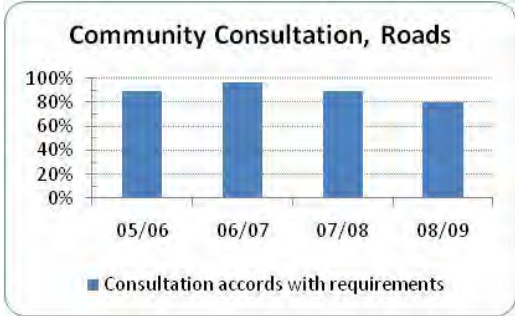
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## Annex II Performance Measures

The Councils' levels of service have been incorporated into various performance based contracts which are competitively tendered to provide services and resources to maintain assets at required levels, and to respond to maintenance needs within specified response times as and when issues arise.

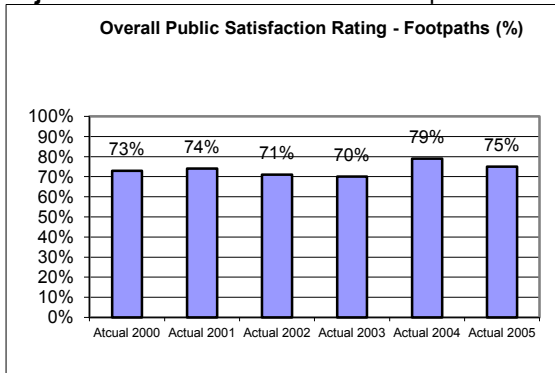
Assets are maintained to an established set of standards, and the Council will continue to monitor and report its actual performance against these standards:-

**Table S-5 Performance Measures and Achievement**

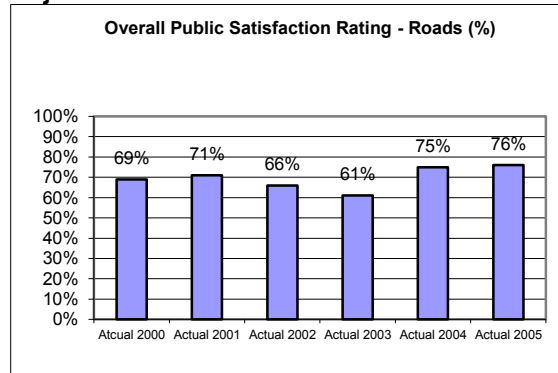
Performance Measures	Target	Achievements										
<b>ROADS</b>												
Community consultation is carried out in accordance with the local Government Act 2002 and the Land Transport Management Act 2003	100%	Example of expected data  <table border="1"> <caption>Community Consultation, Roads</caption> <thead> <tr> <th>Year</th> <th>Consultation accords with requirements (%)</th> </tr> </thead> <tbody> <tr> <td>05/06</td> <td>~90</td> </tr> <tr> <td>06/07</td> <td>~95</td> </tr> <tr> <td>07/08</td> <td>~90</td> </tr> <tr> <td>08/09</td> <td>~80</td> </tr> </tbody> </table>	Year	Consultation accords with requirements (%)	05/06	~90	06/07	~95	07/08	~90	08/09	~80
Year	Consultation accords with requirements (%)											
05/06	~90											
06/07	~95											
07/08	~90											
08/09	~80											
Customer service requests are completed within the specified response times as set out in service-provider contracts or internal Council policy.	>85%											
Residents are satisfied with the cleanliness, standard and safety of the District's roads	>80%											
The annual road programme is completed to contract standards and within budget	100%											
The road safety coordinator has carried out road safety education and projects to a standard approved by NZTA and the Council Road Safety Committee	100%											
NZTA funding is received and used according to agreed guidelines	10%											
<b>FOOTPATHS and PARKING AREAS</b>												
Community consultation is carried out in accordance with the Local Government Act 2002	100%											
Customer service requests are completed within the specified response times as set out in service-provider contracts or internal Council policy.	>85%											
Residents are satisfied with the cleanliness, standard and safety of the District's footpaths	>75%											
The annual footpath programme is completed to contract standards and within budget	100%											

**Figure S-2: Key Outcomes Performance Trends**

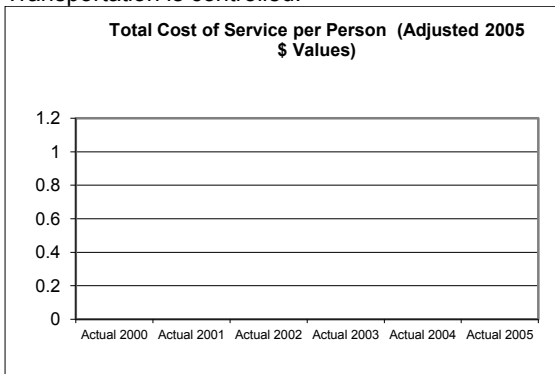
**Objective:** Customer Satisfaction - Footpaths.



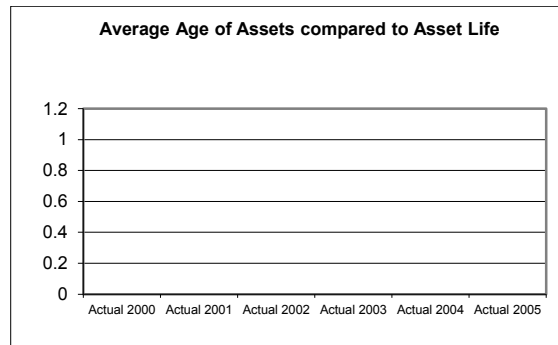
**Objective:** Customer Satisfaction - Roads.



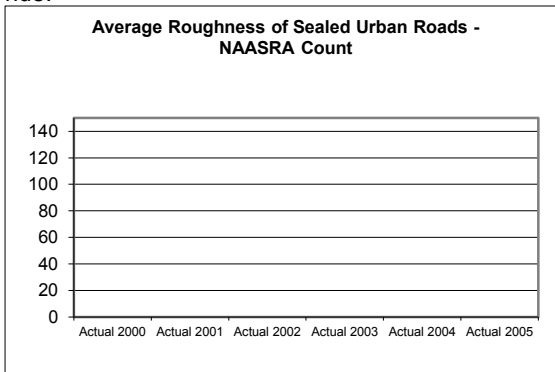
**Objective:** Cost effectiveness - all expenditure on Transportation is controlled.



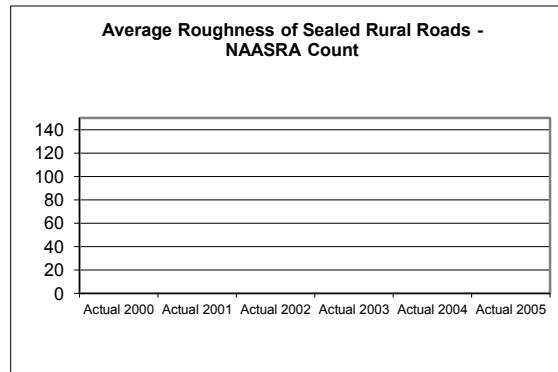
**Objective:** Asset Preservation



**Objective:** Efficiency & Asset Condition - urban road surfaces provide a comfortable and smooth ride.

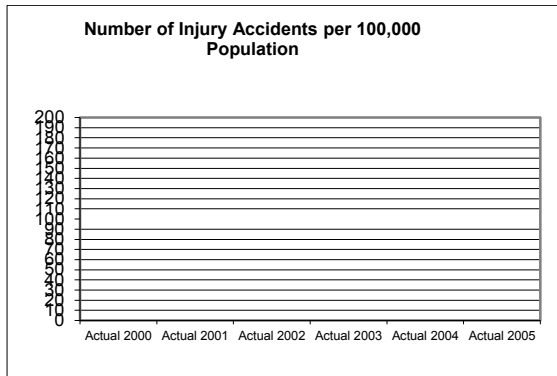


**Objective:** Efficiency & Asset Condition - rural road surfaces provide a comfortable and smooth ride.



**Objective:** Road safety - roads are 'safe'.





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# Annex III Target Contractual Response Times

**Table S-6 Target Response Times for Maintenance Activity**

Asset and Defect	Response Time	
	Arterial and Principal Roads, within ...	All other roads, within ...
<b>Sealed road surfaces</b>		
Pothole repairs	3 days	8 days
Dig-out repairs	10 days	28 days
Surface levelling & new trenches	10 days	28 days
Minor surface defects	14 days	28 days
Edge breaks	14 days	28 days
<b>Unsealed road surfaces</b>		
Grading – type I roads	Not applicable	2 days
Grading - type II roads	Not applicable	5 days
Grading – type III & IV roads	Not applicable	8 days
<b>Road shoulders</b>		
Low shoulder, grading maintenance of metallised shoulders	14 days	21 days
Vegetation control,	7 days	21 days
Roadside litter control	7 days	14 days
<b>Road structures</b>		
Bridge repairs and maintenance		
-Urgent maintenance	4 hours	4 hours
-Specific repairs	10 days	21 days
Culverts		
-Maintenance	7 days	21 days
-Blockages	4 hours	4 hours
Traffic services maintenance		
-Emergency works & regulatory signs	12 hours	24 hours
-General maintenance	7 days	7 days

Asset and Defect	Response Time	
	Arterial and Principal Roads, within ...	All other roads, within ...
Stormwater structures		
-Routine maintenance	10 days	10 days
-Blockages	4 hours	4 hours
Drainage channel maintenance	14 days	21 days
<b>Cleaning</b>		
Street cleaning	2 days	5 days
Removal of road kill animals	6 hours	6 hours
Surface detritus	7 days	7 days
<b>Road marking</b>		
-Urgent maintenance	48 hours	48 hours
-Specific repairs & programmed work	10 days	10 days
<b>Overhead Streetlighting</b>		
Light not operating	24 hours	48 hours
Light support critically damaged	24 hours	24 hours
<b>Pedestrian crossings</b>		
Beacon light not operating	1 day	2 days
Beacon light damaged or removed	5 days	5 days
Flood light not operating	1 day	2 days
<b>Miscellaneous lighting</b>		
Light not operating	5 days	8 days

End of **Appendix S**

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# Appendix T Organisational Structure and Activity Management Practices

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# Appendix T Organisational Structure and Activity Management Practices

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*Reason: International Infrastructure Management Manual Guidelines*

## T- 1 Organisational Structure

The Council's organisational structure is shown in Annex I to this appendix.

Transportation activity is managed within the Roading and Street Services department, the reporting line is through the Operations Manager to the Chief Executive and Council.

## T- 2 Accounting and Financial Systems

### T- 2.1 Financial Management System

The Council currently operates the "Technology One" financial management system (FMS). Budgets are prepared for each Activity on spreadsheets, and loaded into the FMS once adopted. Outputs are defined within the budget structure and linked to a unique ledger code.

Expenditure is authorised within Council defined delegations by Roading personnel and charged to the ledger code.

Financial reports are produced monthly for review by Roading staff and reporting to management on progress and variances.

The Finance Department has a fixed asset register (FAR), and performs an annual summary level reconciliation based on work in progress (WIP) data provided by Roading and Street Services. The FAR is at a high level, recording asset groups such as pipes, structures, etc at an "area" level.

WIP and completed works costs are provided by project, and include all engineering fees. There is a certain amount of double handling with this approach, and for most of the year data is not up-to-date in the financial system. This is an opportunity for an across the board improvement.

### T- 2.2 Expenditure Types

#### T- 2.2.1 Operations

Asset operation has no effect on asset condition but is necessary to keep the asset appropriately utilised.

#### T- 2.2.2 Maintenance

The day to day work required to keep assets operating at required service levels, and falls into two broad categories:

- ◆ **Planned (proactive) Maintenance:** Proactive inspection and maintenance works planned to prevent asset failure.
- ◆ **Unplanned (reactive) Maintenance:** Reactive action to correct asset malfunctions and failures on an as required basis (i.e. emergency repairs).

### T- 2.2.3 **Renewals**

This expenditure is defined as:

- ◆ the renewal and rehabilitation of existing assets to their original size and capacity, or,
- ◆ the replacement of the entire component of the asset with the equivalent size or capacity, or,
- ◆ the replacement component of the capital works which increase the capacity of the assets (that portion of the work which restores the assets to their original size and capacity).

### T- 2.2.4 **Improvements and New Works**

Projects (including land purchase) for the extension or upgrading of assets required to cater for growth or additional levels of service, including:

- ◆ works which create an asset that did not exist in any shape or form, or
- ◆ works which improves an asset beyond its original size or capacity, or
- ◆ upgrade works which increase the capacity of an asset, or
- ◆ works designed to produce an improvement in the standard and operation of the asset beyond its original capacity

### T- 2.2.5 **Asset Disposals**

This category includes all costs associated with the removal or disposal of decommissioned roading and footpath assets, including any professional services and advertising costs.

## T- 2.3 **Accounting Standards and Guidelines**

The accounting standards and guidelines that govern financial management practice are held by the Finance Department.

# T- 3 **Activity Management Business Practices**

This section outlines the decision-making tools ADC currently uses to determine long term maintenance, renewal and capital expenditure for transportation assets.

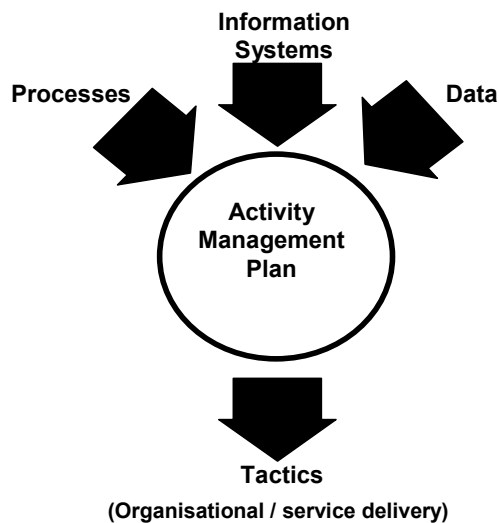
AM practices fall under three broad headings:

- ◆ **Processes** - The necessary processes, analysis and evaluation techniques needed for life-cycle 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

The AM Improvement Plan details work priorities, timetables, resources and costs.



Figure 0-1 Activity Management Plan Practices



### T- 3.1 Asset Management Processes

The current AM processes used by ADC to manage transportation assets, and the improvement initiatives identified, are summarised below.

#### T- 3.1.1 Levels of Service

A range of performance measures are in use and a Service Level Agreement document has been used previously to advise the community on the levels of service being provided. Annual customer surveys are undertaken to determine the level of customer satisfaction and identify community concerns and issues. Consultation is conducted through the LTP process.

Improvement task: A service level review process that considers alternative levels of service and their costs, and ensures that they reflect community wishes, is an important improvement task. The National Asset Management Steering Group (NAMS) has produced guidelines to assist with this process – “Creating Customer Value from Community Assets”.

#### T- 3.1.2 Knowledge of Assets

There has been on-going enhancement of asset registers and the process of capturing as-built data for some assets (e.g. pavements). However, to ensure data integrity for future asset management planning for all assets, further improvement is needed, linking also to the collection of financial data for valuation and capitalization processes.

Improvement task: Complete process documentation for the collection and entry of asset attribute and financial data, including data validation and data audit – for renewals, new assets and disposals. Data collection should be undertaken by the contractors / consultants who are responsible for the work, where practical, with the process reflected in the contract specification.

### T- 3.1.3 **Accounting/ Economics**

Maintenance and renewal costs are recorded against broad activities in the general ledger. The detailed maintenance costs available in hard copy format (e.g. works orders) are however difficult to analyse at the component level.

Valuations are currently based on straight-line depreciation and assumed effective lives. The robustness of this process could be improved if future trends in the condition and performance of assets, and the optimal intervention points, could be better predicted. There is also no rigorous calculation of deferred maintenance.

Improvement task: Review financial information needs and improve the processes to collect, enter and validate financial data that supports AM analysis, for example maintenance cost histories on an asset component and location basis. Use condition/performance deterioration profiles and renewal intervention levels of key assets in assessing lives for future valuations (e.g. dTIMS predictions).

### T- 3.1.4 **Condition and Performance Monitoring**

Well-documented standards and processes exist for an on-going inspection programme of pavements, footpaths, bridges, kerbs and channels (The NZ Transport Agency Manuals). Processes for regular monitoring of the performance of pavements (e.g. roughness, traffic volumes, crash statistics) and bridges are well documented and the information used for identifying and prioritising upgrading and development projects. The monitoring of other assets is informal and mostly reactive.

Improvement task: Condition and performance information needs for all assets to be assessed and data collection processes documented (standards, method, scope and frequency of inspection and the entry, validation and reporting of data) which reflect AM needs and business risk. The process will include procedures for analysing information, investigating non-performing assets and asset rationalisation. Service delivery contracts will incorporate condition and performance feedback requirements.

### T- 3.1.5 **Risk Management**

Processes are in place for the monitoring of critical assets (such as bridges), and a risk management framework has been developed which captures broadly defined risks. However, failure mode analysis has not yet been applied systematically to all critical assets in order to predict the likely timing of asset failure and determine optimal treatment strategies.

Note that dTIMS analysis has been undertaken for pavement assets, and while this does not use a risk or probabilistic based approach, it does utilize predictive condition deterioration models to optimize treatments. It does not however model other forms of failure (such as capacity or level of service) unless they are defined in terms of condition (e.g. roughness).

Improvement task: Assess failure modes (e.g. economic, capacity, safety, level of service) and define criteria for identifying critical assets. Analyse critical asset future failure pattern, determine effective lives and identify optimal treatments and timing.

### T- 3.1.6 **Operations**

Operational processes are satisfactorily documented in service delivery contracts and NZTA standards, and these processes are subjected to regular review.

### T- 3.1.7 Maintenance

Competitively tendered contracts are in place for all major work areas, and review of work packaging and contract type is routinely carried out (e.g. outputs vs performance outcomes).

### T- 3.1.8 Optimised Life Cycle Strategies

Evaluation undertaken for optimising pavement maintenance and renewal expenditure using dTIMS is covered in Appendix I. Work optimisation for other assets is based on the judgement of experienced staff, and renewal projections are based on assumed economic lives.

Improvement task: Studies are required to determine the optimal timing and treatment for the renewal of other assets as justified by potential savings. The renewal programme will be based on asset condition and performance, with life cycle and risk costs considered in the optimisation process for key assets. A strategy for the rationalisation of work programmes to accommodate budget restraints will also be developed.

### T- 3.1.9 Design, Project Management

Although project management procedures are not formally documented, there is confidence that suitable procedures are used during the project evaluation and design phase. Sound contract management procedures are in place. The supervision of assets constructed through subdivision development and subsequently taken over by ADC is considered to be adequate.

Improvement task: Document project management procedures for design, construction and commissioning phases covering:

- ◇ value management
- ◇ assessment of design options (including consideration of life cycle costs, optimised renewal decision making and risk assessment)
- ◇ resource planning
- ◇ communications and reporting
- ◇ project control (financial, quality and time)
- ◇ quality assurance systems and audit trails for design and project management, and
- ◇ project review

### T- 3.1.10 Quality Assurance/ Continuous Improvement

Audit NZ annually audits performance measures reported in the Annual Report. Although there is a culture of continuous improvement within ADC, there are no documented processes and implementation of AM processes and improvements are not audited. There are issues relating to the resourcing of AM improvements.

Improvement task: A corporate approach needs to be taken for the development of AM planning, service level reviews and AM improvements. Ideally a project brief will be formalised for the AM Team and a quality process developed for the AM improvement programme and process implementation.

### T- 3.1.11 Information Systems

Current ADC information systems used in the roading and street services function are:

- ◆ Road Assessment Maintenance Management System (RAMM)
- ◆ Deighton's Total Infrastructure Management System (dTIMS)

- ◆ Street Lighting Inventory Management System (SLIM – a module of RAMM)
- ◆ Geographic Information System (GIS)
- ◆ Trifecta global infrastructure solutions; T3 Geospatial Asset Management software to manage corridor access requests
- ◆ Corporate financial management system
- ◆ Customer request for service system (RFS)
- ◆ Accident Information System (AIS) of the NZ Transportation Agency
- ◆ Miscellaneous computer spreadsheets and databases
- ◆ Hardcopy plan/filing systems

Other AM systems are used by other asset managers within ADC. Linking and integration of systems is a corporate function, and one which is of key interest to asset managers.

#### T-3.1.11.1 RAMM

RAMM is a computer based system used throughout New Zealand for both state highway and local road networks. This allows direct comparison of condition data and treatment achievements between local and national road authorities. The use of RAMM is a requirement for obtaining roading subsidy. RAMM incorporates a street lighting package that formerly “stood alone” under the tile SLIM, it is used exclusively for street lighting assets and is operated by Electricity Ashburton, with existing data having been transferred across from spreadsheets.

The RAMM system is able to provide for pavements, footpaths, kerbs and channels, signs, bridges and drainage inventory, cost history and condition data.

An overview of the RAMM system, its use, and its relationship to dTIMS is described below:

##### a. Inventory:

An extensive range of inventory items can be recorded using RAMM under the following broad headings:

Carriageway	<ul style="list-style-type: none"> <li>•road name/location</li> <li>•descriptions/dimensions</li> <li>•summary traffic volumes and loads</li> <li>•ownership</li> </ul>
Treatment lengths	<ul style="list-style-type: none"> <li>•condition</li> <li>•maintenance activities</li> <li>•pavement type</li> <li>•treatment-intervention cots</li> </ul>
Traffic	<ul style="list-style-type: none"> <li>•traffic volume</li> <li>•traffic mix</li> </ul>
Carriageway Surfacing	<ul style="list-style-type: none"> <li>•description/ dimensions</li> <li>•location/age/surfacing</li> </ul>
Pavement Structure	<ul style="list-style-type: none"> <li>•pavement layer</li> <li>•rehabilitation</li> </ul>
Kerbs and Channels	<ul style="list-style-type: none"> <li>•location</li> <li>•type</li> <li>•descriptions/dimensions</li> <li>•ownership</li> </ul>
Footpath and Berms	<ul style="list-style-type: none"> <li>•location</li> <li>•descriptions/dimensions</li> <li>•surfacing</li> <li>•ownership</li> </ul>

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Drainage	<ul style="list-style-type: none"><li>•dimensions/type</li><li>•location/maintenance</li><li>•ownership</li></ul>
Traffic Facilities	<ul style="list-style-type: none"><li>•location/type</li><li>•quantity/maintenance</li><li>•ownership</li></ul>
Bridges and Major Culverts	<ul style="list-style-type: none"><li>•components</li><li>•dimensions</li><li>•restrictions</li><li>•ownership</li></ul>
Route Data	<ul style="list-style-type: none"><li>•features</li><li>•location/type</li></ul>
Street Lighting	<ul style="list-style-type: none"><li>•Pole location / material / type / dates / ownership</li><li>•Lamp type location /dates / ownership</li><li>•Bracket type / dates</li></ul>
Asset Valuation	<ul style="list-style-type: none"><li>•ORC</li><li>•ODRC</li><li>•expected life</li><li>•RUL</li><li>•affect of condition on life</li><li>•replacement asset type</li><li>•how asset element is measured (volume, area etc)</li><li>•predicted depreciation</li></ul>
User-defined items	<ul style="list-style-type: none"><li>•In addition RAMM can cater for an unlimited number of user defined items</li></ul>

RAMM also has built-in functionality for:

- ◆ management of contracts that includes an ability:
  - ◇ To record requests for service and track their progress and completion
  - ◇ To issue works orders
  - ◇ For pending work to be recorded by location and asset element
  - ◇ For the contractor to sign-off repairs as they are completed and update the asset data base accordingly
- ◆ Use in the field as a mobile system, facilitating:
  - ◇ Collection and updating of data
  - ◇ Interpretation of problems and issues on-site – through the availability of all data held on the asset element

b. Condition Rating:

Condition rating is part of the RAMM system.

- ◇ The pavement's condition is recorded, based on a visual assessment of pavement condition and a roughness survey based on NAASRA roughness. The road network is divided into sections with consistent construction types and traffic loading. Sections are then further subdivided (100 metres for roughness rating and 50 metres of visual inspection every 500 metres). Roughness is measured using a NAASRA roughness meter attached to a vehicle while visual data is usually collected manually.
- ◇ Pavement condition is measured by recording absolute values for defects rather than condition indices or scores. For example, the number of potholes is recorded in each inspection length. The defects measured are cracks, deformation, surface texture, disintegration, edge defects and surface roughness.

## c. Treatment Selection:

The absolute values of defects and distress are used in a costing algorithm in RAMM which takes into account the faults measured, carriageway roughness, traffic volumes and maintenance cost, to determine overall costs of alternative treatments. All unit costs are determined by the user.

Treatment alternatives vary depending of the type of pavement, as outlined in the following table, and are reported for the current and subsequent years.

Table 0-1 Outline of RAMM TSA Options

Flexible Pavements	Thin Sealed	<ul style="list-style-type: none"> <li>•Continued routine maintenance</li> <li>•Resurfacing</li> <li>•Smoothing</li> <li>•Strengthening</li> </ul>
Structural Pavements	Asphaltic	<ul style="list-style-type: none"> <li>•Reconstruction</li> <li>•Milling and replacing unstable surface mix</li> <li>•Thin overlay</li> <li>•Thin overlay over a stress absorbing membrane layer (SAMI)</li> <li>•Stress absorbing membrane reseal (SAM)</li> <li>•Conventional reseal</li> <li>•Continued general maintenance</li> </ul>
Rigid Pavements		<ul style="list-style-type: none"> <li>•Rigid pavements are not currently catered for in the analysis module of RAMM</li> </ul>

## d. dTIMS

dTIMS software has been developed as a national application for predictive modelling of pavement assets. It allows future condition, different budgets, and alternative levels of service (in terms of renewal intervention levels) to be tested and optimised.

dTIMS uses RAMM and other relevant data (such as traffic volumes and pavement strength) to calculate the predictive capability of future network condition and treatment needs over a long term period (typically 20 years). Treatments can be triggered using intervention levels or an economic based approach, and includes reseals, smoothing, strengthening and reconstruction options. These can be justified as full rehabilitation or Area Wide treatments (AWT's).

Life Cycle Cost and Pavement Performance Models: This is undertaken using dTIMS as outlined above.

## e. Reports

Standard tabular and graphical reports are available using RAMM. RAMM provides information at two levels - the overall network level and the individual street level. At the individual street level RAMM highlights the streets where defects exist. All of the streets printed out in the various faults reports are subject to further inspection and prioritisation. All RAMM tables are also accessible to the production of customised reports using tools such as SQL and "Crystal Reports®".

The Reporter programme in dTIMS provides relevant output in terms of treatment lengths, network programme needs, budgets, and condition data. Network level reports allow the ongoing monitoring of the effect of expenditure levels on the condition of the network and help direct future maintenance and renewal expenditure.

## T- 3.2 Asset Data

The assessed current completeness of asset management data is as follows.

**Table 0-2 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 Ashburton and most rural towns. •Plans available for most bridges and recent construction projects
Asset Attributes, Textual Data	•Pavements- >95% completed & ~80% accurate (RAMM) •Bridges- >95% complete & 90% accurate (to be entered in RAMM) •Footpaths- >90% complete & 80% accurate (RAMM) •Street lights- >80% entered & 80% accurate (migrating to SLIM) •Kerb & channel- >90% entered & 80% accurate (RAMM) •Signs & marking- ~50% complete and 50% 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
Historical Condition & Performance Data	•Good historical records for surfacing and bridges only.
Future Prediction Data	•Good knowledge of future demographic trends.
Life Cycle Costs	•Renewal & capital costs for common items known from recent experience.

**Improvement Tasks:** Data improvement will be achieved through the improvement of processes which define standards, interpretation methods, frequency, accuracy, responsibilities and quality assurance applicable to data capture and data entry.

The focus will continue to be on improving the integrity of existing registers, enhancing the quality of financial information, undertaking pavement strength testing and collecting condition and performance data for other assets such as footpaths and streetlights.

## T- 4 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table 0-3 Organisation Improvement Actions**

Organisation			
Item		Priority	Comments
S01	Improve asset capitalisation process, integrating data in the FAR and AMS	Medium	Needs to be considered across all infrastructural assets
S02	Improve data processes by reviewing standards, interpretation methods, collection frequency, accuracy, responsibilities and quality assurance applicable requirements	Medium	
S03	Consult the community on level of service, using current levels of service as a basis, and formally adopt Customer Levels of Service for the Activity	Urgent	Should be adopted by the Council
S04	Carry out a service level review that considers alternative levels of service and their costs and consult on these.	Low	As part of the next LTP Community Outcomes round
S05	Review financial information needs and improve the processes to collect, enter and validate financial data that supports AM analysis.	Low	

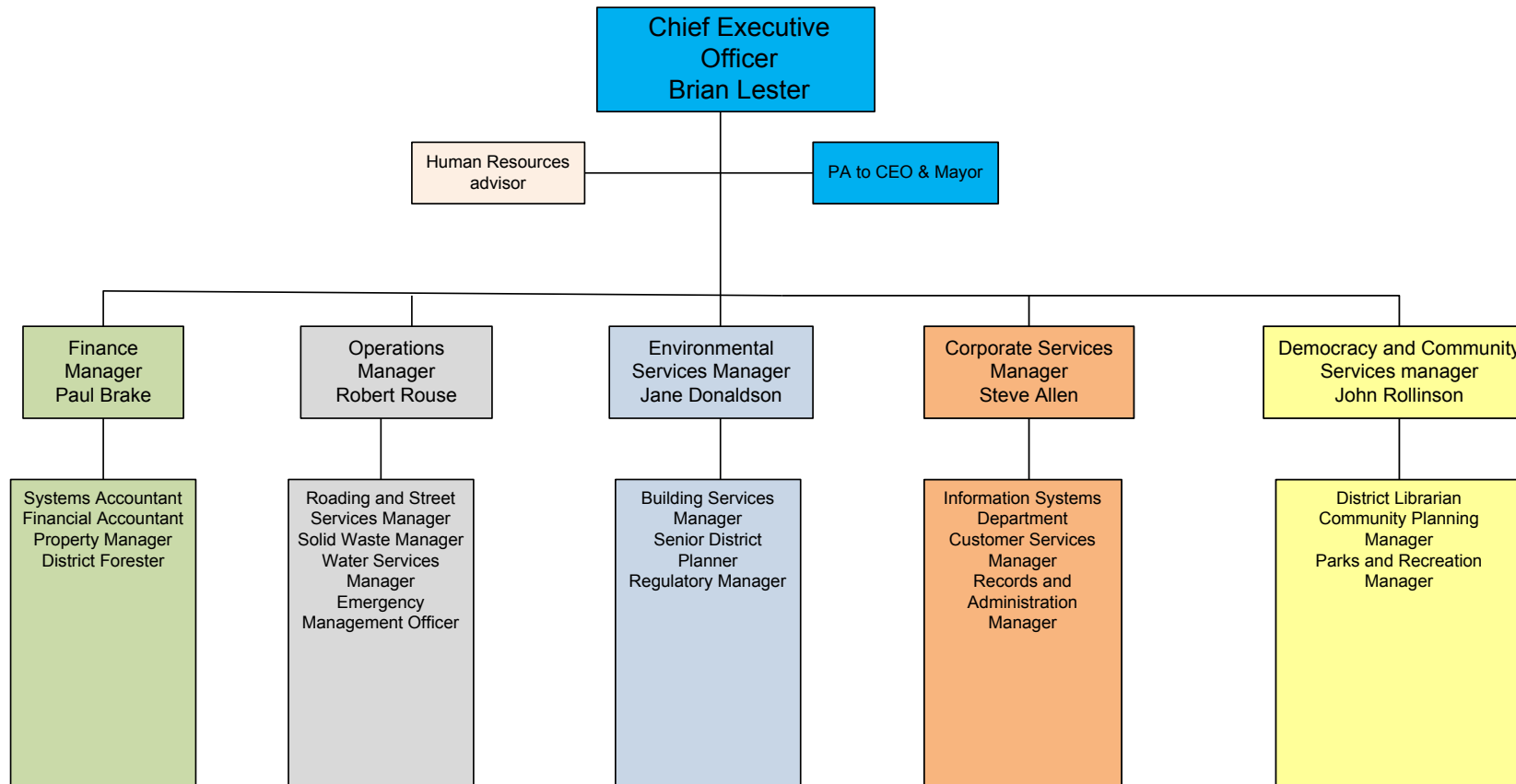
<b>Organisation</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
S06	Use condition/performance deterioration profiles and renewal intervention levels of key assets in assessing lives for future valuations (e.g. dTIMS predictions).	Urgent	
S07	Review condition and performance information needs for all assets	High	
S08	Review data collection processes, standards, methods, scope and frequency of inspections and the entry, validation and reporting of data.	High	Reflect AM needs and business risk. The process should include procedures for analysing information, investigating non-performing assets and asset rationalisation, incorporation of condition and performance feedback requirements in service delivery contracts.
S09	Assess failure modes (e.g. economic, capacity, safety, level of service) and define criteria for identifying critical assets.		
S10	Analyse critical asset future failure pattern and identify optimal treatments and timing at network level.	Low	
S11	Determine effective lives	Urgent	
S12	Studies are required to determine the optimal timing and treatment for the renewal of other assets as justified by potential savings. The renewal programme will be based on asset condition and performance, with life cycle and risk costs considered in the optimisation process for key assets. A strategy for the rationalisation of work programmes to accommodate budget restraints will also be developed.	Good Idea	
S13	Document project management procedures for design, construction and commissioning phases covering: <ul style="list-style-type: none"> <li>•value management</li> <li>•assessment of design options (including consideration of life cycle costs, optimised renewal decision making and risk assessment)</li> <li>•resource planning</li> <li>•communications and reporting</li> <li>•project control (financial, quality and time)</li> <li>•quality assurance systems and audit trails for design and project management, and</li> <li>•project review.</li> </ul>	Low	
S14	Adopt a corporate approach to development of AM planning, service level reviews and AM improvements..	High	Ideally a project brief will be formalised for the AM Team and a quality process developed for the AM improvement programme and process implementation

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# Annex I Organisational Structure

Figure 0-2 ADC Organisation Structure



A complete ADC organisation chart can be sourced on the Council's intranet "Quick access to staff information"

End of Appendix T

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# Appendix U Bylaws, Standards and Policies

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## Appendix U Bylaws, Standards and Policies

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*Legislative Background: Local Government Act 2002 Sections 144 – 160A*

### U- 1 Introduction

The Council's operation and delivery of all roading and transportation activities is constrained and shaped by legislation, statutory plans, processes, and other documents. The matters that affect the Council's delivery of its transportation network services are detailed in Appendix A. This appendix covers the controls the Council places on others to aid it in the management of the safety and lifecycle costs of the network.

### U- 2 Bylaws

The Local Government Act 2002 states:

**145 General bylaw-making power for territorial authorities**

*A territorial authority may make bylaws for its district for 1 or more of the following purposes:*

- (a) protecting the public from nuisance*
- (b) protecting, promoting, and maintaining public health and safety*
- (c) minimising the potential for offensive behaviour in public places*

**155 Determination whether bylaw made under this Act is appropriate**

*(1AA) This section applies to a bylaw only if it is made under this Act.*

- (1) A local authority must, before commencing the process for making a bylaw, determine whether a bylaw is the most appropriate way of addressing the perceived problem.*
- (2) If a local authority has determined that a bylaw is the most appropriate way of addressing the perceived problem, it must, before making the bylaw, determine whether the proposed bylaw—*
  - (a) is the most appropriate form of bylaw; and*
  - (b) gives rise to any implications under the New Zealand Bill of Rights Act 1990*

- (3) *No bylaw may be made which is inconsistent with the New Zealand Bill of Rights Act 1990, notwithstanding section 4 of that Act.*

Bylaws may also be made under other acts and regulations; the most relevant to the network is Land Transport Rule Setting of Speed Limits (Rule 54001)

The process and timing of bylaw reviews are managed by the Council's Corporate Services section. When reviewing each bylaw consideration is given as to whether:

- ◆ a bylaw is the most appropriate way of addressing the particular problem or issue
- ◆ the bylaw is in the most appropriate form, and
- ◆ the bylaw has implications under the New Zealand Bill of Rights Act 1990

The Council has a number of bylaws that regulate the types of road use that are safe and acceptable they are:

## **U- 2.1 Ashburton District Council Bylaw**

This bylaw was made under the Local Government Act 2002 and adopted by the Council on 26 June 2008 and became effective on 1 July 2008; the following chapters of the bylaw are relevant to the network:

- ◆ Chapter 2: Control of Advertising Signs – deals with the siting of signs, signs affecting traffic, signs over footpaths and public places. The purpose is to ensure that signs do not present a hazard or danger to public safety and to maintain aesthetic standards.
- ◆ Chapter 5: Construction and Demolition – Controls the adverse effects of demolition on roads and footpaths
- ◆ Chapter 6: Dog Control – Allows the Council to declare areas where restrictions apply on the movement of dogs.
  - ◇ **As at January 2012 the only roads where dogs are prohibited are:**
    - Those in the Lake Clearwater Hut Area.
    - Those in the Lake Camp Reserve Area.
  - ◇ As at January 2012 areas where dogs are permitted only if on a hand held leash include all roads (being public places) in any urban area
- ◆ Chapter 10: Transportation and Parking – sets the requirements for parking and control of vehicular or other traffic on any road in the Ashburton District, other than State Highways controlled by the NZTA. Its provisions include:
  - ◇ Stopping standing and parking
  - ◇ Metered areas, parking meter zones, and zone parking
  - ◇ Unlawful parking
  - ◇ Hours of operation of parking meters
  - ◇ Operation Mobility parking
  - ◇ Residents' parking
  - ◇ One way road
  - ◇ Turning restrictions
  - ◇ Heavy Traffic prohibitions
  - ◇ Special Vehicle lanes
  - ◇ Turning movements permitted by specified classes of vehicles
  - ◇ Weights of vehicles or loads over bridges or culverts
  - ◇ Exempted vehicles
  - ◇ Heavy traffic and over dimension bypass routes
  - ◇ Control of Horses
  - ◇ Damage to footpaths or berms by motor vehicles
  - ◇ Congregating by pedestrians
  - ◇ Warning and lighting of obstructions, holes and stacking of materials (identical to provision in Chapter 11)
  - ◇ Obstructing footways or cycle tracks

- ◇ Packing or unpacking goods
- ◇ Placing of articles on public places
- ◇ Disturbing surface of street
- ◇ Acts or games to annoyance of persons
- ◇ Bicycles
- ◇ Median-divided roads
- ◇ Traction engines
- ◇ Licensed vehicles and stands for animal drawn vehicles
- ◇ Power to direct traffic
- ◇ Entranceways to rural property
- ◇ Vehicle crossings
- ◇ Reinforcing of footways
- ◇ Naming of streets
- ◇ Property numbering
- ◇ Defacing names and numbers
- ◇ Position of urban letterboxes
- ◇ Driving stock
- ◇ Dairy cattle on roads
- ◇ Setting of Speed Limits
- ◆ **Chapter 11: Public Places - Control of a wide range of activities that can cause nuisance to others when carried out in public places. Including:**
  - ◇ consumption of alcohol on streets and in other public places
  - ◇ sale and display of goods on footpaths / roadways
  - ◇ roof run-off falling onto footpaths
  - ◇ removal of dead animals
  - ◇ busking and preaching
  - ◇ Use of loudspeakers
  - ◇ Blasting
  - ◇ Fireworks
  - ◇ Damage to ADC property
  - ◇ Obstructions
  - ◇ Awnings and blinds
  - ◇ Gateway doorway opening
  - ◇ Intrusion (projection) of structures
  - ◇ Warning and lighting of obstructions etc
  - ◇ Restriction on the use of barbed wire and electric fences
  - ◇ Repair of fences
  - ◇ Wandering animals
  - ◇ Overhanging vegetation
  - ◇ Fouling public areas by animals
  - ◇ Prohibition of the use of glass drinking vessels and containers
- ◆ **Chapter 12: Prostitution - Controlling soliciting on streets**
- ◆ **Chapter 13: Wastewater Drainage – requires the Council’s waste-water arm to keep as-builts of drainage works**
- ◆ **Chapter 14: Water Supply - requires the Council’s water-supply arm to keep as-builts of drainage works**
- ◆ **Chapter 15: Stock Water –**
  - ◇ Allows construction or water races on road reserve in certain circumstances and sets standards for that work.
  - ◇ Allocates responsibility for maintenance of water races, including those on roads.
- ◆ **Chapter 16: Solid Waste –**
  - ◇ includes restrictions on the use of street litter bins
  - ◇ Does not include any provisions to control littering
- ◆ **Chapter 19: Cemeteries- states in clause 1918.4 “All vehicles (other than hearses) shall yield unconditional right of way to any funeral procession”**

The master copy of the bylaw is held by the Administration Manager. It is also available on the Council’s web site at <http://www.ashburtondc.govt.nz/council/Bylaws>

## U- 3 Policy and Procedural Implications

There are no unresolved policies or procedural implications relating to this part of the activity.

## U- 4 Bylaw Review

The Local Government Act 2002 requires that all bylaws are reviewed 5-years after they were first made and then at a maximum of 10-yearly intervals. These reviews are required to consider:

- ◆ whether a bylaw is the most appropriate way of addressing the perceived problem
- ◆ if a bylaw is the most appropriate way, whether it is the most appropriate form of bylaw and that it does not give rise to any implications under the New Zealand Bill of Rights Act 1999

**Table U-1 Bylaws Affecting Transportation with Review Schedule**

Bylaw	Last Reviewed	Next Review Due Before	Comments re any Particular Issues
Ch 2. Control of Advertising Signs	2008	2018	
Ch 10 Transport and parking	2008	2018	Duplication of provisions around "Warning and lighting of obstructions, holes and stacking of materials" in Ch 10 and Ch 11

## U- 5 ADC Policies

Council has adopted a number of policies to ensure that the transportation network is safe and well-maintained. All adopted Council policies are detailed in the Central Policy Register. Those relevant to the activity are:

- ◆ Policy for Maintenance of Low Use Unsealed and/or Unformed Roads
- ◆ Policy for the Control or Removal of Vegetation that is Damaging the District's Roads or Creating a Safety Hazard
- ◆ NRP Agreement between The NZ Transportation Agency and Ashburton District Council 2001-2006
- ◆ Guidelines / Procedures for prioritising unsealed roads for sealing
- ◆ Policy for Installation of Stock Underpasses
- ◆ Policy for Supply and Installation of road name signage
- ◆ Policy for the use, design, location and supply of traffic signs and markings
- ◆ Policy for hanging of banners on street poles
- ◆ Street redevelopment policy – grassed berms and street widths
- ◆ Urban subdivisions: beautification measures
- ◆ Cattle / stock crossing roads code of practice
- ◆ ADC Neighbourhood Open Space Strategy

Reference should also be made to the Services and Operations Policy Register (includes reference to subdivision charges).



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## U- 6 ADC Standards and Guidelines

The Council's standards, guidelines and practices are summarized in Annex I

## U- 7 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table U-2 Bylaws Improvement Actions**

<b>Bylaws</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
T1	Complete the list of standards, guidelines and practices	Medium	

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# Annex I ADC Transportation Network Standards and Guidelines

The Council has adopted the following standards and guidelines for activities on its transportation network:

Programme management, including justification	the relevant NZTA manuals	Standard
Network safety	The Ashburton District Road Safety Guideline management System Austroads "Guide to Traffic Management" Guideline series publications Austroads "Guide to Traffic Management Practice" series publications. These are being gradually replaced by the "Guide to Traffic Management" series	
Alignment, structural design and construction	NZTA standard specifications Austroads design standards "Guide to Traffic Management" series Guideline publications "Guide to Traffic Management Practice" series Guideline publications. These are being gradually replaced by the "Guide to Traffic Management" series NZS 4401 2010 Land development and Standard subdivision engineering NZS 3910:2003 Conditions of contract for Standard building and civil engineering construction AS/NZS 1158 Road lighting - series AS/NZS 1428 Design for access and mobility – Standard series	Standards and Guidelines
Other	Asset valuation: "New Zealand Infrastructure Guideline Asset Valuation and Depreciation Guidelines" – NAMS 2006 NZUAG "Roadshare" code of practice for Standard working in the road Land Transport New Zealand Research report Guideline 327. – Transport impact guidelines for site development August 2007 (compiled by Beca Infrastructure Ltd)	

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End of **Appendix U**

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# Appendix V Stakeholders & Consultation

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Annex I External Stakeholder Contact List

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## Appendix V Stakeholders & Consultation

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*Legislative Background: Local Government Act 2002 Sections 82-90 (Part 6 subpart 1)*

**Note:-** For additional guidance regarding this matter, see Chapter 5 of the document entitled 'Decision-Making' published by the Local Government New Zealand Know How Group.

### V- 1 Legislative Consultation Requirements

The Local Government Act 2002 contains extensive and detailed requirements as to how the Council is to make decisions and how the residents of the District and other affected parties are to be involved in and be able to participate in making those decisions.

#### V- 1.1 Principles of Consultation

Clauses 76 to 81 of the Act detail the requirements in relation to decision making, including the contributions to decision-making processes by Maori. Section 82 details the requirements in relation to consultation. Because of its significance, it is repeated here verbatim:

*82 Principles of consultation*

- (1) *Consultation that a local authority undertakes in relation to any decision or other matter must be undertaken, subject to subsections (3) to (5), in accordance with the following principles:*
  - (a) *that persons who will or may be affected by, or have an interest in, the decision or matter should be provided by the local authority with reasonable access to relevant information in a manner and format that is appropriate to the preferences and needs of those persons:*
  - (b) *that persons who will or may be affected by, or have an interest in, the decision or matter should be encouraged by the local authority to present their views to the local authority:*
  - (c) *that persons who are invited or encouraged to present their views to the local authority should be given clear information by the local authority concerning the purpose of the consultation and the scope of the decisions to be taken following the consideration of views presented:*
  - (d) *that persons who wish to have their views on the decision or matter considered by the local authority should be provided by the local authority with a reasonable opportunity to present those views to the local authority in a manner and format that is appropriate to the preferences and needs of those persons:*

- 
- (e) *that the views presented to the local authority should be received by the local authority with an open mind and should be given by the local authority, in making a decision, due consideration:*
  - (f) *that persons who present views to the local authority should be provided by the local authority with information concerning both the relevant decisions and the reasons for those decisions*
- (2) *A local authority must ensure that it has in place processes for consulting with Maori in accordance with subsection (1)*
  - (3) *The principles set out in subsection (1) are, subject to subsections (4) and (5), to be observed by a local authority in such manner as the local authority considers, in its discretion, to be appropriate in any particular instance*
  - (4) *A local authority must, in exercising its discretion under subsection (3), have regard to—*
    - (a) *the requirements of section 78; and*
    - (b) *the extent to which the current views and preferences of persons who will or may be affected by, or have an interest in, the decision or matter are known to the local authority; and*
    - (c) *the nature and significance of the decision or matter, including its likely impact from the perspective of the persons who will or may be affected by, or have an interest in, the decision or matter; and*
    - (d) *the provisions of Part 1 of the Local Government Official Information and Meetings Act 1987(which Part, among other things, sets out the circumstances in which there is good reason for withholding local authority information); and*
    - (e) *the costs and benefits of any consultation process or procedure*
  - (5) *Where a local authority is authorised or required by this Act or any other enactment to undertake consultation in relation to any decision or matter and the procedure in respect of that consultation is prescribed by this Act or any other enactment, such of the provisions of the principles set out in subsection (1) as are inconsistent with specific requirements of the procedure so prescribed are not to be observed by the local authority in respect of that consultation*

#### V- 1.1.1 Decision Making

The requirements in relation to decision making include, at s79, a general power of discretion for the Council to make judgements as to what significant matters it should consult the public on, the extent different options are to be considered and a number of other detailed matters. However, s78 of the Act states:

- (1) *A local authority must, in the course of its decision-making process in relation to a matter, give consideration to the views and preferences of persons likely to be affected by, or to have an interest in, the matter.*
- (2) *That consideration must be given at—*



- 
- (a) *the stage at which the problems and objectives related to the matter are defined:*
  - (b) *the stage at which the options that may be reasonably practicable options of achieving an objective are identified:*
  - (c) *the stage at which reasonably practicable options are assessed and proposals developed:*
  - (d) *the stage at which proposals of the kind described in paragraph(c) are adopted.*

## V- 2 Other Statutory Consultation Requirements

The following are summaries of other requirements of the Act:

### V- 2.1 Consultation With Maori

The local authority must ensure that it has in place processes for consulting with Maori. (LGA 2002 s81)

### V- 2.2 Bylaws

A bylaw can only be made, amended, reviewed or revoked via the special consultative procedure. (LGA 2002 s86). Bylaws are discussed in Appendix U.

### V- 2.3 Change in Mode of Delivery

Any proposal to change the delivery of a significant activity in one of the following ways can only be done via the special consultative procedure (LGA 2002 s88):-

- ◆ from provision by the local authority itself to delivery by a Council-controlled organisation in which the local authority is a shareholder; or
- ◆ from provision by the local authority itself to delivery by another organisation or person; or
- ◆ from provision by a Council-controlled organisation in which the local authority is a shareholder to delivery of the activity by another organisation or person;

### V- 2.4 Long Term Plan Linkage

Section 97 of the Act restricts the Council's powers to make decisions on a number of matters, unless:

- ◆ the decision is explicitly provided for in the Long Term Council Community Plan (Long Term Plan),

**and**

- ◆ the proposal to provide for it was included in the Statement of Proposal or Draft Long Term Plan that underwent the consultation process

The decisions affected are those that:

- ◆ significantly alter the intended level of service for any significant activity, including a decision to commence or cease any such activity;
- ◆ transfer the ownership or control of a strategic asset to or from the Council;
- ◆ to construct, replace, or abandon a strategic asset; or
- ◆ that will, directly or indirectly, significantly affect the capacity of the Council in relation to any activity identified in the Long Term Plan, or significantly affect the cost to the local authority of such an activity

#### V- 2.4.1 **Significance Policy**

The Council's Significance Policy, which is pivotal to compliance with the sections of the Act outlined above, is detailed in the Council's LTP<sup>1</sup>. In summary:

- ◆ the network as a whole is significant,
- ◆ individual components of the network are generally not significant, but when decisions on them are required they may become so if they meet the tests detailed in the Council's significance policy

#### V- 2.5 **Land Transport Management Act**

Section 15(3) of the Land Transport Management Act 2003 (LTMA) also requires specific consultation. In particular, it requires the Council to consult specific people and organisations when preparing its land transport programme; however, it does not have to do so if it has already consulted that organisation or person about the matter in the course of preparing its current LTP or annual plan in accordance with the LGA 2002.

Those to be consulted are:

- ◆ The NZ Transport Agency
- ◆ Every affected regional council
- ◆ Every affected territorial authority
- ◆ Every affected approved organisation
- ◆ Affected district health boards
- ◆ The Accident Compensation Corporation
- ◆ The Commissioner of Police
- ◆ The New Zealand Historic Places Trust
- ◆ Other land transport users and providers
- ◆ Affected communities
- ◆ Maori; and
- ◆ The public

Part 1 of Schedule 2 to the LTMA 2003 sets out the principles of consultation that apply to its requirements. Essentially these are the same principles that are in the Local Government Act.

Unless the Council has consulted these required people and organisations as part of its LTP or annual plan consultation, it must use the special consultative procedure set out in the LTMA 2003 for this consultation.

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<sup>1</sup> Ashburton District Council Long Term Plan 2012 – 2022, Volume 2, Part VII, p52

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## V- 3 Consultation with Maori

There are specific requirements in section 18(3) of the LTMA 2003 in relation to consultation with Maori. The requirement to separately consult Maori affected by any proposed activity is very clear. The LTMA 2003 states:

*18(3) In addition to complying with Part 2 of Schedule 2, an approved organisation must do everything reasonably practicable to separately consult Maori affected by any proposed activity that affects or is likely to affect—*

- (a) Maori land; or*
- (b) land subject to any Maori claims settlement Act; or*
- (c) Maori historical, cultural, or spiritual interests*

## V- 4 Partners

The Council's partners in the Transportation Network are listed and discussed in Appendix S; of these the NZ Transport Agency is most significant as it requires many conditions to be met and procedures to be followed before it will financially assist the Council in maintenance, operation and development of the road network. The interest and responsibilities of partners are generally greater than those of stakeholders.

## V- 5 Stakeholders

The Council has determined that stakeholders with an interest in the transportation network include the following:

### V- 5.1 External Stakeholders

- ◆ All Ratepayers
- ◆ All road users, including:
  - ◇ Pedestrians
  - ◇ Cyclists
  - ◇ Motorists
  - ◇ Heavy-vehicle operators
  - ◇ Equestrians
  - ◇ Drivers
- ◆ The NZ Transport Agency, in roles other than its funding role
- ◆ Audit NZ
- ◆ Environment Canterbury
- ◆ NZ Police
- ◆ NZ Fire Service
- ◆ St John Ambulance Service
- ◆ Railway owners and operators
  - ◇ Kiwi Rail (trunk railway operator)
  - ◇ OnTrack (rail track and corridor owner)
- ◆ Neighbouring Local Authorities:

- ◇ Selwyn District Council
- ◇ Timaru District Council
- ◇ Mackenzie District Council (no road links)
- ◇ Westland District Council (no road links)
- ◆ Accident Compensation Commission
- ◆ Energy Conservation Authority
- ◆ Department of Conservation
- ◆ Ministry for the Environment
- ◆ Local Iwi / Ngai Tahu
- ◆ Council's Insurers
- ◆ Telecom and other telecommunications companies
- ◆ The Forestry Owners Association
- ◆ Automobile Association
- ◆ The Heavy Haulage and Owner Drivers associations
- ◆ Federated Farmers

There is regular 6-monthly liaison with The NZ Transport Agency, their professional services provider and ADC staff, which cover all issues relating to the state highway / local roading network interface. There is also ongoing day-to-day contact.

Contact details for External Stakeholders, other than all ratepayers and road users, are at Annex I to this appendix. Annex I is maintained as a separate Excel® file to facilitate its use as a mail-merge address list.

## **V- 5.2     Internal Stakeholders**

- ◆ Ashburton District councillors
- ◆ The senior management team
- ◆ Asset Management staff
- ◆ The Council's other utility and infrastructure operators (water supply, stock water, drainage, sewerage, parks etc)
- ◆ Financial management staff
- ◆ Information Services and Information Technology staff
- ◆ District Planning staff
- ◆ Corporate Services staff
- ◆ Internal Auditors

## **V- 6     Consultation and Customer Research**

### **V- 6.1     Purposes of Consultation**

In addition to fulfilling the Council's statutory requirements, a key objective of this plan is to match the level of service provided by the assets with the expectations of customers and stakeholders. This explicitly requires knowledge of those expectations and implicitly for those customers and stakeholders to know the Council's intended levels of service.

### **V- 6.2     Consultation Policy**

The Council's consultation Policy is detailed under the "Consultation" heading on page 23 of its Finance & Community Services General Policy.

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## V- 6.3 Consultation Record

Council's knowledge of customer expectations and preferences is based on:

- ◆ Consultation on previous AcMP's, the current LTP, and other planning documents
- ◆ Public meetings
- ◆ Feedback from elected members
- ◆ Feedback from service providers
- ◆ Analysis of customer service requests and complaints
- ◆ Consultation with beneficiaries of proposed works
- ◆ Consultation via the annual plan process
- ◆ Annual customer satisfaction survey
- ◆ Focus groups and working parties

Further knowledge will be obtained through enhanced public consultation.

It is the Council's intention that consultation on its inputs to the Land Transport Programmes is covered by consultation on the LTP and Annual Plan.

In addition, the Council will do everything reasonably practicable to separately consult affected Maori about any proposed activity that affects or is likely to affect:

- ◆ Maori land; or
- ◆ land subject to any Maori Claims Settlement Act; or
- ◆ Maori historical, cultural or spiritual interests

The public and interest groups will be consulted during all proposed renewal or capital works to ensure input for stakeholders is considered.

### V- 6.3.1 **Annual Surveys**

The Council conducts an annual satisfaction survey of all its service areas. The survey is carried out by a specialist firm who seek the views of over 300 residents and ratepayers chosen at random, and who are then interviewed by telephone. Opinions are sought of peoples' impressions of various services delivered by the Council.

The target for roading is to achieve a level of at least 80% very or fairly satisfied in four general areas. The results of these surveys are illustrated below.

While such surveys measure satisfaction with the overall roading service, they are limited in their ability to inform the Council, and its roading management staff. These limitations arise from the "uninformed" basis of the respondents. Those surveyed are measuring their response to a quickly developed, because they are responding verbally to a question on a telephone, mental ideal of what they think the Council should be providing. Thus, these surveys while giving a broad understanding of current customer satisfaction do not attempt to determine actual levels of service desired by customers or reasons behind different levels of satisfaction.

With adoption of agreed levels of service it would be appropriate in addition to the questions asked in these annual surveys to:

- ◆ gather customers' views as to whether the Council is meeting its target levels of service, and
- ◆ reflect whether the customers consider the levels of service appropriate

Customer satisfaction data is available in Annex II of Appendix S — Levels of Service

The Improvement Plan at section V- 6.4 includes a review of the survey questions.

## V- 6.4 How the Council Intends to Work with Others

**Table V - 1 How the Council Intends to Work with Others**

Organisation or Body	Nature of Special Relationship	How the Council Intends to Work with it
<b>Central Government Departments &amp; Organisations / Agencies</b>		
The NZ Transport Agency	The NZTA funds up to 57%, (2009/10 figure) of individual capital works and 47% (2009/10 figure) of routine maintenance of parts of the road network. The most significant exclusion from this assistance is off-carriageway pedestrian facilities. It has a series of rules and policies that limit and control the levels of financial support available. Land Transport NZ also provides road safety advice and collates and reports on road crashes. Land Transport NZ does not take an active role in the management of the District Road Network. Its influence is managed through application of its rules, policies and guidelines.	Continual and frequent personal contact and appropriate formal contact where required.
NZTA (state highway division)	Is the State Highway Authority. There are two State Highways in the District, SH1 and SH77. The nature of the special relationship revolves around management of the network at the points at which they meet; i.e. road intersections. Part of Revoked State Highway 72 also runs through the District and the local authorities along its length are continually working to have it restored to state highway status.	Regular personal contact and appropriate formal contact where required.
NZ Police		Ongoing liaison and appropriate formal contact where required. Police representatives are part of the Road Safety Coordinating Committee
The Accident Compensation Commission		Correspondence
<b>Local Government Organisations</b>		
The Canterbury Regional Council (Environment Canterbury)		Ongoing contact with relevant staff. Formal liaison of elected representatives at CEO level.
Selwyn District Council	Selwyn District borders Ashburton on the north. There are no shared roads or bridges on this boundary.	Ongoing contact with relevant staff. Formal liaison of elected representatives at CEO level.
Timaru District Council	Timaru District borders Ashburton on the north. There is one shred bridge straddling the boundary, the upper Rangitata bridge on the Arundel Rakaia Gorge Road (revoked SH72).	Ongoing contact with relevant staff. Formal liaison of elected representatives at CEO level.
Mackenzie District Council	The Mackenzie District has a short border with Ashburton in mountainous country near the top of the Main Divide There are no local authority roads linking the two authorities	Informal contact with relevant staff. Informal liaison of elected representatives at CEO level
Westland District Council	Westland District borders Ashburton on the west. There are no local authority roads linking the two authorities.	Informal contact with relevant staff. Informal liaison of elected representatives at CEO levels.
<b>Maori</b>		
Te Runanga o Ngai Tahu	TBA	TBA

Organisation or Body	Nature of Special Relationship	How the Council Intends to Work with it
... Runanga	TBA	TBA
<b>Non-Government Organisations</b>		
The Automobile Association		Regular contact at road safety co-ordination meetings.
The Heavy Transport Operators Association		Regular contact at road safety co-ordination meetings.
Canterbury Owner Drives Association		Regular contact at road safety co-ordination meetings.
The Farm Forestry Association		Occasional correspondence.
<b>The Private Sector</b>		
Network Utility Operators	The following Network Utility Operators use parts of the District Road Network as routes for their reticulation. In most instances there are legislative rights to use the road in this manner. Network Utility Operators in the District are: <ul style="list-style-type: none"> <li>• Telecom</li> <li>• Saturn - Clear</li> <li>• Electricity Ashburton</li> <li>• Ashburton District Council</li> <li>• The Rangitata Diversion Race management Ltd (operators of the Rangitata Diversion Race and subsidiary irrigation areas.</li> </ul>	Close liaison. Full procedures to be developed reflecting the 2009 NZUAG "Code of Practice for Working in the Road"
<b>Railway Operators</b>		
	There are two railway operators in the District, KiwiRail / OnTrack and the Waipara Steam Railway Society	Close liaison with OnTrack on level-crossing maintenance .Occasional correspondence on other matters.

#### V- 6.4.1 Issues

Details relating to how the Council works with other organisations are not complete.

## V- 7 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table V-2 Stakeholders and Consultation Improvement Actions**

Stakeholders and Consultation			
Item		Priority	Comments
V1	Review annual satisfaction survey questions with view to rewriting them to gather customers' views as to whether the Council is meeting its target levels of service	High	
V2	Review annual satisfaction survey questions with view to rewriting them to reflect whether the customers consider the levels of service appropriate.	High	
V3	Review Customer and Technical levels of service in preparation for the 2012/22 LTCCP	Medium	In 2010
V4	Complete details of how the Council works with other organisations	High	Before 2012 LTCCP





## Annex I External Stakeholder Contact List

The external stakeholder contact list is prepared and maintained as a separate document to facilitate its use as a mailing list. It is filed as *ADC Tpt AcMP Apx V Anx I Ext Stakeholders Details v1.0.0.xls* where *v1.0.0* indicates the version number. The output of the spreadsheet is on the following pages. It does not necessarily conform to the numbering and other conventions of this document.

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# External Stakeholders' Details

	<b>Organisatio n</b>	<b>Address_ 1</b>	<b>Address_2</b>	<b>Town City</b>	<b>Post Code</b>	<b>Attn</b>	<b>Salutation</b>	<b>Special text</b>	<b>Comment s</b>
	Accident Compensation Commission								
	Audit NZ								
	Automobile Association								
	The NZ Transport Agency	PO Box 13364	Armagh	Christchurch	8141				
Consultants and Contractors	AECOM Ltd	PO Box 710	Christchurch Mail Centre	Christchurch	8140	G JasonSmith	George		
	Opus International Consultants Ltd	PO Box							
	etc								
	etc								
	Energy Conservation Authority								

	Environment Canterbury	PO Box 345		Christchurch					
	NZ Transport Agency	PO Box 13-364		Christchurch					
	Electricity Ashburton Ltd	PO Box 346		Rangiora					
	Ministry for the Environment								
	Ministry of Health								
Neighbouring Road Controlling Authorities:	Timaru District Council	PO Box 522		Timaru	7910				
	Department of Conservation								
	Selwyn District Council	PO Box 90		Rolleston	7643				Only SH links
	Westland District Council	Private Bag 704		Hokitika	7842				No physical road links
	Mackenzie District Council	PO Box 52		Fairlie	7949				No physical road links
	NZTA State Highway Division	PO Box 1479	Christchurch Mail Centre	Christchurch	8140				
	NZ Police								

	OnTrack (NZ Railways Corporation)								
Telecom and other telecommunication companies	Telecom NZ								
	etc								
	etc								
	<b>The Council's Insurers</b>								Include all the the insurer's details
	The Forestry Owners Association								
	The Heavy Haulage Association								
	The Owner Drivers Association								

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# Appendix W Disposals and “Occupied Roads”

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## Appendix W Disposals and “Occupied Roads”

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*Reason: International Infrastructure Management Manual Guidelines*

### W- 1 Asset Disposal

Disposal involves all activities associated with the decommissioning of assets, including sale, abandonment and demolition. Relocation of an asset, or the function / service provided by that asset, may result in disposal of the “original” portion or may not, depending on whether it remains in service for another use.

Assets are considered for disposal when they become

- ◆ uneconomic to own or operate
- ◆ when they become surplus to current and expected needs
- ◆ through rationalization of the asset stocks

The most common reason for disposing of part of the roading asset is when part of a road or a junction has to be re-aligned and the disused road become surplus to requirements.

The Council is not free to dispose of roading assets as it wishes. The principal controls on its ability to do so are:

- ◆ Section 342 of the Local Government Act 1974. This gives the Council authority to remove a road from the network and for title to it to be granted to the Council. The procedure is legally described as “stopping”. The Council’s ability to stop a road is tightly circumscribed by statute and common law; in summary:
  - ◇ the intention to stop the road must be advertised for public submission in accordance with Schedule 10 of the Act
  - ◇ if there are any objections that cannot be resolved the matter must be decided by the Environment Court
  - ◇ The Minister of Lands must give prior consent to the stopping of any rural road
- ◆ Part 6 (Sect 75 ff) of the Local Government Act 2002 stipulates how the Council must make decisions. To meet its requirements the Council must have a “Significance” policy and consult the public, using the “Special Consultative Procedure” on *significant* matters. The Council’s significance policy is discussed in Appendix V — Stakeholders and Consultation.
- ◆ Every land title must have a legal access to it. This is usually a road, whether formed or unformed, but it may be by a legal right of way
- ◆ The Public Works Act 1981 contains provision relating to the sale of land and offering surplus land back to the original owners, which also affects these processes

If a road is diverted or re-aligned rather than being removed from the network, the particular provisions around road stopping may not apply.

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## W- 2 Unformed Legal Roads

There are a large number of unformed legal roads in the District<sup>1</sup>. These are often referred to as “paper” roads, have no active function in the roading network and are predominantly in rural areas.

The Council does not intend to review or rationalise this network. Rather, it will review each section of it as the need arises, either as the result of requests put to it or for other network management reasons.

The general principle behind these reviews will be one of erring in favour of legal road retention as the very-long term needs of future generations are not easily or accurately determined and the short-term needs of adjacent property owners must be balanced against those future needs.

Possible future needs for these individual roads include:

- ◆ Providing legal access to properties
- ◆ Physical access, this could be only pedestrian (tramping), cycle or vehicular access
- ◆ Corridors for network utilities

## W- 3 Other Areas

From time to time berm and verge areas become surplus to requirements, or areas being informally occupied by adjoining landowners, may be identified for disposal. These areas are legally part of the road and are under the jurisdiction of the legislation outlined in paragraph W- 1 above. Sales of such surplus areas of land will be in accordance with relevant legislation and Council decisions.

## W- 4 “Occupied Roads”

Roads cannot be leased, however the space under of above the road can be.

Often unformed legal roads will be grazed and managed as part of the adjacent property; few of these roads are subject to formal arrangements as to this use. Other areas of road reserve land are occupied by private persons or organisations under formal “licence to occupy” agreements. The Councils’ practices on licences to occupy are detailed in its Safety Management System.

## W- 5 Uneconomic Roads and Structures

The matters discussed in this section usually apply to bridges in remote rural areas but they may apply to sections of carriageway or other aspects of the road.

The NZ Transport Agency has made a formal policy determination on provision of financial support for “uneconomic roading facilities”. This is detailed in its Knowledge Base<sup>2</sup>. The determination defines an

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<sup>1</sup> See Appendix A for more details

<sup>2</sup> Section 4.32 of Programme and Funding Manual Edition 3 Aug 2006

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uneconomic roading facility as one where the total cost of the proposed works per AADT<sup>3</sup> is greater than or equal to \$8,000.

The determination also states that Land Transport NZ will not normally provide financial assistance (subsidy) for uneconomic works but that it will continue to provide financial assistance for cost-effective maintenance.

The Council's practice is that it will generally not carry out uneconomic roading projects using its own funds. It may be prepared to carry out specific uneconomic projects if it reaches agreement with potential users over cost sharing.

Uneconomic roading facilities that can no longer be maintained in a safe condition will be closed to public use, and, where possible disposed of. This will normally be by selling the structure to the landowner benefiting from the access, albeit for a "peppercorn". In each instance it will be a formal decision of the Council whether to sell such an asset and the value of the transaction. The Council may need to bring any such bridges up to standard as part of any transactions. No specific funds have been allowed for this.

## W- 6 Forecast Disposals

There are no forecast disposals.

## W- 7 Disposals Budget

The principal costs for constructing the bypass ford around Dean's Bridge have all been met, the only outstanding issues relate to the signing of legal documents. The budget for that process is contained in the Council's committed expenditure budget.

## W- 8 Forecast Income/expenditure arising from asset disposal

There is no specific provision for income from asset disposals or expenditure required to facilitate asset disposal. The use of revenue arising from the disposal of the asset is decided by the Council as part of the decision to dispose of an asset.

Expenditure is included in the relevant project cost item in the budget – for example the rehabilitation of a pavement may require the removal and safe disposal of existing pavement materials.

## W- 9 Improvement Actions

Potential improvements identified in this section are summarised below:

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<sup>3</sup> AADT – annual average daily traffic (=Average daily traffic x 365 (Approx))

**Table W-1 Disposals Improvement Actions**

<b>Disposals</b>		
<b>Item</b>	<b>Priority</b>	<b>Comments</b>
W1		

End of **Appendix W**

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# Appendix X Activity Management Improvement Programme

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# Appendix X Activity Management Improvement Programme

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*Reason: International Infrastructure Management Manual Guidelines*

## X- 1 Improvement Process

Continuous Improvement is a key part of the Asset or Activity Management process. In this context Asset Management Improvement and Activity Management Improvement are synonymous. The International Infrastructure Management Manual (IIMM) devotes 15 pages to it (IIMM v3.0 Section 2.4). The review and improvement process is the means of updating the plan to reflect changes in corporate requirements, to fill gaps in the plan and to improve the management of the assets it covers.

The AM improvement process involves:

- ◆ the cycle of AM plan monitoring, review, revision and audit to improve the effectiveness of AM plan outputs and compliance with audit criteria, legal requirements and good practice
- ◆ the definition of service standards reflecting community desires through public consultation (service level review). The AM plan is used to identify service standard options and costs, and the delivery of the service standards adopted is a key objective of AM planning
- ◆ the corporate AM co-ordination role by an AM Team, which guides and audits the development of AM plans within the framework of Council's strategic direction

It is outlined in the following flow-chart.

Figure X-1 Flow Chart for Asset management Improvement



Source: IIMM p2.23

This Activity Management Plan has been prepared using information contained in earlier versions, the most recent asset valuation, and knowledge of current AM practice and issues. Levels of service have



been reviewed and where appropriate refined and performance measures extended to more fully reflect the nature and scope of the activity and the Council's corporate needs. Consultation on levels of service and LOS alternatives is undertaken through the LTP process, to which this plan contributes. The consultation processes are discussed in Appendix S — Levels of Service.

The Council has done much work looking at the future development of the District, although this has tended to focus more on population and settlement rather than economic activity. The results of this work have been reflected in the plans and programmes detailed in this Plan. A review of risks has been carried out; this needs to be considered in more detail and a full risk register developed with risks prioritised and mitigation actions planned.

In summary, this plan has largely been developed from existing knowledge. Actions to increase the level of sophistication of this plan are recorded below. On-going monitoring, review and updating to improve the quality of AM planning and robustness of the financial projections will continue to be an important feature of the AcMP process. The Improvement Programme includes improvement initiatives identified in other Appendices within the plan.

## X- 2 Improvement Programme

AM improvement needs are identified at the end of each Appendix.

The main drivers for the timing and prioritisation of AM improvement tasks over the next 2 -3 years are:

- ◆ The need to improve the reliability of asset information in order to meet the requirements of the Local Government Act 2002, in particular with respect to input to future LTP's
- ◆ The need to integrate risk management concepts into asset management life-cycle tactics
- ◆ The need to progress the development of optimized decision-making tools and processes, and use the results in AM planning (e.g. dTIMS)
- ◆ The need to enhance the documentation of key AM processes
- ◆ The need for a continual and ongoing focus on using AM as a service and business improvement tool

The prioritised Asset Management Improvement Programme is at Annex I to this appendix.

**Table X-1 Key to Improvement Action Priorities**

Name	Relative Urgency
High	Within the first financial year of the LTP
Medium	Should be done in next 3 yrs / before the next LTP
Low	Should be done in next 6 yrs
Good Idea	Beyond 6 yrs

The resource requirements associated with this improvement plan will be identified when the improvement tasks are defined and scoped.

## X- 3 Monitoring and Review Procedures

The AM plan is a living document which is relevant and integral to daily AM activity. To ensure the plan remains useful and relevant the following on-going process of AM plan monitoring and review activity will be undertaken.

Other matters that should be considered when the Plan is next updated include:

- ◆ Maintenance of consistency between this Activity Management Plan and the Council's policy register, and whether any additional policies need to be added to the policy register
- ◆ Whether any job descriptions, job breakdowns, and staff delegations need alteration
- ◆ Inclusion of or reference to training needs analysis relating to all facets of the activity, with an appropriate training programme identified

## X- 4 Improvement Actions

Potential improvements identified in this section are summarised below:

**Table X-2 Improvement Plan Improvement Actions**

<b>Improvement Plan</b>			
<b>Item</b>		<b>Priority</b>	<b>Comments</b>
X1	Allocate resources to the improvement plan	Urgent	

### Annex I AM Improvement Programme

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# Annex I AM Improvement Programme

The data in the following table is the output from the spreadsheet *ADC TptAMP Apx X Improvements v#.#.#.xls*, where v#.#.# is the latest version number.

**Table X-3 Improvement Programme**

Allocated Priority	Priority Description	Improvement Number	Brief Description	Resource Type / Allocated Resources	Expected Cost
1	Urgent	X1	Improvement Plan-Allocate resources to the improvement plan		
2	Urgent	J1	Depreciation-Review depreciation calculations, assigned lives, unit rates and asset data for errors and discrepancies; ... that might explain some of the difference between depreciation and renewals expenditures.		
3	Urgent	T03	Organisation-Consult the community on level of service, using current levels of service as a basis, and formally adopt Customer Levels of Service for the Activity; Should be adopted by the Council		
4	Urgent	T06	Organisation-Use condition/performance deterioration profiles and renewal intervention levels of key assets in assessing lives for future valuations (e.g. dTIMS predictions).		
5	Urgent	T11	Organisation-Determine effective lives		
6	High	B10	Overview-Collect and record carpark data in RAMM		
7	High	B11	Overview-Complete Car Parking description section of AcMP; Includes parking meters		
8	High	B4	Overview-Assess need for disabled pedestrian facilities at traffic signals installations; Current lack of adequate disabled facilities		
9	High	B5	Overview-Move Bridges to RAMM Bridges		
10	High	B7	Overview-Agree Streetscape asset management responsibilities with Reserves staff		
11	High	B8	Overview-Consider needs of electric mobility scooters, especially during footpath works; Growing use, safety issues		
12	High	B9	Overview-Continue to upgrade RAMM data relating to Footpaths		

Allocated Priority	Priority Description	Improvement Number	Brief Description	Resource Type / Allocated Resources	Expected Cost
13	High	C1	Safety Management-Review SMS and Road Safety Strategy; 2010/11		
14	High	D1	Valuation-Car Parking assets to be valued		
15	High	E1	Maintenance Plan-Develop community service level agreement for transport services		
16	High	E3	Maintenance Plan-Develop standard engineering practices for inspection of bridges and other vulnerable structures following significant earthquakes and floods.		
17	High	F10	Demand and New Works-Monitor progress on resolution of the NRRP, and its stormwater-treatment requirements; ·See F- 7.2;		
18	High	F11	Demand and New Works-Lifecycle Analysis; By June 2011		
19	High	F2	Demand and New Works-Heavy traffic issues study in Ashburton town; Need identified in ADC Development Plan		
20	High	F3	Demand and New Works-Assess “growth related” expenditure upon which development contributions under the Local Government Act can be based		
21	High	H1	Resource Consents-Document likely future resource consents; As required		
22	High	I1	Renewals-Review all Footpaths condition and inventory data and document in AcMP		
23	High	I2	Renewals-Assess life cycle economics and road quality effects of the current approach to sealed pavement renewals and review the classification of all digouts as renewals; I- 4.3.5		
24	High	I3	Renewals-Increase use of dTIMS to determine forward pavement renewals; I- 4.3		
25	High	I5	Renewals-Carry out life-cycle analysis of non-pavement renewal needs; Helps avoid unexpected surprises and helps establish better-coordinated renewal programmes. Bridges should be accorded priority. I- 9		
26	High	J2	Depreciation-Review Renewal programmes to determine a basis for the projected decline in service potential		

Allocated Priority	Priority Description	Improvement Number	Brief Description	Resource Type / Allocated Resources	Expected Cost
27	High	Q2	Item-Review ADC emergency response, contingency and risk action plans after each event		
28	High	V1	Stakeholders and Consultation-Review annual satisfaction survey questions with view to rewriting them to gather customers' views as to whether the Council is meeting its target levels of service		
29	High	J3	Depreciation-Prepare Outline Lifecycle replacement programs for individual asset types to determine future peaks in demand and assist in identifying data-improvement needs.		
30	High	S3	Levels of Service-Consult customers on current levels of service, confirming or amending them as appropriate.; This will establish a base-position from which all changes can be mad		
31	High	T07	Organisation-Review condition and performance information needs for all assets		
32	High	T08	Organisation-Review data collection processes, standards, methods, scope and frequency of inspections and the entry, validation and reporting of data; Reflect AM needs and business risk. The process should include procedures for analysing information, investigating non-performing assets and asset rationalisation, incorporation of condition and performance feedback requirements in service delivery contra		
33	High	T14	Organisation-Adopt a corporate approach to development of AM planning, service level reviews and AM improvements..; Ideally a project brief will be formalised for the AM Team and a quality process developed for the AM improvement programme and process implementation		
34	High	V2	Stakeholders and Consultation-Review annual satisfaction survey questions with view to rewriting them to reflect whether the customers consider the levels of service appropriate.		
35	High	V4	Stakeholders and Consultation-Complete details of how the Council works with other organisations ; Before 2012 LTCCP		
36	Medium	B1	Overview-Develop Grip Tester programme; Skid resistance		
37	Medium	B2	Overview-Consider use of dTIMS to better understand the performance and deterioration of sealed pavements; Section B- 3.4		

Allocated Priority	Priority Description	Improvement Number	Brief Description	Resource Type / Allocated Resources	Expected Cost
38	Medium	B6	Overview-Capture Streetscape Asset Data		
39	Medium	E2	Maintenance Plan-Review and update the Emergency Response Plan for the ADC transport network		
40	Medium	F1	Demand and New Works-Monitor traffic data and key growth trends in order to understand future capacity and renewal needs		
41	Medium	F6	Demand and New Works-Determine standards of "Urban facilities" for small towns where there is planned growth. Before plan changes are approved and development applications are received.		
42	Medium	F7	Demand and New Works-Determine how small towns' agreed urban facilities are to be funded		
43	Medium	F8	Demand and New Works-Determine the extent of ratepayers' shares of small-towns' development costs to be included in this Plan's budgets		
44	Medium	F9	Demand and New Works-Review Ambiguous Width bridges with a view to determining a network-wide improvement programme for them and including the programme in this ACMP.; See F- 6.5		
45	Medium	I4	Renewals-Establish deterioration curves for all major non-pavement assets to facilitate conditional prediction and management of renewals		
46	Medium	N1	Demand Management-Identify LOS improvements for mobility scooters		
47	Medium	Q1	Item-Establish Ashburton District Lifelines communication and planning process (Council wide)		
48	Medium	U1	Bylaws-Complete the list of standards, guidelines and practices		
49	Medium	F4	Demand and New Works-Review "Minimum Standards for matters relating to footpaths, pedestrian crossings, berms and vehicle crossings" for adoption as a policy document		
50	Medium	S1	Levels of Service-Establish data collection for those measures where data is limited at present		
51	Medium	T01	Organisation-Improve asset capitalisation process, integrating data in the FAR and AMS; Needs to be considered across all infrastructural assets		

Allocated Priority	Priority Description	Improvement Number	Brief Description	Resource Type / Allocated Resources	Expected Cost
52	Medium	T02	Organisation-Improve data processes by reviewing standards, interpretation methods, collection frequency, accuracy, responsibilities and quality assurance applicable requirements		
53	Medium	V3	Stakeholders and Consultation-Review Customer and Technical levels of service in preparation for the 2012/22 LTCCP; In 2010		
54	Low	B3	Overview-Conversion to LED display traffic signals to be considered,		
55	Low	C2	Safety Management-Complete District-wide Crash reduction study; Five-years from completion of 2008/09 study		
56	Low	F5	Demand and New Works-Prepare section for Car Parking assets		
57	Low	P1	Item-Develop measures for effects of traffic on quality of life, noise and air pollution at District level; This may be related to RLTS measures, as part of region wide assessments.		
58	Low	N2	Demand Management-Analyse / research travel demand Ashburton - Rolleston and Christchurch with a view to determining demand management options		
59	Low	S2	Levels of Service-Confirm alternative LoS for future consultation		
60	Low	T04	Organisation-Carry out a service level review that considers alternative levels of service and their costs and consult on these.; As part of the next LTCCP Community Outcomes round		
61	Low	T05	Organisation-Review financial information needs and improve the processes to collect, enter and validate financial data that supports AM analysis.		
62	Low	T10	Organisation-Analyse critical asset future failure pattern and identify optimal treatments and timing at network level.		
63	Low	T13	Organisation-Document project management procedures for design, construction and commissioning phases covering:		
64	Good Idea	T12	Organisation-Studies are required to determine the optimal timing and treatment for the renewal of other assets as justified by potential savings. The renewal programme will be based on asset condition and performance, with life cycle and risk costs considered in the		



Allocated Priority	Priority Description	Improvement Number	Brief Description	Resource Type / Allocated Resources	Expected Cost
65	On Occurrence	G1	Development Contributions-Include development contributions calculations id these are extended to the transportation asset; There are currently no development contributions for the transportation network.		