

Appendix 'R'

Assumptions and Risk Management

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1. Assumptions

The significant forecasting assumptions, including:

- a) *The assumptions of the Council concerning the useful life of the land transport assets; and*
- b) *The assumptions of the Council concerning sources of funds for the future replacement of the land transport assets;*

and where such assumptions involve a high level of uncertainty:

- a) *The fact of that uncertainty; and*
- b) *An estimate of the potential effects of that uncertainty of the financial estimates¹;*

are listed in Attachment A.

2. Risk Management

2.1 Introduction

Risk management is designed to ensure that:

- a) All significant risks associated with the land transport activity are identified, are understood, and are managed;
- b) The highest risks that should be addressed within the ten year period of the plan are identified;
- c) Risk reduction treatments, which best meet business needs, are applied; and
- d) Responsibilities for managing risks are allocated and reporting regimes specified.

The options to reduce risk include:

- a) Acceptance of risk – Do nothing – Accept the risk.
- b) Management strategies – Implement enhanced strategies for demand management, contingency planning, quality processes, staff training, monitoring systems, data analysis and reporting or reduce the technical level of service.
- c) Operational strategies – Actions to reduce peak demand or stresses on the asset or service, operator training, documentation of operational procedures.
- d) Maintenance strategies – Modify the maintenance regime to improve reliability or extend asset life.
- e) Asset renewal strategies – Rehabilitate or replace assets to maintain service levels.
- f) Development strategies – Investment to create a new asset or augment an existing asset.
- g) Asset disposal / rationalisation – Divestment of assets surplus to needs.

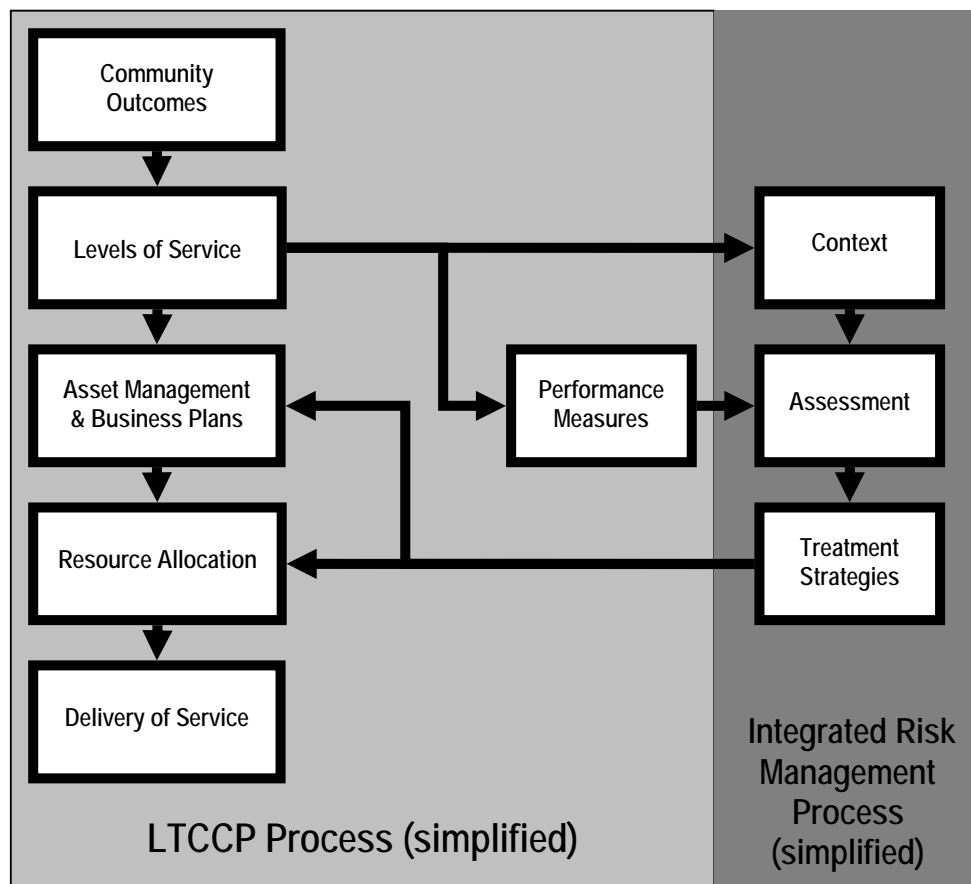
¹ Reference: Schedule 10, Local Government Act 2002.

2.2 Integrated Risk Management for Land Transport

In August 2008 Southland District Council adopted an Integrated Risk Management (IRM) framework and process as the means for managing risk within the organisation. This section provides the background and description of the process and framework.

The IRM process and framework is intended to demonstrate responsible stewardship by SDC on behalf of its customers and stakeholders. The plan also acts as a vehicle for relationships between all parties with an interest in SDC's organisational and asset management practices. It provides a guide within SDC for ongoing development of good management practices, demonstrating good governance and meeting public expectations and compliance obligations. It ensures that risk is managed from an organisational perspective to facilitate the effective and transparent allocation of resources to where they will have most affect on the success of the organisation in delivering its services. The IRM process integrates with the Long Term Council Community Plan (LTCCP) process as illustrated in Figure R.1.

Figure R.1 IRM integration with LTCCP process



2.3 IRM Goal

The goal of integrated risk management is:

"To integrate risk management practices into Council's organisational decision making so that it can achieve its goals cost effectively to optimise opportunities and reduce threats."

2.3.1 IRM Purpose

- To demonstrate responsible stewardship by SDC on behalf of its customers and stakeholders.
- To act as a vehicle for communication between all parties with an interest in SDC's Corporate activities.
- Provide a focus within SDC for ongoing development of good management practices.
- Demonstrate good governance.
- Meet public expectations and compliance obligations.
- Manage risk from an organisational perspective.
- Facilitate the effective and transparent allocation of resources to where they will have the most affect on the success of SDC in delivering its services.

2.4 Legislative Requirements

The legislative environment in New Zealand expresses both explicitly and implicitly the requirement to manage risks.

There are a number of Acts in New Zealand that imply the use of risk management or require some action that is best achieved through a process such as risk management. The Local Government Act 2002 mandates the need to address the sustainability of the four well beings - economic, environmental, social and cultural. Addressing this and the requirements of the Decision Making Subpart (s76, s77, s78, s79 and s80) can be met utilising a risk based process.

The role of risk management in relation to good governance practices is expressed in the New Zealand public sector by the State Services Commission, which states that governance in the State sector includes, amongst other things, "such 'generic' corporate governance imperatives as ethical conduct, integrity in reporting and disclosure, and risk management" (State Services Commission, December 2006, p.5).

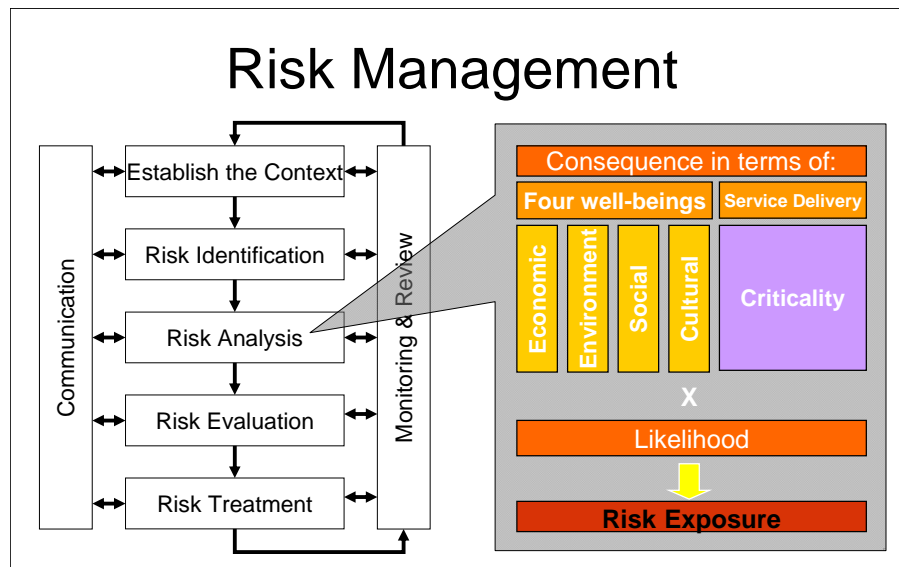
The Securities Commission states that Risk Management is one of nine principles to be applied in the governance of New Zealand entities and specifically states that "the board should regularly verify that the entity has appropriate processes that identify and manage potential and relevant risks" (Securities Commission, 2004, p.19).

These views are supported in relation to the management of public infrastructure by the National Asset Management Steering Group's publication *International Infrastructure Management Manual* which reports that the Auditor-General has defined both "Core" and "Advanced" asset management as requiring risk management, with the "Advanced" level requiring integrated risk management that is consistent with the AS/NZS 4360 (National Asset Management Steering Group, 2006, p. 2.11).

2.5 Risk Management Framework

The risk management framework adopted by SDC is consistent with *AS/NZS 4360:2004 Risk Management* and assesses risk exposure by considering the consequence and likelihood of each risk which is identified as having an impact on the achievement of organisational objectives (Figure R.2). These risks are recorded in a risk register (Attachment B).

Figure R.2 Integrated Risk Management Process



Consequence categories have been developed to reflect the impact of risk events on the four well-beings, and each consequence category is scored as either "extreme", "major", "medium", "minor", or "negligible" (Attachment B). These categories address common consequences across any asset or project, however, they do not specifically account for the differences in assets. Therefore an additional category "Service Delivery" is used to reflect the essential reason for the ownership or management of any asset within the local authority – the delivery of a service (Figure R.2 and Table R.2). This means that the consequence of failure to deliver the service in question (the criticality of the service) can be determined by applying a factor which reflects the relative importance of the asset to the community and in turn to Council.

The Transport Activity has been assessed as "0.7" in terms of criticality. How this relates to other Council activities is described in Table R.1.

Table R.1 Criticality Rankings

SDC Activity Group Criticality Rankings	Critical	Very Important	Important	Nice to Have
	1.0	0.7	0.5	0.1
Roading and Transportation		0.7		
Representation and Advocacy (CE)				
Representation and Advocacy		0.7		
Grants and Donations				0.1
Southern Rural Fire	1.0			
Enterprise Development			0.5	
Community Development			0.5	
Tourism and Promotion			0.5	
Regional Development			0.5	
Finance and Corporate (excl. IT and Finance)				
Library Service			0.5	
Strategy and Communication		0.7		
Area Offices			0.5	
Corporate Services		0.7		
Finance		0.7		
Information Technology		0.7		
Regulatory				
Building Control		0.7		
Dog and Animal Control			0.5	
Health Regulation		0.7		
Resource Management		0.7		
Wastewater	1.0			
Water Supply	1.0			
Stormwater			0.5	
Solid Waste Management		0.7		
Property Activities				
Cemetaries		0.7		
Parks and Reserves & Beautification			0.5	
Beautification				0.1
Public Convenience			0.5	
Community Centres				0.1
Community Housing			0.5	
Council Offices and Buildings			0.5	
Miscellaneous (Papatotora TV transmitter, Clifden Suspension Bridge, Waituna Information Kiosk)			0.5	
Other				
CDEM		0.7		
Forestry				0.1
Riverton Harbour (navigation aids, wharves, harbour master)			0.5	
Water Structures (boat ramps and jetties)			0.5	
SIESA (Stewart Island Electricity Supply)	1.0			
Te Anau Airport			0.5	
Work Schemes				0.1
Criticality Definitions				
Critical	Physiological need, life sustaining, major public health risk			
Very Important	Socially unacceptable not to provide the service, provides support to critical activities, environmental / economic / cultural / social impact, public health issue, threatens values			
Important	Functional requirement/expectation, public health assurance, supports other activities			
Nice to Have	Non-essential, feel good, does not significantly impact on other activities			

Table R.2 Consequence Categories

Category		Description
Service Delivery		Assessment based on the asset's compliance with Levels of Service, performance measures and value in relation to outcomes and resource usage.
Social/ Cultural	Health & Wellbeing	Assessment of impact as it relates to death, injury, illness, health effects, life expectancy, and road toll trends
	Personal Safety & Security	Assessment of impact based on perceptions of personal safety and reported levels of crime
	Community	Assessment of impact based on damage and disruption to community services and structures, stakeholder complaints, and effect on social quality of life
	Cultural Partnerships	Assessment based on impact on relationship / partnership with Maori and other significant cultural groups
	Compliance / Governance	Assessment of effect on Statutory compliance of Council
	Reputation / Perceptions of Council	Assessment of public perception of Council and media coverage in relation to Council
Environment	Natural Environment	Effect on the physical and ecological environment
	Built Environment	Effect on the physical built environment, its amenity, and its effects on quality of life
Economic	Direct Cost / Benefit	Direct cost (or benefit) to Council
	Indirect Cost / Benefit	Direct cost (or benefit) to the wider community/economy

The likelihood of the risk occurring is scored on a scale from “almost certain” to “unlikely” with associated probabilities and frequencies provided for guidance (Attachment C).

The risk exposure is then determined for each identified risk by multiplying the consequence and likelihood, and is presented using descriptors ranging from “extreme” to “negligible” (see risk matrix in Attachment D).

Treatment strategies that mitigate each risk can then be identified and prioritised based on the risk exposure.

In practice the IRM framework focuses on management and significant operational risks that will have an impact outside that of the activity itself. This approach allows the Integrated Risk Management framework to address risks across the organisation, as well as at both the management and operational levels within the particular council activities.

Similarly, the likelihood of the risk occurring is scored on a scale from “almost certain” to “unlikely” with associated probabilities and frequencies provided for guidance (Attachment C).

3. Assumptions Relating to the Development of the Plan

Assumptions relating to the development of the Plan are discussed in Attachment G.

4. Issues

- A life lines project looking at critical assets needs to be developed/completed. The objectives of this project are:
 - To reduce damage levels resulting from a major disaster event; and
 - To reduce time taken by these lifeline services to restore their usual level of service.The project was planned to be completed by 2008 but has been delayed.
(Now covered by R12)
- Develop a Communications Plan
- Develop Standard Operating Procedures
- Review external standards and Council bylaws, guidelines, policies, regulations and standards
- Develop Engineering Lifelines Planning
- Further develop the Council wide Human Resources policy and undertake formal Succession Planning
- Undertake Business Continuity Planning
- Develop a Procurement Strategy
- Develop Optimised Decision Making
- Develop a Sustainability Framework
- Enhance Safety Management Systems
- Actively review the Activity Management Plan
- Implement Integrated Risk Management practices throughout Council
- Review enforcement requirements and capabilities to enforce Council's policies and regulations
- Develop a Strategic Network Plan
- Enhance the community consultation process and establish benchmarking to measure the effects of consultation
- Review Service Agreements
- Risk that changes in central government policy/funding priorities result in an inability to secure adequate funding from NZTA (e.g. N and R funding, FAR changes) resulting in financial difficulties/shortfalls. Need to develop contingency plans for risk of a significant drop in FAR.

5. Future Action and Improvements

Schedule Future Improvement Priorities

Ref. No.	Item	Appendix Relative Urgency						Comments
		1	2	3	4	5	6	
R01	Fully review and update Risk Management Plan, including development of a SDC Corporate Risk Register (from 2006 Plan)				✓			Complete.
R02	Risk Plan needs to include Action Plan for dealing with and managing risks, who is responsible and how progress is monitored (from 2006 Plan)				✓			Within improvement plan risk section.
R03	As well as risks associated with physical assets, management, financial, business continuity and political risks need to be covered (from 2006 Plan)				✓			Complete.
R04	A life lines project looking at critical assets needs to be developed/completed (from 2006 Plan)				✓			Overall results of Lifelines Project need to be incorporated in to Risk Management Plan. SDC to decide on plan of action.
R05	Consider risks as plan is developed and assumptions are made (from 2006 Plan)				✓			Complete.
R06	Lobby for fair financial assistance from LTNZ (from 2006 Plan)				✓			Ongoing as opportunities arise.
R07	Continue to monitor assumptions in Plan with actual data as it is gathered and adjust Plan as necessary (from 2006 Plan)			✓				Complete.
R08	The whole of the risks part of this appendix needs to be addressed and updated (from 2006 Plan)					✓		Complete.
R09	Develop a Communications Plan			✓				Include communications with utilities; methods for improving the effectiveness of communication and lobbying of NZTA and Council; improving internal communication particularly to support electronic processes, a system for public notification of work sites e.g. website, newspaper adverts, and methods for enhancing the relationship with Councillors and Council Management to build confidence in Council staff, active involvement in consent hearings and processes, maintain and enhance external industry networking. Relevant to risk register

Ref. No.	Item	Appendix Relative Urgency						Comments
		1	2	3	4	5	6	
								references: SA.RD.050 & SA.RD.061 & SA.RD.023 & SA.RD.051 & SA.RD.046 & SA.RD.071 & SA.RD.031
R10	Develop Standard Operating Procedures			✓				Include knowledge management, formalise communications within Council, ensure appropriate data capture methods are employed and specified in contracts, and include procedures for verifying data provided to Council. Relevant to risk register references: SA.RD.021 & SA.RD.065 & SA.RD.003 & SA.RD.057 & SA.RD.056 & SA.RD.022
R11	Review external standards and Council bylaws, guidelines, policies, regulations and standards				✓			Develop and amend where appropriate (with a view to amending the District Plan). Include guidelines for utilities, update to reflect changes in demand, and include design standards. Enhance provision for appropriate control of developments, particularly in relation to climate change. Relevant to risk register references: SA.RD.050 & SA.RD.042 & SA.RD.055 & SA.RD.014 & SA.RD.049
R12	Develop Engineering Lifelines Planning				✓			Address effects on service provision. Relevant to risk register references: SA.RD.041 & SA. RD.072 & SA.RD.015. Refer R04.
R13	Further develop the Council wide Human Resources policy and undertake formal Succession Planning				✓			Aim to improve Council's ability to recruit and retain competent staff, and prevent loss of organisational knowledge. Relevant to risk register references: SA.RD.019 & SA.RD.021 & SA.RD.065
R14	Undertake Business Continuity Planning				✓			Address effects on service provision and loss of information. Relevant to risk register references: SA. RD.072 & SA.RD.015 & SA.RD.029
R15	Develop a Procurement Strategy					✓		Maintain and further develop contracts and selection procedures to achieve best practice. Include procedures for acceptance and transfer of assets. Relevant to risk register references: SA.RD.073 & SA.RD.076
R16	Develop Optimised Decision Making					✓		As a means to ensure that robust, balanced decisions are made. Relevant to risk register references: SA.RD.045 & SA.RD.046
R17	Develop a Sustainability Framework					✓		As a means for demonstrating that sustainability has been considered in decision making. Relevant to risk register references: SA.RD.044 & SA.RD.028
R18	Enhance Safety Management Systems					✓		Integrate Safety Management Systems into every day Council practice. Undertake audits of external contractors' and consultants' Safety Management Systems. Relevant to risk register references: SA.RD.069 & SA.RD.067
R19	Actively review the Activity Management Plan					✓		Ensure that it reflects changes in demand, procedures / processes, and District Plan changes. Relevant to risk register references: SA.RD.011
R20	Implement Integrated Risk Management practices					✓		Requires full integration across Council. Continuous management is

Ref. No.	Item	Appendix Relative Urgency						Comments
		1	2	3	4	5	6	
	throughout Council							required. Relevant to risk register references: SA.RD.074
R21	Review enforcement requirements and capabilities to enforce Council's policies and regulations					✓		Relevant to risk register references: SA.RD.037
R22	Develop a Strategic Network Plan					✓		Include both urban and rural locations. Provide outcomes for input to the District Plan. Relevant to risk register references: SA.RD.040
R23	Enhance the community consultation process and establish benchmarking to measure the effects of consultation					✓		Relevant to risk register references: SA.RD.001
R24	Review Service Agreements					✓		Confirm whether a Service Agreement with IT is currently implemented and update if necessary. Relevant to risk register references: SA.RD.023
R25	Risk that changes in central government policy/funding priorities result in an inability to secure adequate funding from NZTA (e.g. N and R funding, FAR changes) resulting in financial difficulties/shortfalls. Need to develop contingency plans for risk of a significant drop in FAR.			✓				Relevant to risk register references: SA.RD.038

Key:

- 1 = Extremely urgent (needs to be addressed now)
- 2 = Very urgent
- 3 = Urgent
- 4 = Reasonably or fairly urgent
- 5 = Not urgent
- 6 = A good idea for some time in the future

Attachment A

Significant Forecasting Assumptions and Risk Uncertainties

Table R.A.1 Significant Forecasting Assumptions and Risk Uncertainties

No.	Assumption	Degree of Risk or Uncertainty	Comments – Including the Likely Impact if the Assumption is Not Realised or is Not Acceptable
1	<p>Storm or Earthquake Damage</p> <p>That there will not be any extraordinary natural event (eg a serious flood or earthquake) during the ten year period, or an extraordinarily bad prolonged winter period, that will cause the Council to incur significant unplanned repair costs.</p>	Reasonably Certain	Significant additional 'one-off' repair costs (and therefore probably higher rates) – although financial assistance from NZTA could be expected.
2	<p>NZTA Subsidies</p> <p>That financial assistance from NZTA will be available to the extent, at the subsidy rate, and at the times, forecasted in this plan.</p>	Medium / High Uncertainty	<p>If financial assistance is not available to the extent that has been indicated in this plan and when required, the Council will have to review the programme – and this may result in certain proposed works being either deferred or deleted, or a greater level of rate input being decided to offset the higher than projected cost increase.</p> <p>Conversely, NZTA may offer a greater level of financial assistance to enable the Council to do more work – but only if there is a greater level of rate input as well. In those circumstances, the Council will have to decide whether to charge more rates or to decline the offer.</p>
3	<p>Inflation and Other Increased Costs</p> <p>All of the figures that are in this plan (except the total programme figures) have been expressed in July 2009 dollar values.</p> <p>The total roading programme figures include anticipated inflation and any other increased costs (eg increases in the cost of construction index) that are likely to occur during the ten year period.</p> <p>It is assumed that the increases that are actually subsequently incurred will not be more than what it has been forecasted they would be.</p>	Medium Risk	<p>If significant 'higher than forecasted' annual cost increases occur, the Council will have to review the likely preparedness of the ratepayers to pay higher annual rates to accommodate them.</p> <p>If the answer to that question is 'no', the proposed programme will have to be amended – perhaps resulting in a future lower level of service.</p>
4	<p>Heavy Vehicle Impacts</p> <p>That the Council has made sufficient provision in this plan for the impact of heavy vehicles on the roads – especially forestry vehicles and milk tankers.</p>	Medium / Low Risk	<p>Most of the wear and tear on the roads is caused by heavy vehicles – not by cars.</p> <p>In formulating the proposed ten year programme, the Council has done work to forecast what the future likely heavy traffic volumes and the affected routes are likely to be. However, changes in the logging industry's market practices (for instance, changes to the time when the forests are harvested or to the destinations to which the logs have to be taken for processing or sea transport) could mean that these change.</p> <p>Also, the plan does not specifically allow extra costs for the potential of any legislative changes being made to</p>

No.	Assumption	Degree of Risk or Uncertainty	Comments – Including the Likely Impact if the Assumption is Not Realised or is Not Acceptable
			<p>permit trucks with a higher gross laden weight, and possibly longer trucks, on the District's roads.</p> <p>If either of these things happen, the Council may have to review the sufficiency of the annual programme and / or its work priorities.</p>
5	<p>Significant Land Use Changes</p> <p>That there will not be any substantial (either general or localised – eg a new power station or smelter plant) changes to land uses in the District during the ten year period, that have consequential impacts on road use, that have not been foreseen.</p>	Low Risk	<p>If unforeseen land use, of a type that has potential significant effects on road use, occurs, the Council will need to assess the situation.</p> <p>Generally, the likelihood is low.</p> <p>The risk is also minimised by the fact that the Council is able to impose appropriate conditions at the time of resource (or other planning) consent to minimise effects – including the power to require work to be done, or money to be paid, to fund the cost of addressing the direct impacts, and the payment of a financial contribution to address the indirect impacts.</p>
6	<p>Maintenance of the Integrity of the Network</p> <p>That the proposed programme of work will be sufficient to maintain the integrity of the roading network for its useful life (but especially during the ten year period of this plan).</p>	Medium	<p>The programme of works has been developed based on the best available data and knowledge of the current state of the network with a moderate allowance for heavy traffic growth of around 5%. There has been no attempt to be conservative with the projections.</p> <p>Therefore, should traffic growth be greater or the network be in a worse state than allowed for, then a larger programme of work may be required to maintain the network.</p> <p>To cope with this Council may be required to increase rates, utilise loan funding, carry out short term treatments until funding is at a level which matches need or reduce the level of service that it provides to its rate payers.</p>
7	<p>Environmental Considerations</p> <p>That environmental considerations do not lead to a significant increase in road maintenance and construction costs.</p>	Medium	<p>There are ongoing pressures to obtain / use materials for road construction in more environmentally friendly manners.</p> <p>This includes reduced use of gravel from rivers and less use of cutback bitumens which release petro-chemicals to the atmosphere.</p> <p>If less relatively accessible and cheap gravel is available in the future, the options are to increase rates to pay the extra cost, accept a lower level of service, or try to use alternatives such as stabilising existing materials which may come at a higher risk.</p> <p>If cutback bitumens get phased out, the more expensive emulsions will need to be used. Options will need to be sought to keep this cost down as much as possible, and / or accept higher rates or a potentially lower level of service in the future.</p>

Attachment B

Risk Register

Attachment C

Consequence Scoring Table

CONSEQUENCE TABLE - THREATS

Impact Description	SERVICE DELIVERY	SOCIAL / CULTURAL					ENVIRONMENT		ECONOMIC		Consequence Rating		
	Compliance with Key Performance Measures (KPIs)	Health & Wellbeing	Personal Safety & Security	Community	Cultural Partnerships	Compliance / Governance	Reputation / Perceptions of Council	Natural Environment	Built Environment	Direct Cost / Benefit		Indirect Cost / Benefit	
Extreme	Complete failure to meet performance measures	Multiple fatalities	Significant increase in recorded crime rate trends for selected crimes across the district	Extended unplanned disruption to essential/significant community services and/or structures (non-Council owned or operated)	Complete breakdown of partnership / relationship with Maori or other significant cultural group	Royal commission of Inquiry in relation to breach of compliance by Council	Negative international media coverage	Loss of, or serious irreversible damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc)	Complete or long term loss of large area of built environment (i.e. loss of amenity)	>\$25M/yr	>\$250M/yr	100	
	Failure to deliver service for an extended period of time	Widespread severe illness throughout the district Significant reduction in life expectancy, permanent disability, or long term negative health effects of many people	Significant decrease in perception of safety across the district	Significant damage to multiple public properties Extremely negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district		Commissioner appointed	Sustained negative national media coverage Extremely poor districtwide perception of Council	Loss of, or significant irreversible damage to, an area of nationally significant natural / recreational / open space or productive land	Complete or long term loss a highly significant part of the built environment (i.e. loss of amenity) Universal dissatisfaction with the amenity of the built environment across the district		Significant long term negative impact on economy across the district		
Major	Failure to meet multiple significant performance measures	Multiple fatalities with reasonable defence	Increase in recorded crime rate trends for selected crimes across the district	Simultaneous unplanned disruption to numerous households or commercial premises or community services and/or structures (non-Council owned or operated)	Partnership / relationship with Maori or other significant cultural group significantly negatively affected	Ministerial Inquiry commissioned in relation to breach of compliance by Council	Negative international media coverage with reasonable defence	Long term serious damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc)	Significant damage to large area of built environment	>\$2.5M/yr to \$25M/yr	>\$25M/yr to \$250M/yr	70	
	Significant negative impact on delivery of service for an extended period of time	Single fatality	Significant increase in recorded crime rate trends for selected crimes within a local community	Significant damage to public property		Ministerial questions in parliament in relation to breach of compliance by Council	Sustained negative national media coverage with reasonable defence	Complete or long term loss of significant area of built environment (i.e. loss of amenity)			Significant negative impact on economy across the district		
	Failure to deliver service for a short period of time	Multiple severe illnesses spread throughout the district or widespread severe illness within a local community	Decrease in perception of safety across the district	Formal complaint by key stakeholder		Law suit resulting in imprisonment of Management &/or Council	Negative national media coverage	Loss of, or significant irreversible damage to, an area of regionally significant natural / recreational / open space or productive land	Long term serious damage to an asset of highly significant economic, cultural or heritage value				Significant long term negative impact on economy of local community
		Reduction in life expectancy, permanent disability, or long term negative health effects of many people	Significant decrease in perception of safety within a local community	Very negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district or extremely negative within any one local community		Heavy prosecution of Management &/or Council	Council is extremely poorly perceived by its peers	Significant degradation or damage to, an area of nationally significant recreational / open / natural space or productive land, or loss of a significant part of such land	Significant reduction in the level of satisfaction with the amenity of the built environment across the district				
Medium	Failure to meet significant performance measures	Single fatality with reasonable defence	Minor increase in recorded crime rate trends for selected crimes across the district	Simultaneous unplanned disruption to multiple households or commercial premises or community services and/or structures (non-Council owned or operated)	Partnership / relationship with Maori or other significant culturally identified group negatively affected	Ministerial questions or 3rd party investigation in relation to breach of compliance by Council	Negative national media coverage with reasonable defence	Medium to long term major but recoverable damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc)	Damage to large area of built environment	>\$250K/yr to \$2.5M/yr	>\$2.5M/yr to 25M/yr	40	
		Multiple serious injuries throughout the district					Negative regional media coverage		Significant damage to significant area of built environment (i.e. loss of amenity)		Negative impact on economy across the district		
	Negative impact on delivery of service for extended period of time	Severe illness or illness to multiple individuals throughout the district	Increase in recorded crime rate trends for selected crimes within a local community	Formal complaint by member of the public or ratepayer		Breach of Act, consent condition or regulation with strong legal rebuke	Sustained negative regional media coverage with reasonable defence	Loss of, or significant irreversible damage to, an area of locally significant natural / recreational / open space or productive land	Medium term serious damage to an asset of significant economic, cultural or heritage value				
		Significant negative impact on delivery of service for a short period of time	Multiple severe illnesses within a local community	Minor decrease in perception of safety across the district		Formal complaint by key stakeholder with reasonable defence	Council is very poorly perceived by its peers	Significant degradation or damage to, an area of regionally significant recreational / open / natural space or productive land, or loss of a significant part of such land	Reduction in the level of satisfaction with the amenity of the built environment across the district				Significant negative impact on economy of local community
			Reduction in life expectancy, permanent disability, or long term negative health effects of several people	Decrease in perception of safety within a local community		Negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district or very negative within any one local community			Breach of Act, regulation or consent condition with modest material effect.	Very poor perception of Council in a local community Poor districtwide perception of Council	Degradation or damage to, an area of nationally significant recreational / open / natural space or productive land or loss of part of such land		Significant reduction in the level of satisfaction with the amenity of the built environment within local community
Minor	Some negative impact on service delivery for an extended period of time	Multiple serious injuries with reasonable defence	Minor increase in recorded crime rate trends for selected crimes within a local community	Unplanned disruption to households or commercial premises or community services and/or structures (non-Council owned or operated)	Partnership / relationship with multiple hapu or other local cultural group negatively affected	Information request from the ombudsman in relation to breach of compliance by Council	Limited negative national media coverage	Limited medium term recoverable damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc)	Damage to significant area of built environment	>\$25K/yr to \$250K/yr	>\$250K/yr to \$2.5M/yr	10	
		Serious injury					Sustained negative local media coverage with reasonable defence		Significant damage to single building / infrastructure asset (i.e. loss of amenity)		Minor negative impact on economy across the district		
	Negative impact on delivery of service for a short period of time	Permanent disability with reasonable defence	Minor decrease in perception of safety within a local community	Community complaints		Breach of Act, consent condition or regulation with modest legal rebuke	Negative regional media coverage with reasonable defence	Degradation or damage to, an area of regionally significant recreational / open / natural space or productive land, or loss of part of such land	Short term serious damage to an asset of significant economic, cultural or heritage value				Negative impact on economy of local community
		Illness to several individuals throughout the district					Formal complaint by member of the public or ratepayer with reasonable defence		Negative local media coverage Council is poorly perceived by its peers	Minor reduction in the level of satisfaction with the amenity of the built environment across the district			
	Severe illness or illness to multiple individuals within a local community		Somewhat negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) across the district or negative within any one local community	Breach of Act, consent condition or regulation with minor material effect	Poor perception of Council in a local community Somewhat negative districtwide perception of Council		Reduction in the level of satisfaction with the amenity of the built environment within local community						
Negligible	Limited negative impact on delivery of service for extended period of time	Serious injury with reasonable defence		Unplanned disruption to single household, commercial premises or community service &/or structures (non-Council owned or operated)	Partnership / relationship with some hapu or other local cultural group negatively affected	Official information request in relation to breach of compliance by Council	Limited regional or local media coverage	Short term recoverable damage / degradation to an area of critical importance (e.g. unique flora, fauna, biodiversity, quality of life, visitor experience etc)	Damage to single building or infrastructure asset (i.e. loss of amenity)	<\$25K/yr	<\$250K/yr	1	
	Limited negative impact on delivery of service for a short period of time	Minor injuries throughout the district		Limited negative effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression) districtwide or somewhat negative within any one local community			Minor complaint		Negative local media coverage with reasonable defence	Short term minor damage to asset of significant economic, cultural or heritage value			Minor negative impact on economy of local community
			Illness to an individual				Technical breach of Act, consent condition or regulation but with little or no material effect or legal rebuke	Council is somewhat poorly perceived by its peers	Degradation or damage to, an area of locally significant recreational / open / natural space or productive land, or loss of part of such land	Minor reduction in the level of satisfaction with the amenity of the built environment within local community			

CONSEQUENCE TABLE - OPPORTUNITIES

Impact Description	SERVICE DELIVERY	SOCIAL / CULTURAL						ENVIRONMENT		ECONOMIC		Consequence Rating						
	Compliance with Key Performance Measures (KPIs)	Health & Wellbeing	Personal Safety & Security	Community	Cultural Partnerships	Compliance / Governance	Reputation / Perceptions of Council	Natural	Built	Direct Cost / Benefit	Indirect Cost / Benefit							
Negligible	Performance measures improved by 2% - within allocated budget and resources	Prevention of minor injuries		Nil response from community / stakeholders	Partnership / relationship with some hapu or other local cultural group positively affected	Change to consent conditions in favour of the activity	Limited regional media coverage	Short-term environmental enhancement, restoration or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc)	Improvement to, or protection of, single building or infrastructure asset (i.e. loss of amenity)	Less than \$25K benefit per year	Less than \$500K benefit per year	1						
		Prevention of illness to individual		Limited positive effects on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression)			Positive local media coverage						Negligible environmental enhancement to an area of nationally or regionally significant recreational / open / natural space or productive land or negligible addition to such land	Negligible improvement to amenity, or asset of significant economic, cultural or heritage value	Benefit Cost Ratio of 1:1			
							Ambivalent perception of Council in a local community											
							Ambivalent districtwide perception of Council											
Minor	Performance measures improved by 5% - within allocated budget and resources	Prevention of serious injuries	Minor decrease in recorded crime rate trends for selected crimes within a local community	Letter of support	Partnership / relationship with multiple hapu or other local cultural group positively affected	Consenting authority changes requirements in favour of the activity	Limited positive national media coverage	Minor environmental enhancement, restoration or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc)	Improvement to, or protection of, significant area of built environment	\$25K to \$250K benefit per year	Greater than \$500K benefit per year	10						
		Prevention of illness to several individuals		Some positive effects on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression)			Positive regional media coverage						Minor environmental enhancement to an area of nationally significant recreational / open / natural space or productive land or minor addition to such land	Minor improvement to amenity, critical asset / lifeline or asset of significant economic, cultural or heritage value	Benefit Cost Ratio of >1:1			
							Sustained positive local media coverage											
							Council is positively perceived by its peers											
							Positive perception of Council in a local community											
							Somewhat negative districtwide perception of Council											
Medium	Performance measures improved by 10% - within allocated budget and resources	Prevention of permanent disability	Minor decrease in recorded crime rate trends across the district	Submission in support of Council's RMA application or Local Authority consent	Partnership / relationship with Maori or other cultural group positively affected	Consenting authority permanently changes requirements in favour of future activities	Positive national media coverage	Moderate environmental enhancement, restoration or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc)	Improvement to, or protection of, large area of built environment	>\$250K to \$2.5M benefit per year	Greater than \$5M benefit per year	40						
		Prevention of severe illness or illness to multiple individuals		Decrease in recorded crime rate trends for selected crimes within a local community			Council seen as champions for the community						Moderate environmental enhancement to an area of nationally significant recreational / open / natural space or productive land or moderate significant addition to such land	Significant improvement to, or high level of protection of, significant area of built environment (i.e. loss of amenity)	Benefit Cost Ratio of 10:1			
		Some reduction in road toll trend		Minor increase in perception of safety across the district			Positive effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression)											
		Increase in life expectancy, prevention of permanent disability, or long term positive health effects to several people		Increase in perception of safety within a local community														
Major	Performance measures improved by 20% - within allocated budget and resources	Prevention of single fatality	Decrease in recorded crime rate trends for selected crimes across the district	Very positive effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression)	Partnership / relationship with Maori or other significant cultural group significantly positively affected	National change to the interpretation of the law in favour of future activities	Positive international media coverage	Major significant environmental enhancement, restoration, creation or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc)	Significant improvement to, or high level of protection of, large area of built environment	>\$2.5M to \$25M benefit per year	Greater than \$25M benefit per year	70						
		Prevention of multiple severe illness					Significant decrease in recorded crime rate trends for selected crimes within a local community						Significant increase in perception of safety within a local community	Major significant environmental enhancement or creation of an area of nationally significant recreational / open / natural space or productive land or significant addition to such land	Highly significant improvement to, or highest level of protection of, significant area of built environment (i.e. loss of amenity)			
		Reduction in road toll trend					Perception of safety increases across district									Very positive perception of Council	Major significant environmental enhancement or creation of an area of nationally significant recreational / open / natural space or productive land or significant addition to such land	Significant improvement to amenity, critical asset / lifeline or asset of significant economic, cultural or heritage value
		Increase in life expectancy, prevention of permanent disability, or long term positive health effects to many people					Significant increase in perception of safety within a local community									Council is extremely well perceived by its peers		
																Extremely positive perception of Council in a local community		
																Very positive districtwide perception of Council		
Extreme	Performance measures improved by 30% - within allocated budget and resources	Prevention of multiple fatalities	Significant decrease in recorded crime rate trends across the district	Extremely positive effect on social quality of life (i.e. cohesion, harmony, community spirit, free cultural expression)	Extremely positive improvement in partnership / relationship with Maori or other significant cultural group	Law change in favour of future activities	Sustained positive national media coverage	Extreme significant environmental enhancement, restoration, creation or protection of a widespread area or area of critical importance (flora, fauna, quality of life, visitor experience etc)	Highly significant improvement to, or highest level of protection of, large area of built environment (i.e. loss of amenity)	>\$25M benefit	Greater than \$250M benefit per year	100						
		Prevention of widespread severe illness					Significant increase in perception of safety across the district						Extreme significant environmental enhancement or creation of an area of nationally significant recreational / open / natural space or productive land or highly significant addition to such land	Highly significant improvement to amenity, critical asset / lifeline or asset of highly significant economic, cultural or heritage value				
		Significant reduction in road toll trend													Positive international media coverage	Significant increase in the level of satisfaction with the amenity of the built environment across the district		
		Significant increase in life expectancy, prevention of permanent disability, or long term positive health effects to many people													Extremely positive districtwide perception of Council			

Attachment D

Likelihood Scoring Table

LIKELIHOOD TABLE

	Consequence Description	Annual Probability	Frequency	Description	Rating
Threat	Almost Certain	50%-100%	Greater than every two years	The threat can be expected to occur or a very poor state of knowledge has been established on the threat	5
	Likely	20 - 50%	Once per 2-5 years	The threat will quite commonly occur or a poor state of knowledge has been established on the threat	4
	Possible	10 - 20%	Once per 5-10 years	The threat may occur occasionally or a moderate state of knowledge has been established on the threat	3
	Unlikely	2 - 10%	Once per 10-50 years	The threat could infrequently occur or a good state of knowledge has been established on the threat	2
	Very Unlikely	0-2%	Less than once per 50 years	The threat may occur in exceptional circumstances or a very good state of knowledge has been established on the threat	1
Opportunity	Very Unlikely	0%-25%		The opportunity is very unlikely to be realised or a very low degree of confidence in delivering the gains has been established for the opportunity	1
	Unlikely	25 - 50%		The opportunity is unlikely to be realised or a low degree of confidence in delivering the gains has been established for the opportunity	2
	Possible	50 - 75%		The opportunity will probably be realised or or a moderate degree of confidence in delivering the gains has been established for the opportunity	3
	Likely	75 - 90%		The opportunity is expected to be realised in most circumstances or a high degree of confidence in delivering the gains has been established for the opportunity	4
	Almost Certain	90%-100%		The opportunity is almost certain to be realised or a very high degree of confidence in delivering the gains has been established for the opportunity	5

Attachment E

Risk Matrix

RISK MATRIX							
		CONSEQUENCE					
		Negligible (+/-1)	Minor (+/-10)	Medium (+/-40)	Major (+/-70)	Extreme (+/-100)	
Threat	LIKELIHOOD	Almost Certain (5)	Low (5)	Moderate (50)	Very High (200)	Extreme (350)	Extreme (500)
		Likely (4)	Low (4)	Moderate (40)	Very High (160)	Very High (280)	Extreme (400)
		Possible (3)	Negligible (3)	Moderate (30)	High (120)	Very High (210)	Very High (300)
		Unlikely (2)	Negligible (2)	Low (20)	High (80)	High (140)	Very High (200)
		Very Unlikely (1)	Negligible (1)	Low (10)	Moderate (40)	High (70)	High (100)
Opportunity	LIKELIHOOD	Very Unlikely (1)	Negligible (-1)	Low (-10)	Moderate (-40)	High (-70)	High (-100)
		Unlikely (2)	Negligible (-2)	Low (-20)	High (-80)	High (-140)	Very High (-200)
		Possible (3)	Negligible (-3)	Moderate (-30)	High (-120)	Very High (-210)	Very High (-300)
		Likely (4)	Low (-4)	Moderate (-40)	Very High (-160)	Very High (-280)	Extreme (-400)
		Almost Certain (5)	Low (-5)	Moderate (-50)	Very High (-200)	Extreme (-350)	Extreme (-500)

RISK TREATMENTS		
Risk Level		Minimum Acceptable Treatment Strategy
Consider All		Avoid
>50 - 500	High, Very High, Extreme	Manage Actively
4 to 50	Low to Moderate	Manage Passively
1 to 3	Negligible	Accept
Note: In all cases the option of avoiding the threat should be considered first		

Attachment F

Risk Control Schedule

(Refer to Risk Register for relevant controls)

Attachment G

Assumptions Relating to Development of Plan

1. Introduction

In 2003, the Council carried out an exercise to try and quantify those risks which potentially have the greatest likely effect on its long-term financial planning.

The major risks were grouped into the areas shown in Table R.G.1.

Table R.G.1 Possible Future Risk Management Scenarios (from Previous Plan)

Major Risks	High Risk Allowance	Medium Risk Allowance	Low Risk Allowance
Changes in Land Use/Production Output	0.00%	2.00%	5.00%
Environmental Issues and Weather Effects on Roads/Production	-2.00%	0.00%	2.00%
Costs of Delaying Critical Works	2.00%	0.00%	-5.00%
Inflation	0.00%	1.50%	7.00%
Total Allowance pa	100.00%	103.50%	109.00%

To come up with total funding forecasts, allowances were made for each risk type, and these were combined to determine what total allowance for risk should be made to have a set level of comfort that the total funding allowance would not be exceeded. Thus, taking high risks effectively means that it is assumed that most risks will work out favourably, resulting in no overall allowance needing to be made.

Conversely, taking a low risk approach gives a high degree of confidence that over time, the predictions in the LTCCP will not be exceeded. It also commits Council to long-term funding levels which may be significantly higher than necessary.

The chosen risk scenario for this current plan is discussed in Section 1.5 of this Attachment.

The following looks at each group of risks in more detail.

1.1 Changes in Land Use / Production Output

As land uses change to those generating more heavy traffic (ie from pastoral farming to dairy, and forestry), or as production output increases due to better farming practices, environmental factors or irrigation, the deterioration of the roads increases. This increases the routine maintenance needs and rehabilitation needs of both sealed and gravel roads.

This could conceivably work the other way if the changes were towards practices generating a reduced need for heavy transport.

Another example is changing land use to more tourist development, or subdivision of coastal and lakeside properties. While these may not generate significant additional heavy vehicles, they can lead to an increase in the network that has to be maintained, and also to demand for a higher level of service, ie sealed roads leading to lifestyle blocks.

At the time of developing the Plan, Council was aware of projections from Fonterra of 100 dairy conversions per year for the next 3 years and projections of major increases in the number of kilometres travelled by the dairy tanker fleet over this time. (Refer Appendix H for more detail).

To put a 2.2 million kilometre per annum increase (each year for 3 years) in dairy tanker kilometres in to context, this equates to about 12% of all Heavy Commercial Vehicle (HCV) kilometres on the Southland District Council network or 24% of the 5 to 8 axial HCV kilometres on the Southland District Council network. While these figures need to reduce to allow for the portion of the increase which is not on Southland District Council roads, this is balanced to a degree by the additional heavy traffic generated during farm conversions and associated with extra inputs into dairy farms.

Added to this is the substantial increase in logging projected as well.

Balancing these increased projections are the affects of the global credit crunch, with its affect on lending and investment and reducing demand and returns for milk products which is partly offset by a sinking New Zealand dollar.

1.2 Environmental Issues and Weather Effects

Environmental effects, such as prolonged wet weather (water logged pavements are weaker and subject to faster damage) or severe frosts (cause frost / thaw damage) can have a significant effect of road deterioration and maintenance needs. Prolonged dry weather is beneficial for sealed pavements, but causes dust issues and unravelling of gravel surfaces on unsealed roads. As mentioned above, environmental effects also influence production, affecting heavy vehicle use of roads.

1.3 Costs of Delaying Critical Works

This risk factor allows for the effects of bringing forward or delaying critical works. A good example is resealing of roads. With tight budgets, it is necessary to try to get as much life out of an existing seal as possible, to derive the best value from the maintenance dollar. If this is pushed too far, there is a risk that a road will crack too much, allowing water into the pavement, leading to failure of the road and the need to carry out expensive remedial works, or possibly even a full pavement rehabilitation. At worst, this could mean that in trying to put off spending \$30,000 on a kilometre of reseal by a year or two, that the District ends up spending \$170,000 instead, to rehabilitate that kilometre.

This risk always needs to be balanced. Based on the above costs, if one road in 50 is left too long prior to a reseal and ends up needing rehabilitation, then the savings on the delayed expenditure on the other 49 are lost.

1.4 Inflation / Cost Change Effects

In all long-term planning there needs to be recognition that long-term financial plans are in terms of costs at a fixed point in time. Roading costs can increase (or possibly reduce) at a far greater rate than the level of general inflation, due to various factors, including:

- a) Local contractor dynamics (contractors leaving or entering the market).
- b) National contracting issues (changes to material prices or higher cost of staff due to strong competition for roading staff).

- c) International factors such as changes to exchange rates, bitumen prices.

From a national contracting point of view, the substantial increase in available Central Government funding for roading projects has put a strain on the contracting industry, which nationally has led to significantly higher construction costs.

While a slow down in the economy may see some pull back in cost increases, the prospect of a government with a policy to borrow to boost infrastructure spending to overcome the worst effects of recession may have the reverse effect.

The volatility of the bitumen and fuel prices and the New Zealand dollar against the US dollar (which is used to pay for both) can lead to major changes in the costs of carrying out roading work. As an example, the New Zealand wide cost escalation on reseal contract rates over the past three years has seen a total increase of 46% (June 2005 to June 2008). Over the same period maintenance and construction costs have increased 22%, and bridging work 26%. These figures show why the use of the BERL figures in the last plan (which projected less than 10% over the 3 year period) has led to significant strain on the roading budget.

Currently projecting forward BERL are predicting the following figures for transportation:

Table R.G.2 BERL Roothing Projections

Financial Year	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
% Annual Increase	5.7	4.9	3.8	5.0	3.3	2.9	2.9	2.4	2.3	2.2	2.3	2.4	2.4	2.2

BERL do note that their figures are very broad in that they try to cover the roading related work that all Councils throughout New Zealand are involved in including construction, maintenance and public transport. They also admit that there is a significant difference between the figures they produce and those produced by LTNZ (now NZTA).

It is interesting to note that even the "actual" historic figures produced by BERL of a combined 15% increase between June 05 and June 08 are significantly lower than the actual increases for maintenance, construction, resealing and bridging (22% to 46%) mentioned above.

Given the above and trying to allow for the global financial crisis underway at the time of assembling this plan, which should dampen the demand for oil and reduce the cost of bitumen, but may also drop the value of the New Zealand dollar against the US dollar, it was recommended to adopt the BERL figures but increase them by 50%, apart from 2008/09 which should be left at 5%.

This would produce an annual percentage increase as in Table R.G.3.

Table R.G.3 Adopted Roothing Cost Increases

Financial Year	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
% Annual Increase	5.0	5.0	4.3	4.3	3.6	3.5	3.3	3.5	3.6	3.6	3.3

While using the modified BERL figures was seen as a sensible approach by many, it was felt that Audit NZ may not accept this. Therefore the original BERL figures will be used initially (with the exception for reseals) with the option of changing the projected programmes each year to better reflect the actual cost fluctuations. Due to the rapid decline in bitumen prices as the Plan has been formulated, it was decided to use a 0% increase between 1 July 2008 and 1 July 2009 to reflect the current situation.

In March 2009, the budget cost allowances were reviewed given the rapid changes occurring in costs due to the global financial crisis. As a result of this review and in an effort to keep the rates increases to a minimum, it was decided to use the latest available cost adjustment figures which indicated reducing costs and assume that these would be applied from 1 July 2009. These adjustments resulted in reducing maintenance costs by 2% from what was originally allowed and lowering reseal costs by 10%.

Apart from cost changes, another significant effect on what Council can afford to do is the degree of financial assistance received from NZTA. At the time of writing the original asset management plan, it was recognised that it was possible that the Financial Assistance Rate (FAR) from Transfund (now NZTA) may drop due to the formula used which equated total district land values with overall roading expenditure (as values of land went up relative to the rest of New Zealand, the FAR would come down). It was decided not to allow for this in the financial projections, as Council did not want to signal in any way to Transfund (now NZTA) that it would find this situation acceptable. LTNZ have been looking at modifying FAR's for some time but this has been put on hold with the changeover to NZTA.

NZTA have committed to leaving the FAR at the existing rate while they carry out a total review of the FAR system, including consultation. The end result of this could be an increase or decrease in FAR for Southland District Council after the initial period. This is impossible to predict at this stage (especially given the new Government's GPS) so this Plan is based on retention of the base FAR of 54% through the term of the Plan.

1.5 The Chosen Balance of Assumptions

For this 2009 Plan one scenario has been chosen by Council's staff and consultants which reflects the best available knowledge and engineering judgement currently available, balancing up all of the risks and assumptions outlined above and detailed in the various sections of this Plan. In comparison to Table R.C.1 the allowances made in this Plan can be summarised as follows:

- The effect of changes in land use/production output and economic growth will be a 5% pa growth in heavy vehicle use of the roads.
- Environmental issues and weather effects will balance out over the long term resulting in no cost increases.
- Critical works will be carried out at an appropriate time to avoid more costly long term repairs.
- Inflation has been allowed for based on original BERL figures noted in 1.4. (with the exception of reseals as noted). No allowance has been made for a one off increase if an Emissions Trading Scheme (ETS) is introduced. The inflation figure for the year shown has been applied from the start of the year.

The scenarios have not been applied as a blanket multiplier as they were in the 2003 Plan. Each aspect is applied individually at the appropriate part of the Plan. The inflation allowance is only added as a final amount to the totals in Appendix M. The heavy traffic allowance is taken into consideration in formulating the size of maintenance and rehabilitation programmes.

One of the biggest risks with the assumptions, which could lead to higher budgeting needs, is with changes in land use which has the potential long term to produce far more damage to the roads than allowed for. Because of its long term nature it can be reviewed and allowed for with each update of the Activity Management Plan.

The other major risk is the affect of inflation on road construction and maintenance. This can vary quite significantly on a year on year basis, due to the issues noted in 1.4, and is therefore more difficult to allow for.

This was put forward to Council to apply its collective political judgement in considering the risks and requirements associated with Land Transport, alongside all other activities covered by the LTCCP. The budget figures included in the Plan are a result of the decisions made by Council.

Ultimately, if the chosen scenario and associated funding proves to be insufficient, alternative sources of funding would have to be found (reserves, loans, Central Government sources, rates), or the relevant levels of service will need to be reduced (i.e. reduce the size of the maintained network, accept more posted bridges, allow sealed roads to revert to gravel, maintain and construct roads at a narrower width, reduce maintenance and safety aspects of the network, etc).