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EXECUTIVE SUMMARY

This Activity Management Plan (AMP) identifies how the Transport Activities are to be managed. The Plan provides greater detail for the implementation of the Regional Land Transport Strategy (RLTS) for Nelson City and is also used to support funding applications to Land Transport New Zealand.

Transport infrastructure accounts for 55% of the total Nelson City Council infrastructural assets, with total replacement value of \$60 million.

Introduction

The Plan addresses the following assets and activities:

- Roads (Sections 2.3 and 5.3)
- Structures and road reserve (Sections 2.4 and 5.4)
- Footpaths and walkways (Sections 2.5 and 5.5)
- Cycleways (Sections 2.6 and 5.6)
- Passenger Transport (Sections 2.7 and 5.7)
- Total Mobility (Section 2.7)
- Road reserve open spaces (Section 2.8)
- Network control (Sections 2.9 and 5.8)
- Safety (Sections 2.10 and 5.8)
- Parking and parking enforcement (Sections 2.11 and 5.10)
- Demand management (Section 2.12)

The Plan does not cover the state highway roading infrastructure (addressed by the Regional Transport Authority and the NZTA), but does cover activities which use the state highway, such as Passenger Transport.

This AMP proposes a number of fundamental changes to the way Transport Infrastructure is managed to address the Community Outcomes, and the RLTS. These are identified in the table below.

The AMP was written prior to the revision of the Government Policy Statement.

Key Transport Management Changes

Activity	Change
Roads	An immediate review of the upgrade methodology has started with some upgrades being modified to improve pedestrian safety and reduce traffic speeds.
Pedestrian Network	Delete previous level of service of having a footpath in every street by 2015 and replace with specified project list and adopt 2008 Implementation Plan (refer 2.5).

Activity	Change
Cycle Network	Revised 2008 Implementation Plan (refer Appendix 6).
Car Parks	Develop parking strategy for CBD and Inner Fringe in conjunction with Central City Enhancement Strategy.
Travel Demand Management	Adopt RLTS TDM Plan.

Sustainable Development

The Council, in partnership with the community and tangata whenua, recognises its responsibility of stewardship for the environment of Nelson, for the City's current and future prosperity and for the health and well being of its people. The Council recognises that sustainability is a local, regional, national and global responsibility.

Council seeks to strengthen its previous efforts in the area of sustainability through the Sustainability Policy (June 2008) and Nelson City Council's Communities for Climate Protection Programme – Local Action Plan (September 2008) initiatives.

The Regional Land Transport Strategy supports this view. Its vision is:

“A sustainable transport future for Nelson.”

Its mission is:

“To have a land transport system that meets the needs of current and future generations in ways that are environmentally, socially and economically sustainable.”

It expands on this principal by stating:

“Managing the demand for travel and changing to more efficient means of transport with lesser environmental impact and greater social cohesion is required.”

“A range of approaches is needed, starting with improving the efficiency of existing infrastructure, along with parallel initiatives to influence the mobility choices people make, and only then considering further capacity improvements on a selected basis.”

A more sustainable approach would recognise the need to provide safe alternative choices that reduce people's dependence on non-renewable resources, while recognising that use of the private motor vehicle will continue to predominate for some time.”

The RLTS supports these principles by proposing a number of actions. Those most significant being:

- Improvement in local road streetscape design.
- Implementation of the Walking Strategy Implementation Plan 2008.
- Implementation of the Cycling Strategy Implementation Plan 2008.

- Consideration of land use controls that minimise adverse environmental impacts.

At a more operational level this AMP identifies the following additional sustainable issues:

- Sealing extension programme for unsealed roads (Section 5.3.5).
- Use of recycled glass in roads (Section 5.3.5).
- Treatment of stormwater run-off from roads (Section 5.3.5).
- Walkway lighting programme (Section 5.5.4).
- Cycleway lighting programme (Section 5.6.4).
- Vandalism costs (Section 5.8.3).
- Cycleway marking (Section 5.8.3).
- Streetlighting (Section 5.9.3).
- Central City Strategy network modifications to improve CBD pedestrian and cycle movement (Table 6.4).

Levels of Service

To avoid repetition and confusion, the targets identified in the RLTS are not repeated in this document. The RLTS targets are high level and will be reported to the Regional Transport Committee annually.

The table below identifies the level of service for each activity and also identifies the overarching AMP Transport target for customer satisfaction.

Activity	Level of Service	Performance Monitoring
Customer Satisfaction	To achieve a 75% customer satisfaction rating for the Transport Assets and Services by 2014. To implement all the activities scheduled in the RLTS.	Annual Council telephone survey Annual RLTS report
Roads	Develop local road upgrade design methodology by June 2009. Roads to achieve NZTA roughness standard.	AMP annual report RAMM road roughness ratings
Structure on Road Reserve	No injury accidents are attributable to bridge, footbridge retaining wall or embankment failure or deficiencies.	Annual assessment of NZTA road safety reports

Activity	Level of Service	Performance Monitoring
Pedestrian Network	<p>To maintain all existing footpaths with a trip free, sound surface which does not hold water.</p> <p>To construct footpath upgrades as detailed in Table 6.4 (it acknowledged that some urban streets will not have footpaths by 2015 under this programme).</p> <p>To implement all the Pedestrian Strategy 2005 actions, incorporating the revisions of the Implementation Plan 2008.</p> <p>To ensure all combined cycleways and walkways are a minimum 3m wide.</p>	Annual report on Pedestrian Strategy Implementation Plan 2008
Cycle Network	To implement the Cycle Strategy Implementation Plan 2008.	Annual report on Cycle Strategy Implementation Plan 2008
Passenger Transport and Total Mobility	<p>To implement all the Passenger Transport Plan actions identified in the RLTS (Appendix A).</p> <p>Continue the provision of Total Mobility Service and continue to provide a total mobility co-ordinator for our region.</p>	Annual report on PT Plan
Road Reserve	<p>Sight distances are not restricted by vegetation growth, trees or structures.</p> <p>Adjoining land owners maintain their legal road frontage to prevent danger and inconvenience to pedestrians, cyclists and vehicle drivers, otherwise Council will need to intervene.</p> <p>Council's assets will be kept clear of vegetation and debris through regular maintenance.</p>	The total number of incidences of sight distance restrictions, secondary enforcement of private road frontage and vegetation and debris complaints is below 50 annually

Activity	Level of Service	Performance Monitoring
Network Control and Management	<p>All major route destinations are clearly sign posted.</p> <p>All traffic light deficiencies recommended in the 2005 report to be completed by 2009.</p>	<p>Traffic light audits carried out every seven years with the next one due in 2010/11</p> <p>The number of deficiencies identified by the independent audit</p> <p>Pavement markings, all signs, raised reflectorised pavement markers (RRPM's) are independently audited on the network bi-annually (once day, once night) and deficiencies rectified within 6 months</p>
Safety	<p>Continue to deliver a road safety education programme.</p> <p>Consider the personal safety of pedestrian and cyclists through the application of CPTED (Crime Prevention Through Environmental Design) principles in the Central City Enhancement Study.</p>	<p>To review and report on the technical effectiveness and direction of the SMS in August each year as part of the annual infrastructural assets report</p> <p>Assets annual report on SMS</p> <p>Assets annual report on delivery of road safety education programme</p> <p>Public perception of good personal safety within the CBD at night is included in the tri-annual customer satisfaction survey</p>
Car Parking	To ensure parking meters are fully operational 95% of the time.	Annual parking meter fault time data

Activity	Level of Service	Performance Monitoring
TDM	To implement the Travel Demand Management Strategy.	To report on the Travel Demand Management Strategy in the RLTS annual report and the Assets annual infrastructure report

Future Demand

Traffic counts in Nelson show that traffic growth has levelled off, or is in decline since 2004/05, although heavy vehicle growth on the state highway to and from Port Nelson is increasing.

Travel time data, via the City's two main arterial routes, Waimea and Rocks Road, indicate that while some congestion is occurring in the peak hours, there is no indication over the last seven years that it is getting significantly worse, despite the City's continued population growth.

Future travel demand is influenced by population growth, demographic change, household vehicle ownership, fuel and parking prices, and vehicle occupancy rates, to name but a few.

The Regional Land Transport Strategy aims to maximise the efficiency of the transport system with minimal expenditure through the provision of passenger transport, travel demand management and other measures that will encourage the community to shift to more sustainable ways of moving around the City.

Financial

A summary of existing and proposed expenditure is shown below:

Expenditure (\$M)	09/10	10/11	11/12
O & M	7.8	8.4	8.3
Capital	3.9	8.7	9.8

Conclusion

The community have signalled their growing dissatisfaction with Transport since 2001. The conclusion of the Regional Land Transport Strategy signals a new approach to transport management in Nelson. This plan provides low level detail to that strategy, while continuing with the roading upgrade programme identified in previous LTCCPs and strategies using a proposed new methodology.

1 INTRODUCTION

1.1 Background

1.1.1 Purpose

The purpose of this Activity Management Plan (AMP) is to:

- identify how Transport activities are to be managed
- explain how Nelson City Council will provide the required level of service in an efficient and effective manner

This is the third edition of the Transport Activity Management Plan (previously titled the Rooding Asset Management Plan) and is based on the International Infrastructure Asset Management Manual (2006). The first Rooding Asset Management Plan was completed in June 1999. Asset Management Plans should be reviewed every three years to align with the Long Term Council Community Plan (LTCCP).

1.1.2 Activity Management Plan approval process

This Activity Management Plan approval process involved:

- Input/review by the Council's policy forum (internal multi-departmental staff committee)
- Review by Senior Executive Technical Services
- Review by Council Chief Executive
- Workshopped by Council, and used to develop Community Plan
- Approved by Council

No direct public consultation has been undertaken on the levels of service in this plan. It is Council practice not to consult on Activity Management Plan levels of service directly as this is undertaken through the Community Plan process where the financial outcomes, key performance measures and major capital projects are presented for public comment and submissions.

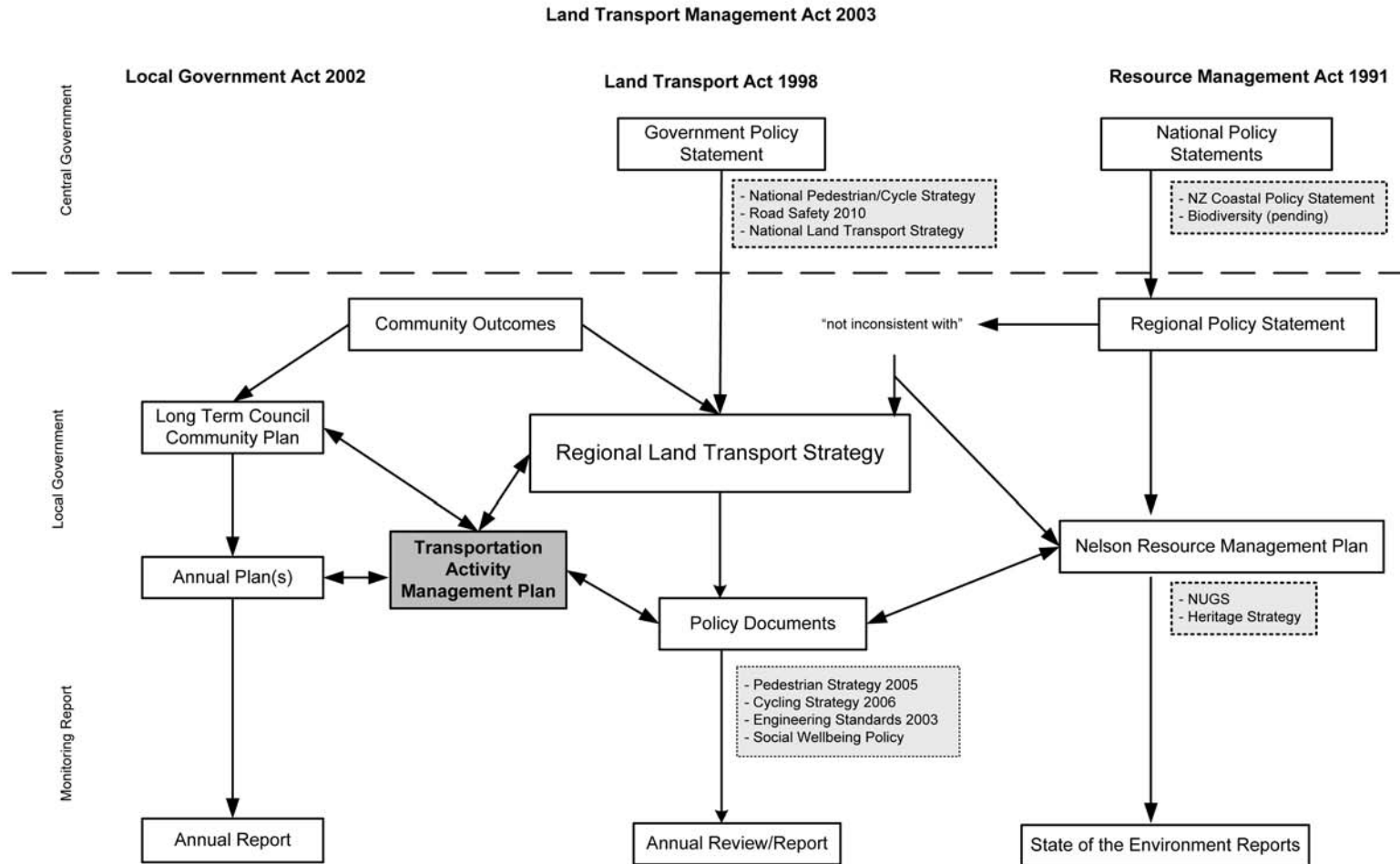
Furthermore, each individual transport project follows a consultation process with directly affected residents. This provides an opportunity for the residents to propose changes to the design standards that are set through the levels of service in this plan.

1.1.3 Relationship with other documents

The AMP is a key component to assist the Council in implementing the Regional Land Transport Strategy's (RLTS) vision, mission, objectives and policies as it provides the basis for the preparation of Council's Community Plan, Regional Land Transport Programme and Annual Plans and provides a mechanism for it to measure its performance.

Figure 1.1 identifies the AMP's relationship to other national and local planning documents.

Figure 1.1 Activity Management Plan's relationship to other planning documents



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In adopting the RLTS, Council has considered the Community Outcomes, the Nelson Resource Management Policy Statement (RPS), the National Land Transport Strategy, the requirements of the Land Transport Amendment Act 2008 and the Government Policy Statement (GPS).

1.1.4 Key stake holders

The plan acknowledges the following key stake holders:

External

- The community of Nelson city, including Tangata Whenua comprising six Iwi
- Regional Transport Committee
- Ministry of Transport and NZ Transport Agency

Key user groups

- Automobile Association, Road Safety Nelson Bays Incorporated, Bicycle Nelson Bays, Residents Association, Heavy Haulage Association, Walk Nelson Tasman, Active Transport Forum, Total Mobility Committee, Nelson Tasman Regional Economic Development Agency, Sustainable Transport Futures, Nelson Tasman Chamber of Commerce, Port Nelson Ltd, NELSUST Inc, Road Transport Forum NZ, Ministry of Education, Nelson Tasman Tourism, Nelson Heritage Advisory Group, Nelson Forests Ltd, SBL Group Ltd, Friends of Nelson Haven
- Contractors and consultants
- Police, Fire, emergency services and ACC
- Nelson Marlborough District Health Board
- Tasman District Council
- Marlborough District Council
- Nelson Safer Community Council

Internal

- Councillors
- Council staff

1.1.5 Infrastructural Assets included in this Plan

Roads within the Nelson region are either state highways, local roads or private roads. There is clear policy on ownership of the roading network. Nelson City Council's policies on ownership are:

- Stormwater Asset Ownership Policy for Legal Road
- Walkway and Footbridge Ownership Policy
- Transit New Zealand / Council Asset Ownership Policy and Maintenance Agreement 2003
- State Highway maintenance boundaries and responsibilities agreement
- Private Road Inventory
- Street Lights Policy (sets rules for private street lights)
- Private Structures on Legal Road

Note: All these policies are held in the Roding Policies Document.

The Transport activity comprises the following components.

Roads

Nelson City has 233km of sealed road and 16km of unsealed road under its control as at July 2006. Roads also include:

- Drainage: Kerb and channel, sumps, water tables, rural road culverts and urban road drainage systems to the stormwater mains.
- Lighting: The street lantern poles and associated fittings. This includes pedestrian crossing lights, cabling and control boxes to power source, but excludes power poles that have lights attached to them.
- Traffic facilities: Traffic signals, signs, road markings, guard rails, sight rails, edge markers, and street furniture, etc.

Structures

Bridges, vehicle fords, footbridges that are on or connecting legal road, retaining walls and sea walls installed to protect roading assets.

Footpaths/Walkways

Walkways on formed or unformed legal road or road reserve. These include footpaths that are either on, adjacent to or connecting formed roads and footpaths adjacent to state highways.

Cycleways

On road cycle lanes and formed off-road cycleways

Passenger Transport/Total Mobility

Council provides a passenger transport and total mobility (disabled person) transport service to the community to reduce traffic congestion and provide transport options to disadvantaged residents, and increase travel choices.

Road Reserve Open Space

Street trees and street gardens within formed legal road.

Road Safety Education

To actively reduce road crashes and educate the community on road safety through a road safety programme.

Parking and Enforcement

All Council owned car parks. This asset group includes all facilities within each car park including drainage, lighting, car park surfacing, trees and kerb and channel.

All parking meters on the roading network or in Council car parks.

Council enforces its parking restrictions through parking enforcement wardens. This involves issuing parking tickets and infringements to ensure compliance.

Demand Management

Council implements demand management procedures (e.g. parking fees, carpooling system) to reduce peak hour congestion and encourage modal shift to more sustainable forms of transport. Three main objectives are identified in the Travel Demand Management Strategy, these are:

- maximise the efficiency of the transport system
- improve the health and well-being of users
- support environmental sustainability

1.1.6 Transport Critical Assets

There are certain transport assets that are critical to the safe and efficient function of Nelson City and the consequence of failure is unacceptably high. These critical assets should be managed using advanced asset management techniques.

The transport critical assets are detailed in Appendix 1 and summarised below:

- Arterial and lifeline road pavements
- Arterial and lifeline bridges
- Arterial and lifeline retaining walls

These critical assets will be considered as a separate group in the lifecycle section of the next activity management plan.

1.2 Goals and Objectives of Transport Activity Management

1.2.1 Justification of Road Asset Ownership

There is no statutory provision requiring the Council to undertake any works in relation to roads within its district, however the following legislation is relevant:

- Section 316 LGA 1974 provides that the property in all roads vests in fee simple in the Council. (State Highways excepted)
- Section 317 LGA 1974 provides that all roads within the district are under the control of the Council. (State Highways excepted)
- Section 319 LGA 1974 provides the powers for the Council to carry out works on roads, or create new roads etc.

1.2.2 Links to Community Outcomes

Table 1.1 identifies how transport activities contribute to the relevant Community Outcomes.

Table 1.1 Links to Community Outcomes

Outcomes	How the activity contributes
Healthy land, sea, air and water <i>We protect the natural environment.</i>	Through providing a range of transport systems that minimise the impact on the environment.
People-friendly places <i>We build healthy, accessible and attractive places and live in a sustainable region.</i>	Through taking into account the impact on public spaces when providing transport infrastructure.
A strong economy <i>We all benefit from a sustainable, innovative and diversified economy.</i>	Through providing an effective and efficient transport system that meets the needs of residents and businesses.
Kind, healthy people <i>We are part of a welcoming, safe, inclusive and healthy community.</i>	Through providing a safe transport network that provides for traffic, cyclists and pedestrians.

1.2.3 Links to Regional Land Transport Strategy Vision, Mission, Goals and Objectives

Council's transport vision from the 2009 Regional Land Transport Strategy is:

“A sustainable transport future for Nelson”

And the Transport mission is:

“To have a land transport system which is safe, efficient, integrated and responsive, and that meets the needs of current and future generations in ways that are environmentally, socially and economically sustainable.”

Objectives from the Regional Land Transport Strategy:

- Environmental Sustainability: a transport system that supports international, national and regional strategies for energy efficiency and climate change, and protects natural systems and community values
- Assist Economic Development: a transport system that supports national and regional development
- Safety and Personal Security: a transport system that reduces road trauma and contributes to a sense of individual and community safety and security
- Access and Mobility: a transport system that is effective, integrated and physically and financially accessible by all users
- Public Health: a transport system that contributes to improved health and well-being
- Affordability: a regional transport programme that is affordable for the Nelson community and users

Targets from the 2009 Regional Land Transport Strategy:

Table 1.2 Economic development targets

Target ED1	Reduce average peak hour travel delays by 10% by 2018 from values recorded in 2008
Target ED2	Increase share of weekday journey to work trips by public transport to at least 10% by 2018
Target ED3	Increase number of vehicles with more than one occupant in the peak period across the Waimea Rd / Rocks Rd screenline to at least 10% by 2018

Table 1.3 Safety & personal security targets

Target S1	Reduce the total number of reported injury casualties by at least 20% by 2018 compared to 2008
Target S2	Reduce the number of injury pedestrian and cyclist casualties by 20% by at least 2018 compared to 2008
Target S3	Assess perceptions of personal safety and security in the NCC annual survey

Table 1.4 Accessibility & mobility targets

Target AM1	80% of households are within 400 metres of a bus route by 2012
Target AM2	Develop programme for specific studies into the barriers to walking and cycling by 2010, initially focussing on the heavily trafficked arterial and principal roads
Target AM3	Develop local road upgrade design methodology to improve streetscapes, by 2010

Table 1.5 Public health targets

Target PH1	Increase share of weekday journey to work trips undertaken by walking and cycling to at least 25% by 2018
Target PH2	Reduce emissions to air from the transport sector by 2018 from values recorded in 2006

Table 1.6 Environmental Sustainability Targets

Target ES1	Reduce Nelson's greenhouse gas emissions from the Transport sector 2001 levels by at least 40% in 2020
Target ES2	Every land use change application will be reviewed to determine its consistency with the targets in this strategy. This target provides direction to the Resource Management Plan where more specific targets can be expected.
Target ES3	All subdivisions and developments to include provision for walking, cycling and provision to public transport

Table 1.7 Affordability

Target A1	A 75% customer satisfaction rating for value for money in the Transport sector is achieved by 2014, as assessed by the NCC annual survey
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1.2.4 Links to NZ Transport Agency funding agreement

Nelson City Council has a formal agreement with the NZ Transport Agency, the government funding agency for Transport. This sets out actions and maintenance standards for Council in return for funding.

These are:

- NCC uses the Community Plan process as a substitute for a separate Land Transport Programme (LTP) process provided that all of the LTP requirements are met.
- NCC needs to carry out approved activities in a manner that ensures the optimum and most economic outcome.
- NCC need to participate fully in the Road Safety Action Plan (RSAP) process, to lead development of RSAP's for its area, and ensure that engineering activities are consistent with RSAP's, including the State Highway Network Safety Co-ordination activities.
- NCC should implement a Safety Management System (SMS) and participate fully in Crash Reduction studies.
- NCC prepare and maintain good practice walking and cycling strategies and implement the initiatives.
- Improve the safety and sustainability of trips to and from schools.
- NCC takes an active role in planning, programming and management of community focused programmes.
- NCC has to maintain a database for the local road network, use an approved system for treatment selection and undertakes periodic monitoring and review of asset condition, service levels and asset intervention strategies.
- NCC needs to actively support the integration of land use and planning through, for instance, planning urban developments around public transport services and infrastructure, developing strategies to manage the movement of people and goods more efficiently and effectively thereby making the most of existing infrastructure, and the introducing of transport demand management interventions where appropriate.

1.2.5 Transport Management changes resulting from the Regional Land Transport Strategy

This AMP proposes a number of fundamental changes to the way Transport Infrastructure is managed to address the Community Outcomes, RLTS and the Government Policy Statement on Transport. These are identified in the Table 1.8.

Table 1.8 Transport Management Changes

Activity	Change
RLTS	The 2009 strategy provides the overarching direction for transport
Roads	An review of the upgrade methodology has started with some upgrades being modified to improve pedestrian safety and reduce traffic speeds
Pedestrian Network	Delete previous LOS of having a footpath in every street by 2015 and replace with specified project list and adopt the 2009 Implementation Plan (refer 2.5)

Activity	Change
Cycle Network	Adopt the 2009 Implementation Plan (refer Appendix 6)
Passenger Transport	Adopt Passenger Transport Network Plan
Road Safety	Commence implementation of SMS
Car Parks	Assist in modifying parking strategy for CBD and Inner Fringe in conjunction with Central City Enhancement Strategy & associated plan changes
Travel Demand Management	Adopt RLTS TDM Plan

1.2.6 Transport Management changes as a result of Council’s Sustainability Policy

As a result of Council’s Sustainability Policy additional sections on “Sustainability Issues” relating to each transport sub-activity are included in the Lifecycle section of this AMP

1.3 Plan Framework

This Plan has been prepared in accordance with the International Infrastructure Management Manual 2006 (IIM). This Activity Management Plan structure has been set out following the recommendation on appendix A.1 of the IIM.

1.4 Core and Advanced Asset Management

1.4.1 Level of Asset Management

The consideration of the appropriate level of asset management is important. Council’s Infrastructural Assets Department held a workshop in January 2006 to consider appropriate asset management standards.

A summary of the outcome of this analysis is shown in Table 1., identifying the current asset management standard, the target standard and the action required to bring the standard up to the desired level.

Table 1.9 Transport Activity Management Practice

Asset Management Attribute		Current Activity Management Practice	Desired Activity Management Practice	Gap	Action required	Action Completed
Description of Asset		A	A	No	Define critical assets	Yes
Levels of Service		C	C (No customer charter)	No	LTCCP consultation on level of service considered acceptable	Yes
Managing Growth		C	A	Yes	Detail sensitivity analysis in Activity Management Plan	No
Risk Management		A	A	No	n/a	
Life Cycle Management	Critical Assets	C	A	Yes	Apply advanced modelling and condition assessment	No
	Other assets	C	C	No	n/a	
Financial		A/C	A	Yes	Sensitivity Analysis	No
Planning (Assumptions & Confidence)		A/C	A/C	No		
Improvement Plan		A/C	A	Yes	Activity Management Plan to outline progress made on previous Plan and identify ways to improve	Yes
Planning by Qualified Person		A	A	No	n/a	
Commitment by Organisations to Achieving Asset Management Outcomes		A	A	No	n/a	

Key:

A = Advanced Activity Management Practices

C = Core Activity Management Practices

1.4.2 Activity Management Plans and Council's Organisational Structure

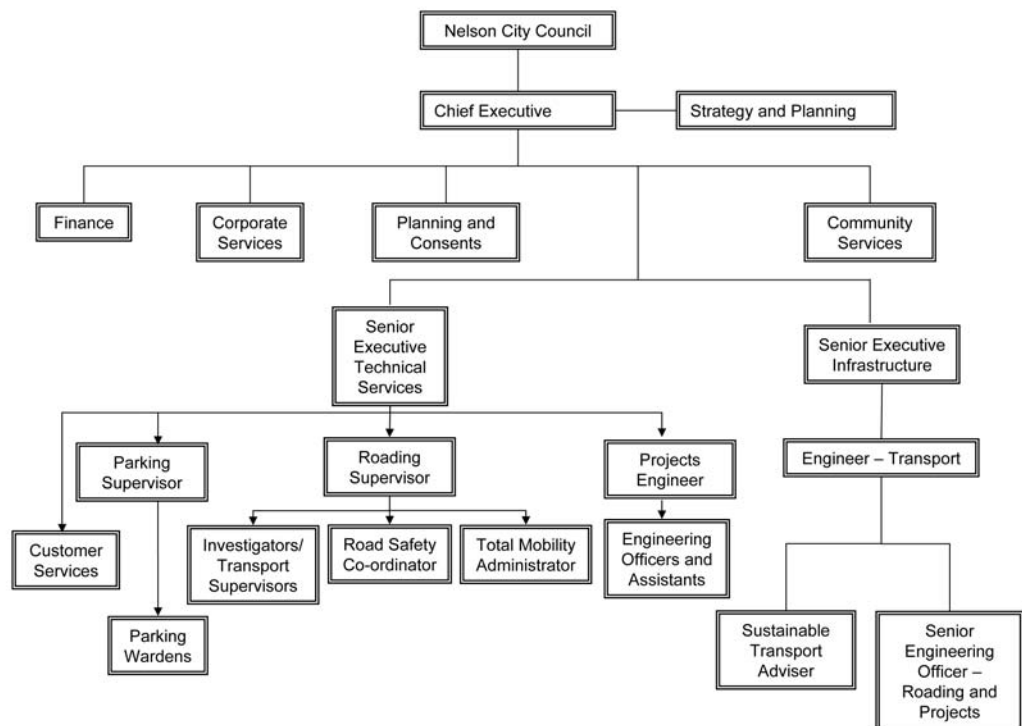
The Nelson City Council has five infrastructural asset groups that it owns and manages. The five asset groups are:

- Transport
- Water Supply
- Wastewater
- Stormwater
- Solid Waste

Each asset group has a specific Asset or Activity Management Plan.

The Asset Engineers, who prepare and implement the Asset & Activity Management Plans, are part of the Infrastructural Assets Department which in turn is part of the Infrastructure Division of Nelson City.

Figure 1.2 Transport Activity Management Plan Structure



2 LEVELS OF SERVICE

2.1 Background

This section on levels of service (LOS) is a key part of any Activity Management Plan. The levels of service determine the amount of resources that are required to maintain, renew and upgrade Transport infrastructure and services in order to provide the community with the levels of service specified by Council.

The targets identified in the RLTS are not repeated in this LOS section to avoid repetition and confusion, although some of the more detailed performance measures and actions required to meet the RLTS targets are identified.

The levels of service are expressed under the following categories:

- Customer Satisfaction
- Rooding Infrastructure
- Structures on Road Reserve
- Pedestrian Network
- Cycle Network
- Passenger Transport and Total Mobility
- Road Reserve Open Spaces
- Network Control and Management
- Safety Engineering, Education and Enforcement
- Car parks
- Travel Demand Management
- Customer Response

Each component level of service section provides a brief background, establishes the level of service, sets performance measures to monitor the level of service and identifies any actions necessary to achieve the level of service.

2.1.1 Customer Research and Expectations

Council undertakes an annual telephone survey of residents. Infrastructural assets are now surveyed each year which helps establish the relative priorities among the significant activity areas of Council.

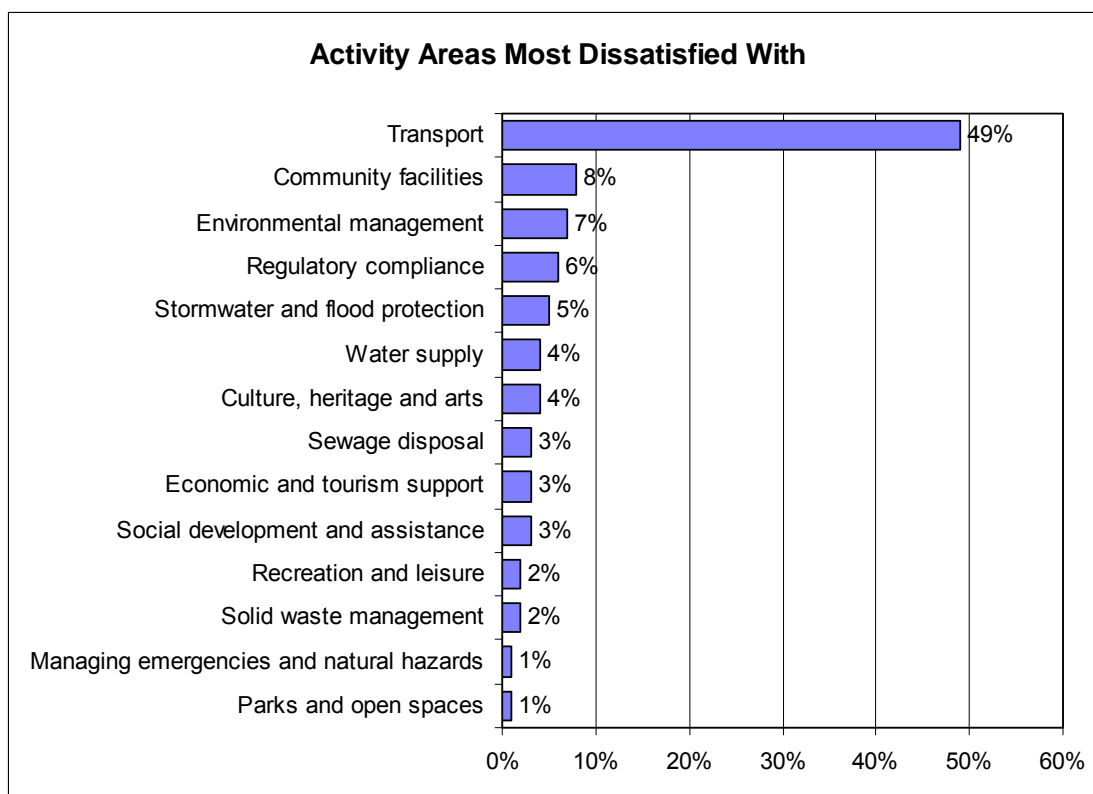
The 2007 survey executive summary identified the following points relating to Transport:

- This research identifies Transport as the top priority for improvement amongst Council's 14 key activity areas. It is in the top five most important activity areas (along with water supply, sewage disposal, emergency management and waste management). Over the past three years satisfaction with this area has fallen significantly. More than half of residents are dissatisfied with the performance in this area, and about half rate it as the area they are most dissatisfied with.
- There are some common themes causing this dissatisfaction
 - Public Transport – many residents want a better, cheaper and more frequent service. They believe that people should be encouraged to use public transport

- Congestion – some residents believe that encouraging the use of public transport and improvements in roading (e.g. need to address southern corridor) will help relieve congestion. There is a view that better long term planning is required
- Car parks – Many (about 50% of residents) are dissatisfied with this area, in particular they believe there is insufficient parking in the City and that parking is too expensive
- Some see improved air quality as a common goal across transport and Environmental management.
- A desire for more services was a common theme across the different components of transport and was evident as an issue for public transport, car parking, footpaths, walkways and street lighting. Maintenance is also an issue, particularly for footpaths.

The extent of this dissatisfaction is evident in Figure 2.1.

Figure 2.1 Activity Areas Most Dissatisfied With



An overview of the findings identified:

- The trend of increasing dissatisfaction with Transport evident in 2004 has further developed, with a significant increase to more than half being dissatisfied in 2007.
- This increase appears to be driven by a considerable increase in the dissatisfaction with
 - Public Transport
 - Roads

As can be seen in Figure 2.2 and Figure 2.3.

The 2003 Roding AMP specified that where customer satisfaction dropped below 65% a review of the levels of service would be initiated. Figure 2.4 shows the levels of public satisfaction with Roding since 1998.

Figure 2.2 Satisfaction Levels for Transport Activities

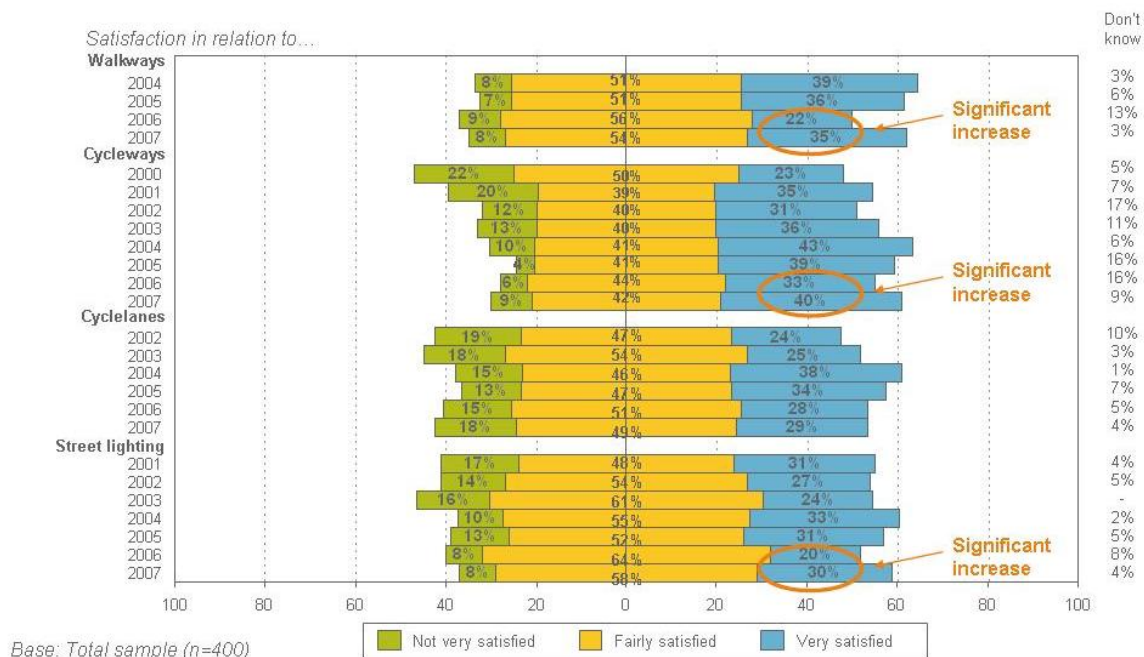


Figure 2.3 Dissatisfaction Levels for Roads and Public Transport

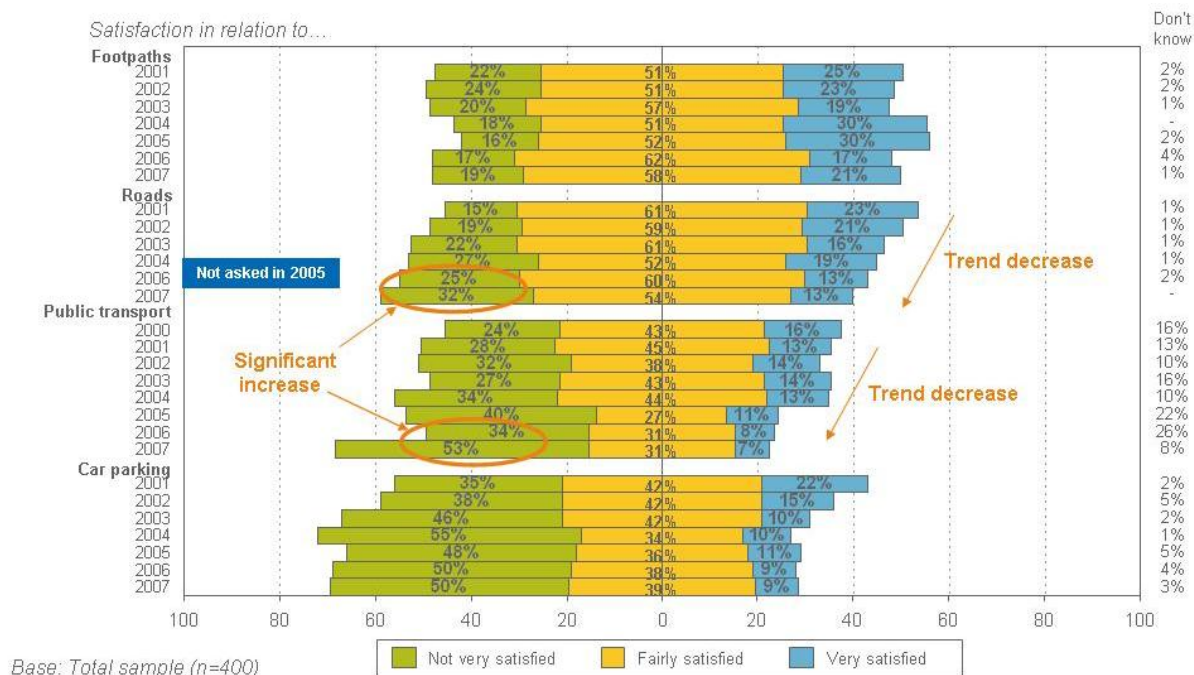
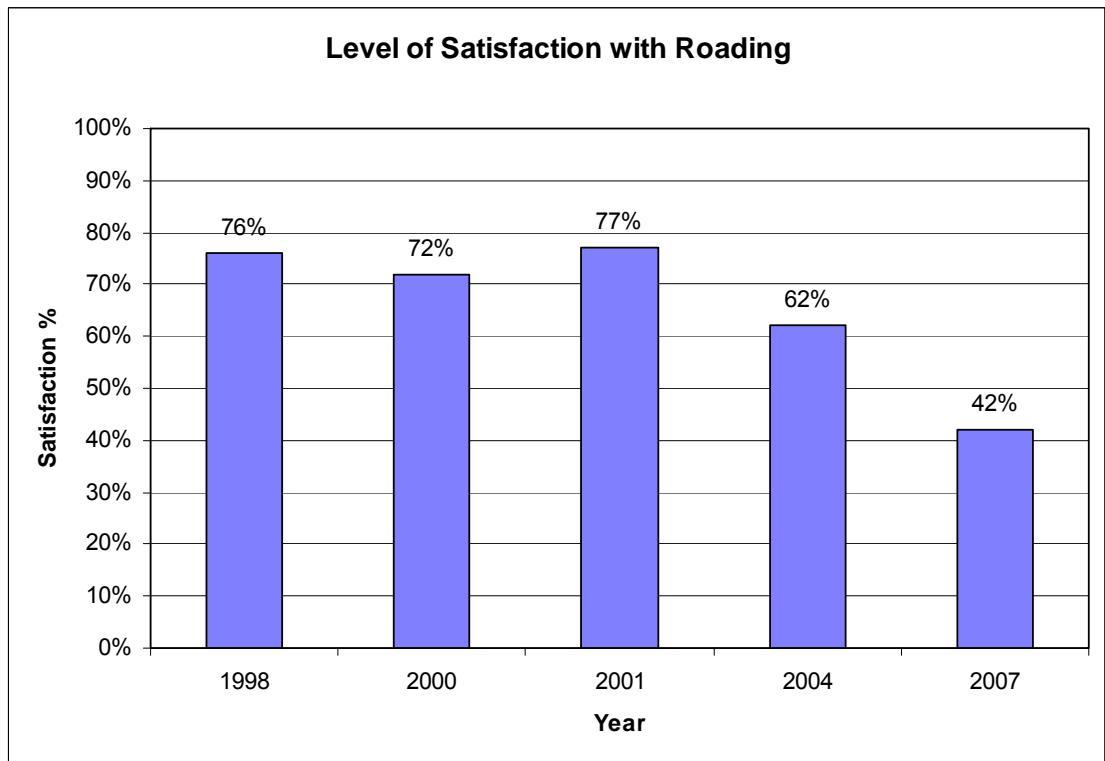


Figure 2.4 Levels of Satisfaction with Roding



In light of the evident dissatisfaction with roading this Transport AMP has revised the levels of service and incorporates the direction of the RLTS as identified in Section 1.2.5.

2.1.2 Statutory and Legislative Requirements

2.1.2 Statutory and Legislative Obligations

The current statutory legislation and guidelines, which influence levels of service, are set out in Table 2.1.

Table 2.1 Current Statutory and Legislative Requirements

	Legislative Requirement/Guideline
Statutes: National statutory/legislative documents	Resource Management Act Health Act Health and Safety in Employment Act Local Government Act 2002 Telecommunications Act and Electricity Act Transit New Zealand Act and Amendment Act Land Transport Management Act (2008) Government Policy Statement Traffic Regulations Act (2003) Civil Defence and Emergency Management Act 2003
National policy documents	New Zealand Transport Strategy (2002) NZ Walking and cycling strategy – “Getting there on foot, by cycle” NZ Road Safety Strategy to 2010 NZ Urban Design Protocol National Energy Efficiency and Conservation Strategy The National Land Transport programme New Zealand Transport Agency Policy & Procedures Manual New Zealand Transport Agency Competitive Pricing Procedures Manual NZTA Planning Programming and Funding Manual 2008 New Zealand Transport Agency Manual of Traffic Signs and Markings
District and regional plans	Nelson Regional Policy Statement (RPS) Nelson Resource Management Plan Nelson Air Quality Plan The Regional Land Transport Strategy Nelson Tasman Regional Economic Development Strategy Nelson Tasman Regional Pest Management Strategy Iwi Management Plan
Bylaws:	All relevant Nelson City Council Bylaws

2.1.2 Discretionary Standards or Documents

Nelson specific documents which influence levels of service for Transport Activities are:

- Council Community Plan
- Sustainability Policy
- Safety Management System for roads (SMS)

- Passenger Transport Network Plan
- Travel Demand Management Plan
- 2005 Pedestrian Strategy – “Stepping out”
- 2006 Cycle Strategy – “Pedalling along”
- Engineering Standards – 2003
- Road Safety Action Plans (RSAP’s)
- Nelson Urban Growth Strategy (NUGS) 2006
- Inner City Enhancement Study
- Communities for Climate Change Protection Programme Action Plan
- Physical Activity Plan
- Social Wellbeing Policy
- Biodiversity Strategy
- Draft Nelson South Structure Plan
- Tahunanui Structure Plan
- Guidelines/Standards
 - New Zealand Transport Agency Standards and Guidelines Manual
 - NZS 4404:1981 Code of Practice for Urban Land Subdivision
 - NZS 6701: 1993 Code of Practice for Street Lighting & AS/ NZS 1158:1997
 - Transit NZ Geometric Guidelines
 - Transit NZ Specifications
 - Austroads Design Standards and Guidelines
 - Nelson City Council Signs Policy
 - Nelson City Council Structures on Legal Road Policy
- Agreements
 - New Zealand Transport Agency Service Level Agreement for Maintenance of Nelson Transport Network
 - State Highway Maintenance Boundaries and responsibilities Agreement

2.2 Customer Satisfaction

2.2.1 Background

The overall direction for the development of the land transport system in Nelson is identified in the Regional Land Transport Strategy. The RLTS sets the high level vision, mission, objectives, principles, issues, targets, policies, activities and monitoring indicators.

The customer satisfaction survey assesses the overall high level performance of the land transport system in relation to other council activities. The customer satisfaction survey is therefore a good Level of Service indicator.

In 2007 42% of public were satisfied with the performance of the Transport assets and services.

2.2.2 Level of Service for Customer Satisfaction

- To achieve an 75% customer satisfaction rating for value for money in the Transport sector by 2014.
- To implement all the activities scheduled in the RLTS

2.2.3 Performance measurement and monitoring

- Report on annual telephone customer satisfaction survey in annual report
- Report annually on the RLTS targets
- Record travel time data between Haven Rd/Halifax roundabout and Annesbrook roundabout six times a year between the time of 7.30 and 9.30 in the am peak and 4.30 and 6.00 in the pm peak, and between 10.00am and 2.00pm in the interpeak and twice a year between Nelson City and Richmond.
- Record am and pm peak vehicle occupancy rates across the Rocks Rd screenline bi-annually
- Incorporate public transport monitoring requirements (e.g. number of passengers/route, service delays, etc.) into service provider contract
- Continue to record traffic/cycle and pedestrian count data across the Nelson network and record traffic data in RAMM

2.2.4 Actions required

- Submit RLTS annual report to RTC and Infrastructure Committee by October each year

2.3 Road Infrastructure

2.3.1 Background

Recently local road upgrades have been driven by the footpath level of service of one footpath in every street by 2015 and by the stormwater pipe installations. When a footpath or stormwater pipe is installed the opportunity is taken to construct the road to the Engineering Standard, i.e.

- provide on street parking, install kerb, channel and drainage, install cycle lanes, grassed berms, retaining walls, re-grade driveways, upgrade the street lighting and underground overhead cables.
- Provide 2 x 2.75m lanes with no parking lines (on steep hillsides), (5.5m carriageway)
- Provide 2 x 2.5m lanes and 1 x 2m parking lane where feasible (7m carriageway)
- Provide 2 x 3 - 3.5m lanes with no parking lines near intersections, on bends, (6 - 7m carriageway)
- Provide 2 x 2.5m lanes and 2 x 2m parking lanes on flatter grades (9m carriageway)

Many of the flatter terrain roads have had their footpaths installed; those outstanding are mainly in the Wood area where the upgrade programme is linked with the stormwater upgrade programme, and on hillier terrains.

On the hillier terrains the cost of these upgrades is more expensive as larger retaining walls and more driveway modifications are required. Local road upgrades on the flat generally cost in the region of \$1,000 to \$1,500/m. Hillside upgrades like the recently completed Stansell Ave cost around \$3,000/m and more complicated upgrades like Locking St are estimated at around \$4,500/m

The dramatic change on the local environment these upgrades impose, while seen by some as beneficial in terms of traffic, cycling and pedestrian safety and ease of parking, is seen by others as detrimental to the social cohesion and natural character of the street through increased vehicle speeds, increased traffic volumes, wider road widths, and the exchange of vegetation for retaining walls, leading to an overall reduction in safety.

Quality drainage systems are an integral part of providing good quality roads. Generally Nelson's urban roads have good drainage systems with kerbs and channels, sumps, laterals and stormwater systems installed as the roads have been upgraded. Those roads yet to be upgraded tend to have poor drainage control which reduces the life of the road carriageway and can potentially contribute to downstream flooding. The roading review team has been established to consider in greater depth roading designs with a view to constructing roads to a lesser width than that identified in the Engineering Standards to improve pedestrian safety and reduce traffic speeds.

2.3.2 Level of Service for roading infrastructure

- A roading review team is established to address the remaining footpath upgrades and generally all significant road upgrades with a view to improving pedestrian and cycle safety and reducing traffic speeds in line with the principles and actions identified in the international charter for walking (www.walk21.com) while acknowledging that on-street parking and cycle lanes

will become a lesser priority. All projects designed from June 2008 will incorporate this philosophy.

- Road maintenance is budgeted to achieve the NZ Transport Agency road roughness standards as shown in Table 2.2.

Table 2.2 Road Type and Roughness Standards

Road type	Maximum average road roughness (NAASRA)
Arterial / principle	90-100
Collector	110
Local	120-140
Rural sealed	110-140
Rural unsealed	150-180

- The annual re-seals budget is reviewed every three years to ensure that the re-seals backlog does not increase (refer Figure 5.5)

2.3.3 Performance Measurement and monitoring

- RAMM road roughness and rating data gathered through surveys over 100% of the network every 2 years and reported on in Infrastructure Annual reports

2.3.4 Actions required

- Continue the operation of a roading review team
- Commission Gabities Porter model update
- Assess re-seals budget in light of RAMM treatment selection output in 2010/11.

2.4 Structures on Road Reserve

2.4.1 Background

Council's bridges, footbridges and retaining walls have been the subject of recent studies which have recommended a comprehensive maintenance, upgrade and monitoring regime. This programme has commenced and it is proposed that it continue.

Council currently maintains roads with steep batter slopes through reactive maintenance. It is considered that this is the most economical method of management for the rural roads such as the Maitai Valley Rd, Lud Valley Rd, Teal Valley Rd, Kokorua Rd and within the 50km/hr zone of Cable Bay Rd and other urban roads built on steep batters where there aren't already retaining walls supporting the road. Increased intensity rainfall events, increased vehicle traffic loadings and increased demand for improved pedestrian and cycle access suggests that this method of management may need to be reviewed in the future.

Structures on road reserve include privately owned garages, car pads and decks, car ports, road driveways and retaining walls. While these structures are privately owned Council as landowner has a liability for these structures in regard to safety but does not maintain, renew or upgrade these structures.

Council has a "Road Occupation Policy" which permits certain existing structures to remain. The policy does not permit any new structures to be built on road reserve. This policy required reviewing by 31 May 2008.

It is apparent that there are new structures which are being constructed on road reserve which are not covered by the Road Occupation Policy. These are generally retaining walls associated with driveway access which are not required to be constructed to Engineering Standards and in some instances do not have Building Consent approval, encroach on the carriageway and exaggerate road drainage and safety issues for Council. It is proposed that the road occupation policy review incorporate these structures to reduce Council's future liability.

2.4.2 Level of service for Structures on road reserve

- No injury accidents are attributable to bridge, footbridge retaining wall or embankment failure or deficiencies.

2.4.3 Performance measures and monitoring

- Assessment of NZTA road safety reports in the annual infrastructure report

2.4.4 Action required

- Implement the maintenance programme and maintenance inspections recommended in the Connell Wagner bridge inspections report.
- Implement the maintenance and upgrade programme and maintenance inspections recommended in the Tonkin and Taylor retaining wall report.
- Commission an options report to address roads at risk from batter slope failure with a view to improving the level of service of these roads where feasible and reducing long term maintenance costs through upgrades, programmed preventative maintenance or monitoring.

- Review the Road Occupation Policy by June 2010 and broaden scope to incorporate other structures.

2.5 Pedestrian Network

2.5.1 Background

Nelson City has 276km of sealed footpath and 12.5km of walkways with a combined replacement valuation of \$21.8 million.

The local road upgrade programme has historically been driven by footpath and stormwater projects. This is discussed in greater detail in Section 2.3.1. Appendix 2 shows:

- a plan of the streets that do not have a footpath
- a 2009 upgrade plan that shows those projects scheduled for upgrades

Appendix 3 shows footpath upgrades that have not been scheduled in the current capital programme. These upgrades have been prioritised to assist future planning and are funded after 2015/16.

The Walkway Lighting programme (Appendix 4), at current levels of expenditure, is scheduled for completion around 2035. The cost of walkway lighting installations is high due to the necessity of installing underground cables in normally steep, narrow terrain. New technology solar lights are starting to appear on the market. As their quality improves and their price reduces their viability increases. It is suggested that this programme is reviewed to determine if the upgrades should be restricted to flatter wider walkways, those which provide significant shortcuts for which there are no safe roading alternatives.

The Pedestrian Strategy vision is:

“Increase walking in Nelson”

The strategic framework for pedestrian initiatives is set out in Nelson’s Pedestrian Strategy 2005. The goals, initiatives, actions, progress to date and the 2009 Implementation Plan are set out in Table 2.3, Table 2.4, Table 2.5 and Table 2.6.

Table 2.3 Develop a linked Network

Goal	DEVELOP A LINKED NETWORK		
Initiatives	Develop a walkway network for Nelson City which supplements the on-street footpaths and provide more efficient walkway connections through a walkway upgrade and construction programme		
	Eliminate the current 23km backlog of urban streets without footpaths within 10 years by construction of new footpaths		Delete this initiative
	Council seeks to provide rural pedestrian facilities where possible at time of rural road upgrade and new subdivisions		
	Action in Strategy	Progress to Date	2009 Implementation Plan
	Identify the missing links in the walkway network by Dec 2006	None.	Extend completion date to June 2013

Goal	DEVELOP A LINKED NETWORK	
Action in Strategy	Progress to Date	2009 Implementation Plan
Review the walkway network lighting and signage by June 2007	Refer Appendix 4 for walkway lighting programme. No signage review carried out	Review walkway lighting programme by June 2010 Extend completion date for signage review to June 2010
Include prioritised walkway forward work programme (including rural areas) for missing link walkways in next AMP	Refer programme in Table 2.7	Refer action to date (June 2009)
Include prioritised forward work programme for signage and lighting in next AMP	Refer Appendix 4 for walkway lighting programme. No signage programme completed	Review lighting programme by June 2010 in terms of sustainability and CPTED issues. Extend completion date for signage review to June 2010
Initiate plan changes in 2007 to require new subdivisions to have a walking plan which includes walking connections where appropriate	None	Environmental Policy Department action
Continue policy of providing one footpath on every residential street		Change policy and second initiative above, so that specific projects are identified
Construct 2.3km of footpath annually	Footpath installations falling behind target	Remove target and replace with specific projects
Prioritise footpaths that provide for commuter pedestrians and areas of social deprivation	Refer Appendix 3 for prioritised footpath programme (Note: footpaths programmed for construction before 2015/16 are excluded from this Appendix as they are already prioritised in the Community Plan.	Re-prioritise footpath programme so that commuter pedestrians and areas of social deprivation which are 22 minutes walk (2km) from schools, shops and community facilities are ranked higher, by June 2011
Extend rural walkway network by 5km by 2020 as part of new subdivisions and seal extension programme where possible and economically affordable	New subdivision rural walkways not measured. Council's seal extension programme postponed to not commence till at least 2016/17	Remove target as not in Council's control

Table 2.4 Provide a Safe Pedestrian Network

Goal	PROVIDE A SAFE PEDESTRIAN NETWORK		
Initiatives	To ensure pedestrian safety at intersections is improved in residential and retail areas through crash reduction studies and safety audits of projects		
	To ensure major walking routes to Nelson schools are safe through minor safety improvements and continued safer journey to school studies		
	To encourage regionally consistent standards for footpaths and walkways are applied		
	To encourage regionally consistent standards for tactile paving and limited mobility user facilities		
Action in Strategy	Progress to Date	2009 Implementation Plan	
Continue biannual crash reduction studies and consider pedestrian safety as part of each study	None. Crash reduction studies scheduled for 2008/09 and then 3 yearly	Study in 2008/09, 2011/12, 2014/15, 2017/18	
Carry out design safety audits on roading projects exceeding \$100k	None. \$30k budgeted in 2008/09	Continue	
Identify and improve the top five pedestrian crash sites by 2010	None	Consider inclusion of pedestrian crash sites in 3-yearly crash reduction studies. Improvements dependent on minor improvement budget allocation.	
Complete safe routes to schools programme for all primary and intermediate schools by 2010	Five schools have had safer route study completed since 2005.	All secondary, intermediate and primary schools on arterial routes to have travel plans by 2012, with the remainder completed by 2016.	
Identified safe journey to school issues to be actioned through the minor safety programme by 2010	Implementation subject to minor improvement budget allocation.	Implementation subject to minor improvement budget allocation.	
Continue to encourage walking school buses	Combined Nelson City Council/TDC Education co-ordinator employed	Continue	
Consider school pedestrian safety and crossing improvements a priority in minor safety forward work programme	Implementation subject to minor improvement budget allocation	Continue	

Goal	PROVIDE A SAFE PEDESTRIAN NETWORK	
Action in Strategy	Progress to Date	2009 Implementation Plan
Council will consider widening footpaths on major school routes where identified through surveys and safe journey to school programme	None	Delete as this action already allowed for when safe journey to school issues identified and programmed
Council will work towards a consistent standard for footpaths and walkways both regionally and internally	None	Delete target, footpath standard specified in Engineering Standards
Council will create an Engineering Standard that addresses the needs of the over 65, incorporating a standard for tactile pavers, mobility scooters and wheelchairs by December 2006	None	Extend completion date to June 2011

Table 2.5 Provide a User Friendly Network

Goal	PROVIDE A USER FRIENDLY NETWORK		
Initiatives	To improve the personal safety of walkways and footpaths through a CPTED design approach and upgraded walkway lighting		
	To minimise the extent of tripping hazards on footpaths through regular maintenance		
	To ensure the footpaths in the inner city are well lit as part of a CBD lighting upgrade		
Actions	Progress to Date	2009 Implementation Plan	
Personal security surveys of the walkway network will be carried out by Dec 2006	None	\$20k budgeted in 10/11. Extend completion date to June 2011	
Prioritise and implement findings of survey	None	Review findings by Dec 2011	
All central city and walkway projects to have a CPTED audit	Limited to CBD projects, \$10k budgeted in 2009/10	Continue	
Prioritise walkway upgrades considering safety.	Refer programme in Table 2.7	Refer Action to Date (Jan 2009)	
Prioritise walkway lighting upgrades which have a high night time use	Refer Appendix 4 for walkway lighting programme.	Review by June 2010	
Complete a central city safer walkway project and an inner city safety project	Safer Routes project completed and partially implemented	Completed	
Identify footpath maintenance problems through annual inspections and complaints	Ongoing	Ongoing	
Rectify urgent problems within four weeks and non-urgent work within 12 months	Ongoing	Ongoing	
Carry out CBD lighting upgrade by June 2006	Completed	Completed	

Table 2.6 Recognise Walking as an important Physical Activity

Goal	TO RECOGNISE WALKING AS AN IMPORTANT PHYSICAL ACTIVITY		
Initiatives	To increase recreational walking in Nelson through promotion and infrastructural development		
Actions	Progress to date	Recommendations	
Form a partnership with SPARC to promote walking in Nelson	Community services division has developed partnership	Completed	
Community services division to establish promotion strategy for physical activity including walking by April 2006	Completed	Completed	
Install seats and provide mobility impaired access for elderly and disabled along walkways	Limited, \$20k budgeted in 2008/09	Ongoing	

Contained within the Pedestrian Strategy is a footpath and walkway forward construction programme. This is identified in Table 2.7 with the action, or proposed action, identified.

Table 2.7 Footpath and Walkway Forward Construction Programme

ROAD	2006/07	2007/08	2008/09	2009/10	2010/11	ACTION TO DATE
Brook St	xxx					Completed 06/07
Stansell Ave	xxx					Completed 07/08
Tosswill Rd		xxx				Completed 07/08
Locking St	xxx					Programmed for 10/11
Saxton Rd West	xxx					Completed 06/07
St Vincent St / Jenner Rd		xxx				Programmed for 10/11
Campbell St	xxx					Completed 08/09
Marsden Valley Rd		xxx				Programmed for 09/10
Airlie St		xxx				Programmed for 11/12
Lower Nayland Rd		xxx				Programmed for 09/10
The Ridgeway Connection		xxx				Programmed for 08/09
Dodson Valley Rd			xxx			Completed 06/07
Mn Rd Stoke extension to Saxton Field			xxx			Programmed for 08/09
Stanley Crescent				xxx		Programmed for 12/13
Montreal Rd					xxx	Programmed for 14/15
Emano St					xxx	Programmed for 13/14

Table 2.7 Continued

WALKWAY	2006/07	2007/08	2008/09	2009/10	2010/11	ACTION TO DATE (JUNE 09)
Tamaki St to Princess Dr	xxx					Completed 06/07
Brunner St to Waimea Rd	xxx					Completed 08/09
Douglas Rd to Observatory Hill		xxx				Dependent on subdivision
Observatory Hill to Emano St			xxx			Dependent on subdivision
Stanley Crescent to Washington Rd				xxx		Dependent on subdivision
Marsden Valley Rd to The Ridgeway					xxx	Dependent on subdivision
Will Watch Way	Not in Pedestrian Strategy					Programmed for 2010/11

2.5.2 Level of Service for pedestrian network

- To maintain all existing footpaths with a trip free, sound surface which does not hold water.
- To construct footpath upgrades as detailed in Table 6.4.
- To incorporate the 2009 Implementation Plan as part of the 2005 Pedestrian Strategy.
- To ensure all combined cycleways and walkways are a minimum 3m wide.

2.5.3 Performance measures and monitoring

- To review and report on the Pedestrian Strategy 2005, incorporating the 2009 Implementation Plan identified in Tables 2.3, 2.4, 2.5 and 2.6, in the Regional Land Transport Strategy annual report and the annual infrastructural assets report.

2.5.4 Actions required

- As identified in Table 2.3, Table 2.4, Table 2.5 and Table 2.6, and referenced in Section 5.5.

2.6 Cycle Network

2.6.1 Background

The cycleways asset group includes off-road paths which may be used by cyclists. Nelson has 15.8km of off-road cycle paths.

The Cycle Strategy Vision is:

“Cycling becomes a safe, convenient and commonplace way of getting around”

The strategic framework for the cycleway network is set out in the Nelson Cycle Strategy 2006. The outcomes and targets are set out in Table 2.8.

Table 2.8 Nelson Cycleway Strategy Outcomes and Targets

Outcomes	A culture that acknowledges cycling as part of everyday life, where people support cycling and see it as a safe transport choice
	A safe, convenient and continuous cycle route network linking all parts of the City, incorporating best practice design and engineering standards
Targets	An increase in cycling's proportion of journey to work from 7.1% in the 2001 Census, to at least 10% in the 2011 Census
	Increase numbers cycling to school city-wide, and for individual schools to promote exercise and reduce traffic congestion
	An increase in leisure cycling
	At least a 10% increase in cycle use levels, shown in the proposed 2011/12 comprehensive cycle use survey compared to the proposed 2007/08 survey
	At least a 10% decrease in crashes and incidents, compared to cycle use, between 2007/08 and 2011/12, based on CAS system and 0800 CYCLECRASH analysis, by education and awareness
	Public satisfaction in the safety and experience of cycling in Nelson above the 80% level as measured in the annual residents satisfaction survey, between 2006/07 and 2011/12
	90% of implementation activities included in each year's Cycling Programme implemented by 31 December following the end of the respective financial year measured both by numbers of activities and total budget

The Cycle Strategy identifies a number of actions and provides a programme with budgets. A number of actions have not been implemented due to the following reasons:

- i. No budget or staff resources to implement actions
- ii. Uncertainty over outcome of Nelson to Brightwater Corridor Study
- iii. The requirement that a number of projects should only proceed if NZTA funding approved. NZTA have advised that Nelson has “done well” out of cycle funding in the past and wishes to see an overall long-term comprehensive “package” application submitted before further cycle funding approvals. This package application has been delayed due to (ii) above.

Appendix 6 provides a 2009 Implementation Plan which aligns with the Regional Land Transport Strategy, and provides a realistic programme of works, taking into account resource limitations.

2.6.2 Level of Service for cycleways

- To implement all the Cycle Strategy 2009 Implementation Plan, incorporating the budgeting and scheduling in Appendix 6.

2.6.3 Performance Measures

- To review and report on the Cycle Strategy 2006, incorporating the 2009 Implementation Plan identified above, in the Regional Land Transport Strategy Annual report and the annual infrastructural assets report.

2.6.4 Action Plan

- As identified in Appendix 6
- Prepare and submit a cycle package funding application to NZTA following RLTS adoption by Council

2.7 Passenger Transport Network and Total Mobility

2.7.1 Background

Nelson City has one subsidised public transport service on its network (excluding Ministry of Education funded services).

Suburban Buses Limited (SBL) is a private company and receives no Council or NZTA subsidies for its services between Nelson and Richmond.

Nelson City runs a community bus service titled “The Bus” that carries approximately 44,500 passengers annually. This service is designed to meet the needs of the transport disadvantaged. The contract includes the “Late Late Bus” service.

Public dissatisfaction with the current public transport service is 40%, which is unacceptably high. Council has developed a Passenger Transport Network Plan for the Regional Land Transport Strategy. This Plan provides the strategic background necessary to implement improved services.

The Passenger Transport Plan identifies levels of service and performance measures. These are shown in Table 2.9 below.

Table 2.9 Core Passenger Transport Targets

Key Outcomes	Targets	Target Reference
Increased peak period passenger transport modal share	Increase share of weekday journey to work trips by public transport to at least 10% by 2018.	RLTS Target ED2
Increased accessibility to passenger transport	80% of households are within 400 metres (5 minutes walk) of a bus route by 2012.	RLTS Target AM1
Reliability	99% of all timetabled bus journeys are operated by 2014.	PTNP Target 1
Punctuality	95% of all timetabled bus journeys operate no earlier than 1 minute before and no later than 5 minutes after departure times as published in timetables by 2014.	PTNP Target 2
Sustainability	Total exhaust emissions of the bus fleet are lower in 2014 compared to 2008 notwithstanding the service frequency is proposed to increase by over 200% in bus kilometres operated.	PTNP Target 3
Convenience	All express and secondary bus services operate at least every 30 minutes (Monday to Saturday daytime) by 2014.	PTNP Target 4

Key Outcomes	Targets	Target Reference
Simplicity	Bus timetable information is easy to use and is widely available through multiple channels by 2014	PTNP Target 5
User Friendliness	All bus drivers attend a customer service and disability awareness training course by 2014.	PTNP Target 6
Affordability	At least 33% of bus network costs are supported by the fare-box by 2018.	PTNP Target 7

Nelson City operates a Total Mobility Service, which provides a subsidised taxi service to those members of the community who are unable to use a public bus service or require the constant assistance of another person.

Nelson has a Joint Regional Total Mobility Committee, which governs the Total Mobility Service and employs a total mobility co-ordinator, who administers the service.

2.7.2 Level of Service for Passenger Transport & Total Mobility

- To implement all the Passenger Transport Network Plan actions identified in the RLTS Appendix A
- Continue the provision of Total Mobility Service and continue to provide a total mobility co-ordinator for our region.

2.7.3 Performance measures and monitoring

- To report on the Passenger Transport Network Plan, in the Regional Land Transport Strategy Annual report and the annual infrastructural assets report
- Total Mobility Service is provided annually.

2.7.4 Actions required

- The recommendations provided in the “Pedestrian Planning and Design Guide” published by NZTA (Dec 2007) are considered to accommodate the needs of mobility scooters when upgrading or changing new transport infrastructure.
- Investigate the provision of bus lanes along Rutherford Street/Waimea Road using \$40,000 of the System Use Studies budget in 08/09.

2.8 Road Reserve Open Spaces

2.8.1 Background

Council has a large area (450 hectares) of legal road land under its control which has a value of \$180 million.

A significant portion of this land is not formed as road, but is in vegetation, grass, public gardens, street trees or even occupied by private residents, or street vendors.

It is Council's role as landowner to administer and manage the use of this public owned property.

The key functions Council performs in this role are:

- Planting and maintenance of street trees
- Planting and maintenance of street gardens
- Planting and maintenance of median and large areas of berm
- Management of road occupation licenses, particularly in the CBD
- The stopping of legal road and sale
- The consideration of resource consents which affect legal road
- Acquisition of new legal road for road widening and public works

The beautification of legal road and berms is an important function and contributes significantly to Nelsonians' lifestyle and pride in their City. Street Gardens, trees and berms can provide multiple sustainable outcomes including visual amenity, shade and biodiversity.

The Cathedral Hill Reserve for example is located on legal road along with a number of important Nelson landmarks.

Nelson relies on its residents and property owners to care for and maintain their individual legal road frontage, with Council looking after rural road frontages, plantings and road medians.

Nelson has policy documents on legal road use:

- Maintenance of private access on road reserve 1999
- Occupation of footpaths, car parks and parking squares policy 2000 (reviewed 2005)
- Trading in Public Places Bylaw 2007
- Staff maintenance policy for driveway and driveway reinstatement 2002
- Vegetation control on legal road frontages 2002
- Acquisition of land for Roads

Nelson City manages a variety of street furniture. This includes a wide range of assets from bollards and road signs to bus shelters. Many of these assets are of small capital value but nevertheless need to be managed, maintained and replaced.

Nelson has completed an upgrade of all the CBD rubbish bins at a capital cost of \$40,000.

The most unusual street furniture asset is the historical cast iron Rocks Road/Wakefield Quay post/chain fence along the seawall. This historic feature of Nelson is not suited to the harsh marine environment and \$10,000 a year is spent on maintaining it.

This Transport asset group also includes street sculptures, which are installed on legal road, to enhance the public amenity of these spaces. A separate list of these art works are listed in Appendix 7 of this plan. Previously there were no management plans covering this asset group and this gap has been filled by this plan.

2.8.2 Level of Service for road reserve open spaces

- Sight distances are not restricted by vegetation growth, trees or structures.
- Adjoining land owners maintain their legal road frontage to prevent danger and inconvenience to pedestrians, cyclists and vehicle drivers, otherwise Council will need to intervene
- Council's assets will be kept clear of vegetation and debris through regular maintenance

2.8.3 Performance measures and monitoring

- The total number of incidences of sight distance restrictions, secondary enforcement of private road frontage and vegetation and debris complaints is below 50 annually.

2.8.4 Actions required

- Council's maintenance contract to incorporate clearance and management of vegetation growth and debris to prevent danger or inconvenience to pedestrians, cyclists and vehicle drivers
- The six-monthly independent road network audit incorporates the above issues.

2.9 Network control and management

2.9.1 Background

This section covers signs, carriageway line markings, traffic signals and speed limits. The NZ Transport Agency manual of traffic signs and markings RTS-5 specifies the standards required.

Council's policies that relate to this section are

- Speed Hump Policy 2001
- Motel Signs and Service Signs 1999
- Sign Policy 2004 (review due 2007)
- Parking and Vehicle Control Bylaw 2004 (review due 2009)
- Speed Limit Bylaw 2004 (review due 2009)

Council's traffic signals were independently audited in 2005 against the AustRoads Guideline No. 7 – Traffic Signals. A number of deficiencies were highlighted for which an allocation of the minor improvements budget is set aside to implement these deficiencies. Nelson's traffic signals are controlled by SCATS software.

2.9.2 Level of Service for Network control and management

- All major route destinations are clearly sign posted
- All traffic light deficiencies recommended in the 2005 report to be completed by 2009

2.9.3 Performance measures and monitoring

- Traffic light audits carried out every seven years with the next one due in 2010/11.
- The number of deficiencies identified by the independent audit
- Pavement markings, all signs, raised reflectorised pavement markers (RRPM's) are independently audited on the network bi-annually (once day, once night) and deficiencies rectified within 6 months.

2.9.4 Actions required

- Establish independent 6 monthly safety audit
- Install edge lines on all sealed rural roads, in lieu of centre lines where necessary due to road width deficiencies
- Install RRPM's on all urban arterial, principle and collector roads and sealed rural collector roads.
- Review the Sign Policy 2004 by June 2009
- Commission an independent traffic signal audit in 2010/11
- Review the Parking and Vehicle Control Bylaw 2004 and Speed limit Bylaw 2004 in 2009

2.10 Safety Engineering, education and enforcement

2.10.1 Background

Safety measures can be addressed in three ways: engineering, education and enforcement. Council's Safety Management System (SMS) for Roads contains a Road Safety Strategy which identifies visions, goals, issues, targets and initiatives to improve Road Safety. Included in the SMS are work activity sheets which identify specific safety procedures relating to Council asset management implementation, operations and maintenance actions and the planning, design and construction of new infrastructure.

Road Safety Action Plan meetings are held quarterly to coordinate strategies and exchange information between organisations involved in engineering, education and enforcement across the region. The Road Safety Action Plan meetings are attended by:

- Nelson City Council Staff
- Tasman District Council Staff
- Police (Area Control, Highway and Tactical Alcohol Group)
- The NZ Transport Agency
- Accident Compensation Corporation (ACC)

In Nelson engineering initiatives are carried out by Council and The NZ Transport Agency, education initiatives by Council, The NZ Transport Agency, and ACC and enforcement is carried out by the Police.

The Council's Engineering initiatives are either through specific projects, like the proposed Alton Street Upgrade or through the NZTA funded minor improvements budget. Projects using this budget are prioritised using the method shown in Table 2.10.

Table 2.10 Minor Safety Projects – a Method of Prioritisation

Minor Safety Projects - A method of Prioritisation						
	1	2	3	4	5	Weighting %
Area of Benefit/Affected Parties	<10 households in street	>10 households in street or < 5 houses within 100m	5 ≤ houses within 100m < 10 or sporting complex, parking, minor shopping complex	≥ 10 houses within 100m	School, hospital or other large community facility, CBD area	10%
Exposure	< 500vpd	≥ 500vpd & < 1000vpd	≥ 1000vpd & < 2500vpd	≥ 2500vpd & < 5000vpd	≥ 5000vpd	10%
Crash Rate (volume) 5yr history	No crashes	≤ 2 non-injury crashes	3-5 non-injury crashes	≤ 2 injury crashes or 5-10 non-injury crashes	≥ 3 injury crashes or > 10 non-injury crashes	10%
Vulnerable user crashes (5yr history)	No crashes	-	1 pedestrian/cyclist crash	2 pedestrian/cyclist crashes	≥ 3 pedestrian/cyclist crashes	5%
Road classification	Local road	Collector Road	Secondary Arterial	Primary Arterial	Strategic Route	10%
Vulnerable road users (VRU)	None	Some VRU observed or anecdotal	Small shopping centre <10 shops or sports complex	Large shopping centre	School, retirement village, community facility	10%
Public concerns	Low/None	-	Medium	-	High (e.g. petition)	10%
Requests from other agencies	None	1 organisation	2 organisations	3 organisations	≥ 4 organisations	10%
Observed issues	1 issue	2 issues	3 issues	4 issues	≥ 5 issues	10%
Posted speed	≤ 40 km/hr	50 km/hr	60 km/hr	70-80 km/hr	100 km/hr	10%
Estimated cost	≤ \$150,000 & > \$100,000	≤ \$100,000 & > \$60,000	≤ \$60,000 & > 40,000	≤ \$40,000 & > \$20,000	≤ \$20,000	5%
* traffic, speed, pedestrians, markings/signage, road surface, etc...						100%

Council has a comprehensive road safety education programme that has been developed over a number of years. To 2008/09 this programme has incorporated travel demand projects such as walking school buses, safe journey to school studies and carpooling. These projects and their budgets are now identified in the separate Travel Demand Management section of this plan.

Lighting in urban areas provides an important safety and security function for the vehicle drivers, the community, and especially for night-time pedestrians. Lighting in rural areas is provided at intersections only to assist vehicle drivers.

The standard of urban streetlighting was surveyed in 2005. The majority of collector and local roads do not comply with the lighting standards specified in 2002 Streetlighting Policy. Council maintains streetlight data using the SLIMS database appended to the RAMM database. The majority of streetlights are high pressure sodium lights although the streetlights on Waimea Rd still use the old 400W mercury vapour bulbs. No streetlighting upgrade has occurred along Waimea Rd due to uncertainty over the outcome of the Corridor Study.

Council is commencing a streetlight trial using more power efficient lights which produce less upward spill light. Following this trial it is proposed that the Streetlighting Policy be reviewed and, taking into consideration the deficiencies found in the 2005 survey, an upgrade programme developed. It is proposed that any upgrade should commence no earlier than 2010/11 as recent streetlight technology is expensive and it is anticipated that upgrades will be more economical and could use better technology if the programme is delayed.

The local road upgrade design methodology proposed in Section 2.3.2 above should incorporate a review of streetlights.

2.10.2 Level of Service for safety engineering, education and enforcement

- Continue to deliver a road safety education programme
- Consider the personal safety of pedestrian and cyclists through the application of CPTED (Crime Prevention Through Environmental Design) principles in the Central City Enhancement Study

2.10.3 Performance measures and monitoring

- To review and report on the technical effectiveness and direction of the SMS in August each year as part of the annual infrastructural assets report
- Assets annual report on SMS
- Assets annual report on delivery of road safety education programme
- Public perception of good personal safety within the CBD at night is included in the tri-annual customer satisfaction survey

2.10.4 Actions required

- Implement all aspects of SMS
- Coordinate and support RSAP process
- Implement road safety education programme
- Commission crash reduction studies every three years commencing 2008/09 and implement findings where feasible

- Review the 2006 CBD lighting upgrade and address any deficiencies where feasible
- Upgrade Waimea Rd streetlights in conjunction with any roading improvements identified as a result of the RLTS 2008
- Review the 2002 streetlighting policy in 2009/10 with a view to developing a streetlight upgrade programme commencing 2010/11
- Ensure that the Central City Enhancement Study considers CPTED principles

2.11 Car Park Infrastructure

2.11.1 Background

Council has eight off-street car parking areas in the commercial zones, two in Stoke (237 parks) and six in the CBD (871 parks).

The current management of car parking squares is guided by the 2005 CBD Car Parking Study and the Stoke Car Parking Study 2005. An update of the car parking data was carried out in Dec 2008 to enable a review of the RM Plan rules as part of the Central City Strategy.

Council licences Saturday and Sunday markets to be operated on Montgomery Square.

The use of any additional public car parks for outdoor dining or trading within the Nelson CBD is not be permitted until the parking review is completed.

On street parking is controlled in the CBD by parking meters and enforcement officers. In some residential streets there are Residents Parking Zones in operation.

The Parking and Vehicle Control Bylaw 2004 specifies Council's rules on parking controls, vehicle controls and enforcement.

Nelson City provides parking enforcement across its network to ensure compliance with parking regulations and parking duration, parking fee payments, vehicle registration and licensing and removal of abandoned vehicles.

Nelson employs staff to undertake parking enforcement.

Council manages 307 parking meter units.

2.11.2 Level of Service for Car Park Infrastructure

- To ensure parking meters are fully operational 95% of the time

2.11.3 Performance measures and monitoring

- Annual parking meter fault time data

2.11.4 Actions required

- Liaise with policy in developing plan change for parking rules in line with Central City Strategy direction

2.12 Travel Demand Management

2.12.1 Background

Council's Travel Demand Management (TDM) programme to date has focused on:

- Safe journeys to school to support school travel planning
- Promoting walking school buses and cycle trains
- Promoting Bikewise (national cycling promotion campaign)
- Establishing and promoting carpooling

The following schools have had safe journey studies carried out:

- Auckland Point School
- Victory School
- Nelson Intermediate School
- St Josephs
- Central School

Some of the outcomes identified from these studies have been implemented.

The 2009 Regional Land Transport Strategy has elevated Travel Demand Management to being a major component to deliver the targets identified in the RLTS .

A TDM strategy has been developed which identifies detailed TDM activities. The targets in this strategy are:

Table 2.11 Travel Demand Management Targets

Key Output	Target	Target Reference
School Travel Plans	All secondary, intermediate and primary schools on arterial routes to have travel plans by 2012, with the remainder completed by 2016	RTDMP Target 1
Workplace Travel Plans	100% of workplaces with more than 50 staff to have Workplace Travel Plans by 2016	RTDMP Target 2
Car pooling	To have 200 registered users by 2016	RTDMP Target 3
TravelSmart	5% of households in NCC to be contacted to offer TravelSmart services annually (beginning after commissioning of new public transport services).	RTDMP Target 4

Implementation of the measures identified in the strategy will be staggered to allow resources and local experience to develop and to align with the provision of the proposed passenger transport services.

2.12.2 Level of Service for Travel Demand Management

- To implement the Travel Demand Management Strategy

2.12.3 Performance measures and monitoring

- To report on the Travel Demand Management Strategy in the RLTS annual report and the Assets annual infrastructure report

2.12.4 Actions required

- To be identified following adoption of the Travel Demand Management Strategy.

2.13 Customer Response

2.13.1 Background

Nelson City Council customer liaison is carried out through mail, telephone and various consultations.

It is Council policy that all correspondents including customer complaints have a reply sent within 10 working days, or if a full response is not possible, that their letter is acknowledged including advice as to when a full response will be sent.

Council operates a 24 hour telephone customer service centre. During normal working hours 5 day/wk (8.00am to 5.00pm) on weekdays (except Statutory Holidays) this is attended by Council staff.

All enquiries are handled by Technical Services Customer Services help desk who record the fault and alert maintenance contractor, or redirect the caller to appropriate staff member.

Nelson City Council has a consultation policy that establishes the requirements to consult on Transport issues. The Transport asset group has a project consultation process which it follows for major construction work. This involves Stage I consultation prior to scheme plan preparation to affected residents, asking for comments on the roading upgrade.

The stage II consultation involves a follow up letter with detailed scheme plans, with particular detail on parking changes, new street lights and property access. Any directly affected residents with work within their property are personally visited by Council staff and/or consultants.

2.13.2 Level of service for customer response

- All letters are responded to within 10 working days
- All Council Transport projects are consulted on with local residents fronting the upgrade
- Public problems/faults are dealt with within response times and contractual time limits.

2.13.3 Performance Measure

- None

2.13.4 Action Plan

- None

3 FUTURE DEMAND

3.1 Introduction

This section analyses the factors contributing to demand for Transport assets and services, assesses the implications for that demand and outlines strategies to manage future demand.

Key factors that drive demand are:

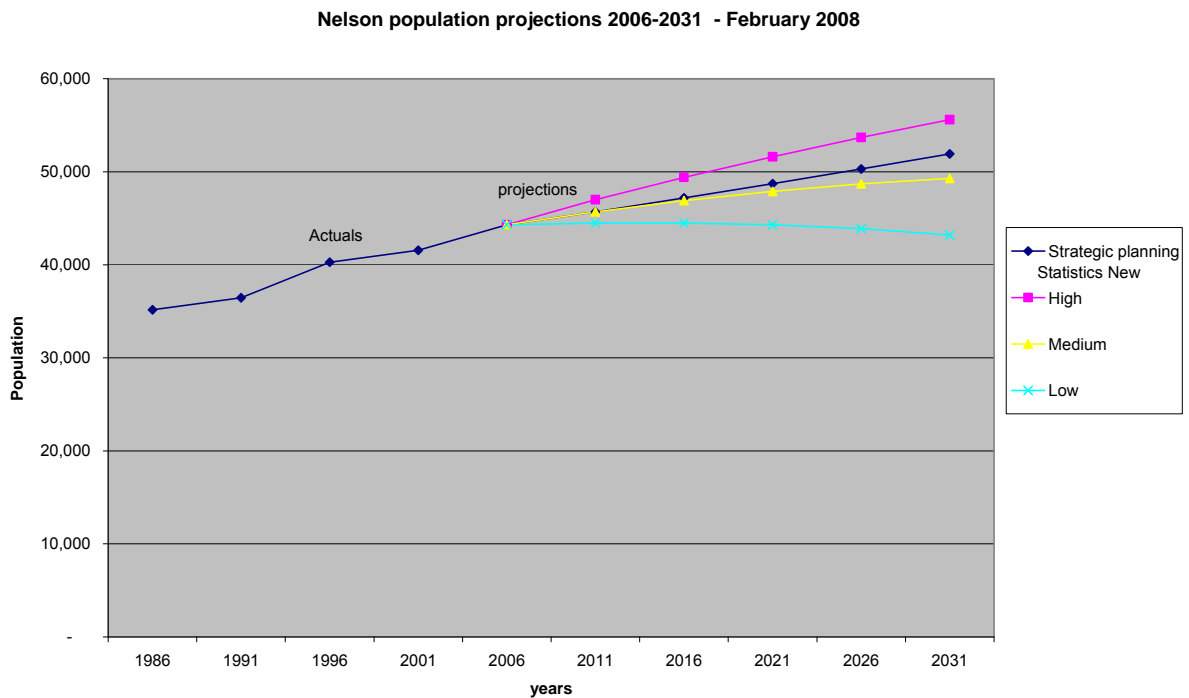
- Population and demographic change
- Road user trends – traffic volumes, peak period congestion, household vehicle ownership, means of travel to work, central business district (CBD) parking, fuel prices, speeding traffic, local road parking
- Resource Management planning for growth
- Climate Change

3.2 Growth and demand trends

3.2.1 Population growth

Nelson’s population has been growing steadily to 44,300 (measured at the 2006 Census). The growth rate since 1986 has been increasing at around 1.16% per annum. Figure 3.1 produced by Statistics NZ, with minor local modification, shows growth to continue at the same rate.

Figure 3.1 Nelson Population Growth



Increasing population implies increasing numbers of people and freight moving through the city and therefore increasing numbers of pedestrians, cyclists, public transport users, freight vehicles and motorists.

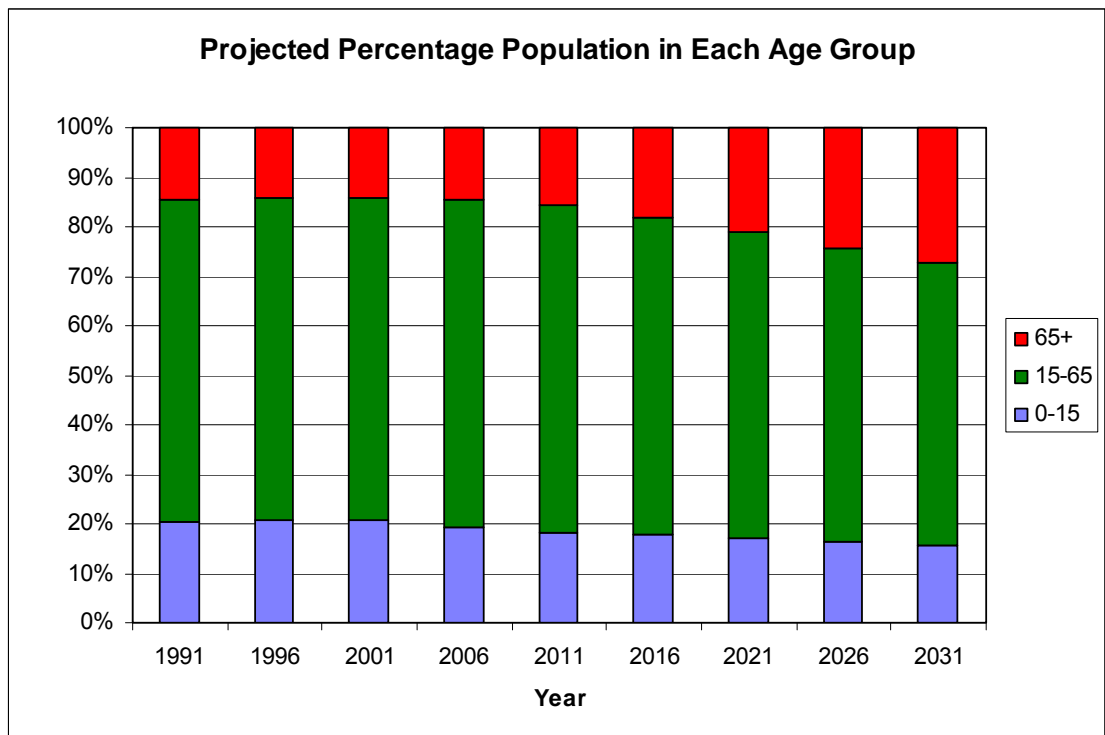
3.2.2 Demographic change

The 2006 Census determined the following:

- The median age of Nelson’s population is 39.4 years compared to the national median of 25.9 years
- 14.5% of people in Nelson are aged over 65 years compared to 12.3% nationally
- 19.2% of people are aged under 15 years in Nelson compared to 21.5% nationally.

Population projections from Statistics NZ indicate that population growth in the 0-65 years age group will flatten off to minimal growth by 2016, while the over 65 year age group is expected to exceed 25% within the next 20 years.

Figure 3.2 Population Growth by Age Group



3.2.3 Traffic Volumes

Traffic volumes have been recorded across the Richmond and Rocks/Waimea Road screenlines since 1996. Traffic volumes across the screenline (see Appendix 8) have been increasing from 1996 to 2004 and decreasing since then.

Figure 3.3 Whakatu Drive/Main Road Stoke Screenline Traffic Count

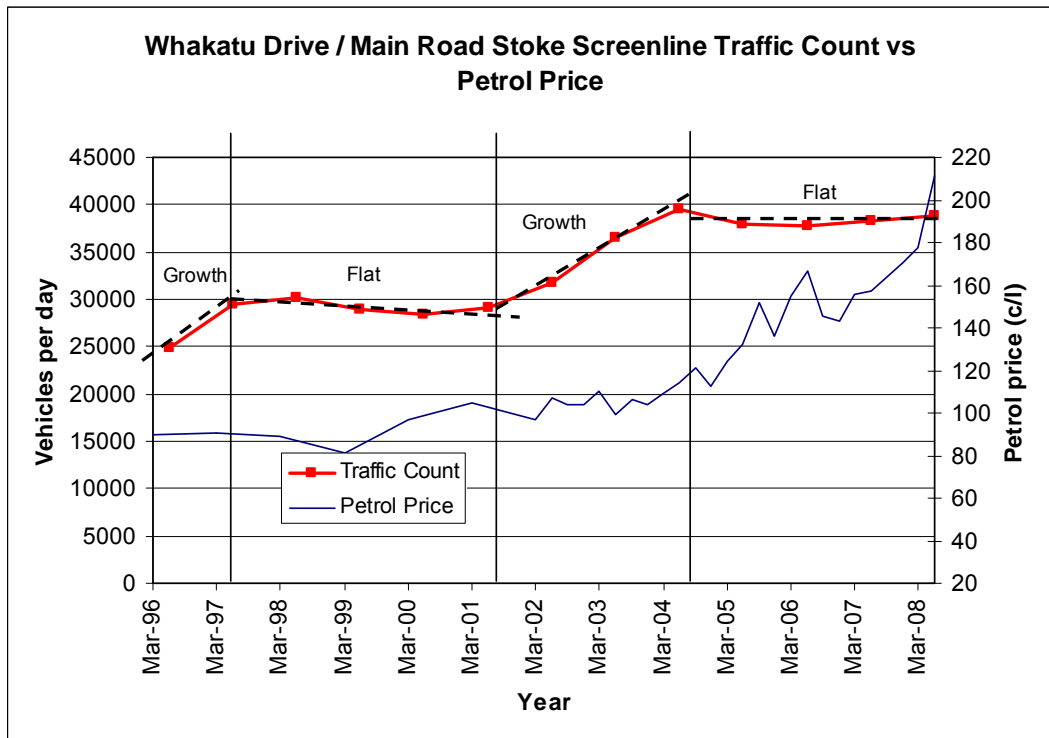
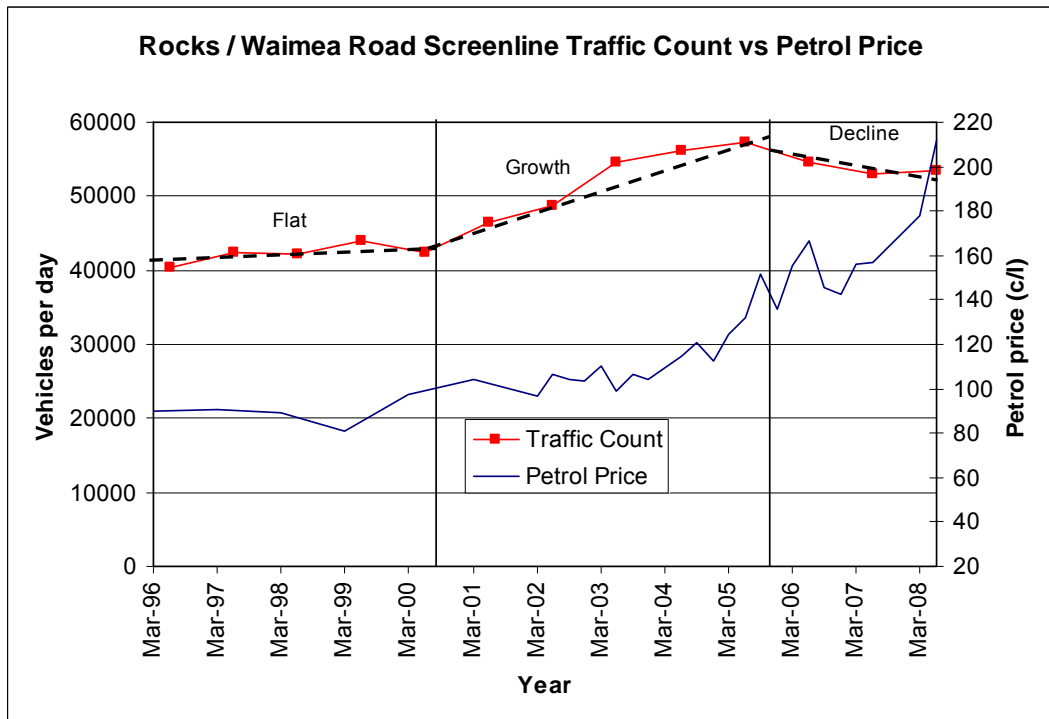


Figure 3.4 Rocks/Waimea Screenline Traffic Count



3.2.4 Peak period congestion

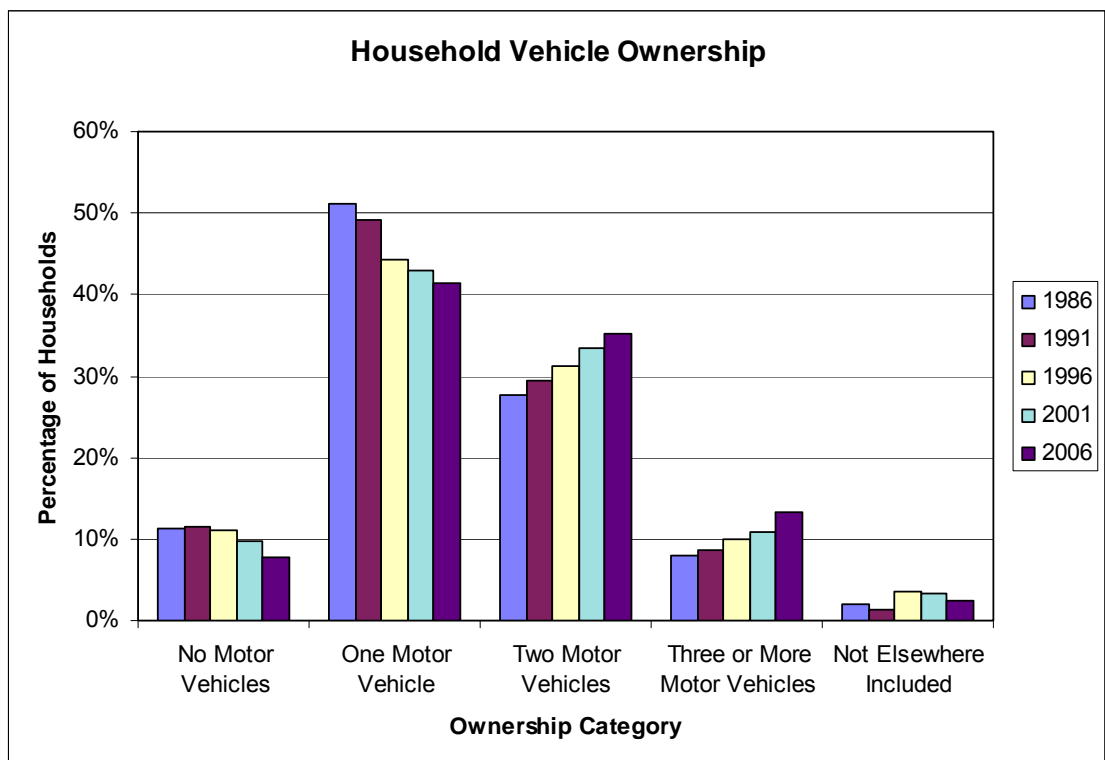
Peak period congestion costs commuters in increased travel time and results in travel time variability. Nelson is fortunate that peak period congestion is limited to Waimea Road, the Rocks Road / Annesbrook Drive route and exiting the Nelson district into Richmond during the afternoon peak.

Peak period travel time data gathered on these routes shows a maximum peak hour travel time delay of 10 minutes, although there appears no consistency or pattern to this peak delay. In general it appears there has been no significant increase in peak hour travel time delays since data gathering began in 2001. The RLTS has more detail on travel time data.

3.2.5 Household vehicle ownership

Census data, shown in Figure 3.5 shows that the number of Nelson households with access to a motor vehicle has increased from 89%, to 92% from 1996 to 2006 and that the number of households with access to three or more motor vehicles increased from 10% to 13% between 1996 and 2006. This compares to 15.9% for 2006 across all of NZ households.

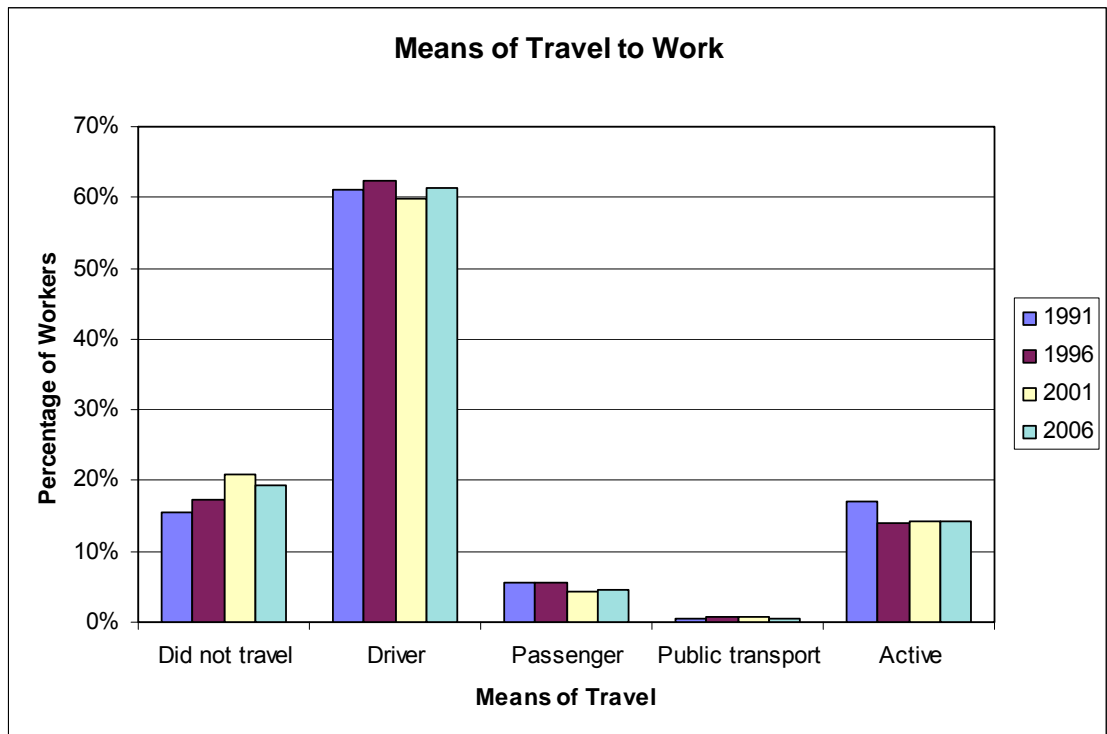
Figure 3.5 Household Vehicle Ownership



3.2.6 Means of travel to work

The census records the modal choice people make for their journey to work. Trends in this data are shown in Figure 3.6 below.

Figure 3.6 Means of Travel to Work



For the period 1991 to 2006 the patterns may be summarised as:

- Driving – 60 to 62% of workers travelled by driving
- Active modes – reduced from 17% to 14% from 1991 to 2006
- Public Transport – remained a consistent 1%
- Did not travel – those that did not travel increased from 16% to 19%

3.2.7 CBD parking

The 2005 parking study by Traffic Design Group identified a 3% per annum increase in parking demand in the CBD from 1995 to 2004 and a 5% per annum increase in parking demand over the CBD and fringe area of the city from 2000 to 2004.

The study identified a parking shortfall of 63 spaces in the CBD in 2005 and projected this shortfall to rise to 488, and the overall CBD and fringe shortfall to rise to 916 spaces by 2015, based on 3% per annum growth.

The study identified a number of management strategies to improve parking space availability. The significant measures adopted by Council include:

- A 3 hour parking limit in the CBD parking squares
- Differential parking charges within the CBD (\$1/hr on-street, 50c/hr off-street)
- Additional parking enforcement

The study was based on a “provide for demand” philosophy. Since 2005 NZTA have re-iterated that this approach is not affordable or sustainable, although this view directly contradicts the desires of the community evident from the Council’s annual telephone survey (refer Section 2.1.1).

3.2.8 Fuel prices

It appears inevitable that, for several reasons, the price of oil can be expected to increase over the long term. The extent and timing of this increase is unknown but significant spikes have already occurred. It is too early to determine the effect this increase will have on travel choices but it could be that the significant growth in vehicle travel seen in recent years could be nearing an end, questioning the use of historic trends to predict future demand.

3.2.9 Resource management planning for growth

The Nelson Urban Growth Strategy (2006) projected the following:

- Nelson / Tasman is expected to be one of the fastest growing regions in New Zealand over the next few decades.
- Historic trends suggest higher than average growth rates will most likely continue.
- Nelson's existing average household size is 2.5 people, which is below the national average (2.7).
- An aging population plus in-migration of older age groups will mean a higher proportion of older residents.
- Housing affordability is an ongoing issue due to high demand for land and houses in Nelson, limited easily developed land, increasing costs of development and low wages.
- Land suitable for residential development is expected to become severely limited in Nelson around 2026, even with the existing urban area used more intensively.

As the number of people and households grow it can be expected that the pressure on the land transport system will increase.

3.2.10 Climate change

The New Zealand government has published projections of climate change to 2080. The general trend for Nelson is of winters being wetter and the other seasons being drier. More frequent heavy rainfall events have been predicted. By 2030 the temperature is expected to increase between 0.1 to 1.3 degrees Celsius, and by 2080 between 0.4 to 3.5 degrees Celsius.

The Climate Change office of the Ministry for the Environment projected in March 2005 that NZ can expect a sea level rise of 20cm by 2030, and 50cm by 2080. Drought risk is expected to increase during this century in all areas that are already drought-prone.

The Council joined the Communities for Climate Protection programme (CCP-NZ) in April 2007 recognising the need to take action to reduce greenhouse gas emissions. The Local Action Plan 2008 has since been developed.

Council has identified street lighting contributes 31.5% of all Council's corporate emissions and transport contributes 24.2 % of the total community's emissions

3.3 Impacts of changing demand on assets and services

A summary of the impacts resulting from the key factors which are driving demand are identified in the Table 3.1.

Table 3.1 Impact on Assets and Services

Key Factor	Impact on Assets and Services
Climate change	<p>increase in vulnerability of low lying roads to sea level rise</p> <p>improved road drainage will be required as a result of increasing rainfall intensity</p> <p>increase in demand for more power efficient streetlights</p> <p>increase in demand for greater incentives to encourage modal shift from private vehicle travel</p>
RM planning for growth	<p>An increase in traffic congestion from “greenfield” residential development away from existing urban areas and from poorly located commercial and community facilities</p>
Fuel/bitumen prices	<p>reduced use of private vehicles and increased use of other travel modes</p> <p>reduction in traffic volumes and peak period congestion</p> <p>increased demand for quality footpaths and walkways, cyclepaths and cycleways, and a quality public transport service</p> <p>increased costs for road re-seals and less economic benefit for sealing unsealed roads</p>
Population growth	<p>increasing demand for quality footpaths and walkways, cyclepaths and cycleways, and a quality public transport service</p> <p>increasing dissatisfaction with congested roads and inadequate CBD parking</p> <p>additional roads and services provided to new subdivisions</p>
Demographic change	<p>increasing demand for services for the over 65 years age group, i.e. improved total mobility services, a transport network designed for the sight impaired and those who use mobility scooters, an improvement in footpath quality and a quality public transport service</p>
CBD parking	<p>increased dissatisfaction with parking shortfall, enforcement and charges if a car parking management strategy is developed to reduce demand for private vehicle use, or</p> <p>increased dissatisfaction with the parking shortfall until additional parking capacity is provided</p>
Traffic volumes	<p>increased greenhouse gas emissions, which contributes to climate change</p> <p>increased maintenance and renewal costs for road pavements</p>
Peak period congestion	<p>increasing length of peak delays and reduced trip time reliability with resultant losses to the economy</p> <p>increasing greenhouse gas emissions while traffic sits in traffic jams and increasing dissatisfaction with the roading network</p> <p>increased incentive to use alternative travel modes</p>
Means of travel to work	<p>an increased demand for new roads and parking facilities</p> <p>reduced use of other travel modes</p>
Household vehicle ownership	<p>an increased demand for new roads and parking facilities</p> <p>reduced use of other travel modes</p>

3.4 Demand Management Strategy

Future travel demand is influenced by population growth, demographic change, household vehicle ownership, fuel and parking prices, and vehicle occupancy rates, to name but a few.

The Regional Land Transport Strategy aims to maximise the efficiency of the transport system with minimal expenditure through the provision of passenger transport, travel demand management and other measures that will encourage the community to shift to more sustainable ways of moving around the City.

4 EMERGENCY AND RISK MANAGEMENT

4.1 Risk Management

4.1.1 Background

Risk management is the systematic application of management policies and procedures to identify, analysis, evaluate, treat and monitor risk so that injury to people, damage to the environment, financial loss, disruption to infrastructural assets and services and legal obligation failures are controlled and mitigated as far as practicable.

4.1.2 Analysis of risks

Council's risk management framework is consistent with the joint Australian New Zealand Standard (AS/NZ IS4360:2004), to ensure that risks are managed on a consistent basis.

Risk, likelihood and consequence are defined as:

- Risk is a function of the likelihood and consequence of an event occurring
- Likelihood is the probability or frequency of an event occurring
- Consequence is the outcome of an event including a loss, injury, disadvantage or gain

For each event the likelihood score (Table 4.1) is multiplied by the consequence score (Table 4.2) for each area of impact. These multiples are then totalled to produce the risk priority rating for the event (Table 4.3), which provides an assessment of the level of risk associated with the event.

Table 4.1 Likelihood Ratings (Semi Qualitative Measure)

Rating		Description	Score
A	Almost Certain	Likely to occur frequently, i.e. several times a year.	0.9
B	Likely	Likely to occur more than once during the life of the project.	0.7
C	Moderate	Likely to occur during the life of the project.	0.4
D	Unlikely	Might occur once in 100 years.	0.2
E	Rare	Might occur once in 100+ years.	0.01

Table 4.2 Semi-Quantitative Measures of Consequence and Areas of Impact

Areas of Impact	Consequence				
	Negligible (10)	Minor (30)	Moderate (50)	Major (70)	Catastrophic (100)
Health and Safety	Minor injury possible.	Serious injury to one person.	Serious injury to multiple members of staff, contractors or public.	Single fatality of staff, contractor or public.	Multiple fatalities of staff, contractors or public.
Public Health	Temporary but non-serious health impacts.	Localised serious health impact on one person.	Localised serious health impact on more than 20 people.	Localised or widespread serious health impact on more than 100 people.	Localised or widespread serious health impact on more than 1,000 people.
Asset Performance	Asset failure impacting on one or more persons.	Asset failure impacting on more than four people	Asset failure impacting on more than 40 people	Asset failure impacting on more than 400 people	Asset failure impacting on more than 4,000 people
Environment and Legal Compliance	Short term and temporary impact requiring no remedial action.	Medium term environmental impact with negligible effects on environment or community.	Measurable environmental harm to an internationally or nationally significant site. Loss of public access or conservation value of the site.	Major environmental damage requiring long-term recovery investment. High profile legal challenge. Loss of public access or conservation value of a significant environment.	Permanent environmental damage to an internationally or nationally significant site. Large scale class action.
Historical or Cultural	Loss of important records about a site. Work required restoring them.	Unsympathetic development compromising the integrity of a registered historical, cultural or archaeological site.	Damage to a registered historical, cultural or archaeological site, but capable of restoration.	Loss or permanent damage to a registered historical, cultural or archaeological site.	Permanent loss of national icon.
Financial	Capital cost/loss <\$100k.	Capital cost/loss \$100k - \$500k.	Capital cost/loss \$500k - \$1million.	Capital cost/loss \$1million-\$5million.	Capital cost/loss > \$5 million.
Customer Perception	Service Request.	Minor complaint.	Justifiable complaint / information request.	Ministerial questions /third party investigations.	Public or ministerial enquiry.

Table 4.3 Risk Priority Rating (Semi Quantitative)

Risk Score	Level of Risk	Risk Response
> 200	Extreme	Awareness of the event to be highlighted to Council
150-200	High	Risk treatment required. Risk to be eliminated or mitigated by 30 June 2009 to comply with Infrastructural Assets Business Plan
100-150	Moderate	Risk treatment required
0-100	Low	Manage by routine procedures

4.1.3 Potential risks

The potential risks to Transport assets and services include:

- Legislative
- Operational
- Organisational and
- Public health and safety

A risk register for the Transport network is shown in Appendix 9. A simplified summary with proposed mitigation actions has been provided in Table 4.4 and Table 4.5.

Table 4.4 Business Risk Schedule

No.	Issue	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
1.	High level policies, procedures and controls					
1.1	Delay in adopting RLTS	Ad-hoc decision making, delays in implementing eventual policies, reduction in public satisfaction	Council to adopt RLTS by June 2009	Low		Low
1.2	Nelson RM Plan not aligned with NCC Engineering Standards	Infrastructure developed through Resource Consent not in accordance with Engineering Standards	Ensure RM Plan and Engineering Standards are aligned	High	Initiate plan change to align documents	Low
1.3	Inaccurate growth information	Inappropriate decision made about future infrastructure and services	Growth monitoring to be frequent and trends related to national/international data where possible	Mod		Mod
1.4	Legislative changes	Delivery of this AMP could be compromised	Legislation is monitored and opportunities for submission during consultation undertaken. Changes are addressed as they arise	Low		Low
1.5	Increasing standards	Public expectations of Transport safety, quality and environmental standards are increasing		Mod	The implications of increased levels of service, resulting in increased expenditure are fully recognised by Councillors	Low

No.	Issue	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
2.	Financial					
2.1	Poor long-term financial planning	Higher than necessary financial costs	Detailed lifecycle analysis	Mod	Improve lifecycle analysis of this plan	Mod
2.2	Poor financial forecasting	Reflects on Council as poor planning	Ensure assumption to project cost estimates are fully understood and refine estimates before each Annual Plan is developed	Mod	None	Mod
2.3	Potential sources of NZTA funding not obtained	Additional costs to Council or implementation of projects delayed	Monitor NZTA funding procedures and manuals and submit application in a timely manner	Mod		Mod
2.4	Non-compliance with NZTA funding agreement	Reduction or refund of NZTA contributions	Annually report on compliance requirements	Mod	Establish and implement measures to address any non-compliance	Low
3.0	Organisation Management					
3.1	Failure to act on identified risk	Potential legal action against Council		Mod	Identified risk improvements implemented	Low
3.2	Lifelines plan not completed, updated or implemented	Lifeline asset failure reducing effectiveness of Nelson Tasman Emergency Management Group Plan 2005. Failure to comply with CDEM Act		High	Complete and update Lifelines implementation plan	Low
3.3	AMP improvement plan not undertaken	Future forecasting not accurate. Decision making not optimised.	Annually report on improvement plan	Low		Low

No.	Issue	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
3.4	Organisational engineering staff shortages	Reduction in quality of performance of Infrastructure department and it's outputs		Mod		Mod
4.0	Health and Safety					
4.1	Safety Management Strategy and System for roads not implemented	Safety levels of service not achieved		High	Road Safety Strategy implementation and performance monitoring to be included in annual report	Mod
4.2	No agreed procedure with Police for road closure or traffic light failure event	Reduced safety leading to increased accident risk	Establish a Police traffic emergency procedures process as identified in OFI 6 of SMS	High	Establish a Police traffic emergency procedures process as identified in OFI 6 of SMS	Low
5.0	Transport Asset Management					
5.1	Asset Management Plan not fully implemented	LTCCP, RLTS and Annual Plan not fully implemented resulting in recognition of poor Council performance and public dissatisfaction		High	Asset Management Department to be sufficiently resourced	Mod
5.2	Performance monitoring of levels of service not completed	Levels of service not met resulting in public dissatisfaction	Establish and implement monitoring programme	Low		Low

No.	Issue	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
5.3	Non compliance with Engineering Standards for constructed/adopted assets	Substandard works requiring greater maintenance or earlier renewals		High	Established plan and site check procedures to be sufficiently resourced and implemented	Mod
5.4	Unauthorised construction on road reserve	Public liability risk to Council. Risk of underground service damage		High	Establish and implement monitoring programme to ensure all approvals (including street opening notices and Traffic Management Plans) are obtained	Mod
5.5	Network modelling and condition assessments not applied	Capital and renewals works programme not optimised. Future forecasting not accurate	RAMM database and traffic models regularly updated and assessed	High	RAMM database and traffic models are regularly updated and assessed	Low
5.6	Significant Natural Event	Resources reappropriated as necessary which might compromise AMP implementation	Delay implementation of this plan and reviewed modify as necessary when resources re-established	Low		Low

Table 4.5 Asset Risk Schedule

No.	Risk Event	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
1.0	Road pavements (including footpaths, cycleways and car parks)					
1.1	Structural failure/blockage due to earthquake or landslide	Pavement failure and road closure	Maintenance contractor has 24 hour call out facility	Low		
1.2	Combined wave action with high tide along Rocks Road, or earthquake causing cliff failure/slips	State Highway 6 road closure	Ensure NZTA has traffic management maintenance procedure in place for this event	Low		
1.3	Vehicle crash damage	Road closure and chemical/load spill clean up. Pollution of watercourse	Maintenance contractor has 24 hour call out facility. Establish a pollution emergency response plan and make ready for implementation	Low		
1.4	Inadequate maintenance	Road failure	Maintenance programme implemented	Low		
1.5	Inadequate Traffic Management Plan for high volume roads	Reduced safety leading to increased accident risk	Update TMP guidelines as identified in OFI 8 of Safety Management System	Low		
1.6	Vehicles travelling above speed limit	Reduced safety leading to increased accident risk. Public dissatisfaction with road design		Mod	Consider traffic speed when designing local road upgrades and reviewing Engineering Standards	Low

No.	Risk Event	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
1.7	Inadequate on-road residential parking	Unsafe parking or installation of no-parking lines leading to public dissatisfaction		Mod	Consider when designing local road upgrades and reviewing Engineering Standards	Low
2.0	Road bridges (including footbridges and cycleway underpasses)					
2.1	Structural failure due to earthquake	Catastrophic damage to bridge structure. Prolonged road closure	Arterial and Lifeline bridges designed and constructed to earthquake loading standards	Low		
2.2	Flooding greater than bridge capacity	Damage to bridge structure	All bridges constructed to Q50 or Q15 standard (depending on location). Structural inspections every five years and maintenance inspections annually	Low		
2.3	Flooding that closes cycleway underpasses	Inconvenience to cyclists and pedestrians	Suitable warning signage	Low		
3.0	Road retaining walls					
3.1	Structural failure due to earthquake or landslide	Catastrophic damage to several retaining walls. Road closure	Arterial and lifeline bridges designed and constructed to earthquake loading standards	Low		
3.2	Inadequate design	Damage to retaining wall	Design to comply with Building Control Act requirements	Low		

No.	Risk Event	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
3.3	Inadequate maintenance	Retaining wall failure	Structural inspections every ten years and maintenance inspections of 10 worst walls to occur every two years.	Low		
4.0	Roading drainage (sumps, pipework and culverts)					
4.1	Inadequate road drainage	Downstream flooding, pavement damage and increased maintenance costs	Upgrade road drainage where secondary flow paths are inadequate and historically private property flooding occurs	Low		
4.2	Inadequate design or no kerb, channels and sumps	Downstream flooding, pavement damage increased maintenance costs	All road upgrades include drainage in accordance with Engineering Standards	Low		
4.3	Inadequate maintenance	Downstream flooding, pavement damage, increased maintenance costs, increased risk of storm water pollution	Maintenance programme implemented	Low		
5.0	Streetlights					
5.1	Inadequate streetlights that do not comply with Engineering Standards	Non-compliance with level of service requirement		Mod	Engineering standards review and implementation programme established	Low
5.2	Energy inefficient streetlights	Additional power consumption		Mod	Renewal programme established	Low
5.3	Inadequate maintenance	Streetlights or streetlight column failure	Maintenance programme implemented	Low		

No.	Risk Event	Consequence or Outcome	Mitigation Strategies	Gross Risk	Action Plan	Residual Risk
6.0	Traffic Signals					
6.1	Power failure or damage	Lights inoperable		Mod	Manage as uncontrolled intersection and install appropriate signs except at critical asset intersections in peak hour where Police appointed as Pointsmen until standby generators are installed.	Low
6.2	Inadequate maintenance	Lights inoperable or column failure	Maintenance programme implemented. Where signals are disconnected install temporary priority give way signs	Low		
7.0	Safety Barriers					
7.1	Inadequate barriers not complying with Engineering Standards	Non-compliance with SMS		Mod	Review safety barriers and develop upgrade and maintenance programme as identified in OFI 10 of SMS	Low

4.2 Emergency Management

4.2.1 Civil Defence and Emergency Response Plans

The following documents provide for guidance to ensure the effective delivery of civil defence emergency management in Nelson:

- Nelson Tasman Emergency Management Group Plan 2005
- NCC Emergency procedures manual
- TDC Emergency procedures manual

4.2.2 Local CDEM arrangement

Nelson Tasman Civil Defence Emergency Management Group is a joint committee of both NCC and TDC.

The Nelson Tasman Civil Defence Emergency Management Office provides emergency management planning and corresponding activities. The 2005 Group Plan defines the civil defence emergency management structure and systems necessary to manage hazards, including arrangements for declaring a state of emergency. The Group Plan is the primary instrument where the community identifies and assesses its hazards and risk, and decides on the acceptable level of risk and how it is to be managed.

4.2.3 Lifelines responsibility

The Civil Defence Emergency Management (CDEM) Act 2002 requires local authorities to coordinate plans, programmes and activities related to CDEM across the areas of risk, reduction, readiness, response and recovery. It also encourages cooperation and joint action within regional groups.

In 2002 NCC and TDC participated in the Nelson Tasman Engineering Lifelines (NTEL) project. Table 4.6 assesses the impacts and risks of the Transport Lifelines identified through the project.

The NTEL report is currently being reviewed. The NTEL Group consisting of local lifelines utility representatives, is expected to receive an updated project report in 2008/09.

Table 4.6 Impacts and Risks of Transport Lifelines

Risk Description	Failure Mode	Likely hood		Consequence														Risk Level	Level of Risk
				Health & Safety		Public Health		Asset Per		Enviro & Legal		Historic & Cultural		Financial		Customer			
		Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score		
Tidal Wave (Tsunami)	Bridge Failure	R	0.01	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	3.5	Low
	Arterial Road Failure	R	0.01	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	2.5	Low
	Other Road failure	R	0.01	Mod	50	N	10	Mod	20	N	10	N	10	Maj	70	Mod	50	1.7	Low
River Flood Wave	Bridge Failure	R	0.01	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	3.5	Low
	Arterial Road Failure	R	0.01	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	2.5	Low
	Other Road failure	R	0.01	Mod	50	N	10	Mod	20	N	10	N	10	Maj	70	Mod	50	1.7	Low
Major Wave action on Rocks Road	Arterial Road Closure	AC	0.9	N	10	N	10	C	100	N	10	N	10	N	10	mod	50	171	High
Flooding	Road Closures	M	0.4	Min	30	N	10	C	100	N	10	N	10	N	10	mod	50	76	Low
Design Error	Structure Failure	M	0.4	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
	Vehicle Crash	M	0.4	Min	30	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
Lack of Maintenance	Vehicle Crash	M	0.4	Min	30	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
	Pedestrian Injury	M	0.4	Min	30	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
	Structure Failure	M	0.4	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
Occupational Safety and Health Breach	Vehicle Crash or Worker injury	L	0.7	Maj	70	Min	30	N	10	Maj	70	N	10	N	10	Maj	70	140	Moderate
Vandalism / Terrorism	Structure Failure	M	0.4	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
	Vehicle Crash	L	0.7	Min	30	N	10	C	100	N	10	N	10	Maj	70	Mod	50	175	Low
Landslide	Blocks Road	M	0.4	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
Earthquake	Bridge Failure	R	0.01	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	2.5	Low
	Arterial Road Failure	R	0.01	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	2.5	Low
	Retaining wall Failure	R	0.01	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	2.5	Low
	Other Road failure	R	0.01	Mod	50	N	10	Mod	20	N	10	N	10	Maj	70	Mod	50	1.7	Low
Unauthorised Roading Works	Vehicle Crash or Worker injury	L	0.7	Maj	70	Min	30	N	10	Maj	70	N	10	N	10	Maj	70	140	Moderate
	Damage Services	L	0.7	Maj	70	C	100	N	10	Maj	70	N	10	N	10	Mod	50	175	High
High Winds	Tree Fall on Arterial road	M	0.4	C	100	N	10	C	100	N	10	N	10	Maj	70	Mod	50	100	Low
	Tree Fall on other roads	M	0.4	Mod	50	N	10	Mod	20	N	10	N	10	Maj	70	Mod	50	68	Low
Vehicle Crash Damage	Asset Damaged	L	0.7	Mod	50	N	10	Mod	20	N	10	N	10	N	10	Mod	50	77	Low
Chemical/ Oil Spill on road network	Pollution of Waterways	L	0.7	N	10	C	100	C	100	M	70	N	10	N	10	Maj	70	252	Extreme

Abbreviations

Likely Hood Rating AS=Almost Certain, L=Likely, M=Moderate, U=Unlikely, R=Rare
Consequence Rating C=catastrophic, Maj=Major, Mod=Moderate, Min=Minor, N=Negligible

4.3 Critical Assets

The critical assets are listed in Appendix 1.

4.3.1 Arterial and lifeline road pavements

Critical road pavements are unlikely to suddenly fail completely. Their failure is likely to be gradual and addressed through Council's road maintenance contract.

4.3.2 Arterial and lifeline bridges

The risk analysis has shown that there is a very low likelihood of bridge failure due to a national disaster. However, the consequence of failure is significant and could be dramatic with a high risk of loss of life.

Lifeline and arterial bridges that are considered vulnerable to seismic events will be progressively upgraded where strengthening and improvement work is economically viable. Connel Wagner have carried out an assessment of all bridges and a programme of upgrade works has been budgeted. Where improvements are not possible alternative routes or detours will be established.

4.3.3 Arterial and Lifeline retaining walls

Retaining walls have a slower mode of failure and have a lower risk of injury. An inventory of retaining walls has been completed along with an assessment of their failure risk. The assessment and report by Tonkin and Taylor Ltd identified 8 high risk retaining walls on arterial and Lifeline routes. These walls have been budgeted for renewal between 2008/09 and 2015/16. The report also identified a maintenance programme for other critical walls that has been incorporated into the maintenance budgets.

5 LIFECYCLE MANAGEMENT PLANS

5.1 Overview

This section outlines what is planned in order to manage and operate the Transport assets to the levels of service identified in Section 2, while optimising costs. Lifecycle management clearly identifies both the short and long term requirements of transport infrastructure ensuring a cost effective service.

After background information each asset component is assessed separately. Each sub-section then details specific background information, condition and performance data, the sustainability issues, maintenance, renewal, upgrade/acquisition and disposal strategies for each component.

The components are split as follows:

- Road infrastructure
- Structures on road reserve
- Pedestrian network
- Cycle network
- Passenger Transport network
- Network control and management
- Safety engineering, education and enforcement
- Car park infrastructure

5.1.1 Asset Lifecycle

Assets have a lifecycle as they move from initial concept to final disposal. Depending on the type of asset, its lifecycle varies from 1 year to over 100 years. Key stages in the asset lifecycle are described in Table 5.1:

Table 5.1 Key Stages in the Asset Lifecycle

	Asset planning	The new asset is designed - decisions made at this time influence the cost of operating the asset and the lifespan of the asset. Other, non-asset solutions, must also be considered
	Asset creation or acquisition	The asset is purchased - constructed or vested to Council. Capital cost, design and construction standards, commissioning the asset, and guarantees by suppliers influence the cost of operating the asset and the lifespan of the asset
	Asset operations and maintenance	The asset is operated and maintained - operation relates to a number of elements including efficiency, power costs and throughput. Maintenance relates to preventative maintenance where minor work is carried out to prevent more expensive work in the future and reactive maintenance where a failure is fixed
	Asset condition and performance monitoring	The asset is examined and checked to ascertain the remaining life of the asset - what corrective action is required including maintenance, rehabilitation or renewal and within what timescale
	Asset rehabilitation and renewal	The asset is restored or replaced to ensure that the required level of service can continue to be delivered
	Asset disposal and rationalisation	A failed or redundant asset is sold off, put to another use, or abandoned

5.1.2 Asset Failure Modes

Generally it is assumed that physical failure is the critical failure mode for many assets. However the asset management process recognises that other modes are relevant and are often critical to effective delivery of services.

The range of failure modes includes:

Table 5.2 Range of Asset Failure Modes

Structural	The physical condition of the asset is the measure of deterioration, service potential and remaining life
Capacity	The level of under or over capacity of the asset is measured against the required level of service to establish the remaining life
Level of Service Failure	Reliability of the asset or performance targets are not achieved
Obsolescence	Technical change or lack of replacement parts can render assets uneconomic to operate or maintain
Cost of Economic Impact	The cost to maintain or operate an asset is greater than the economic return
Operator Error	The available skill level to operate an asset could impact on asset performance and service delivery

5.2 Background

5.2.1 Asset acquisition

Council has three ways of obtaining new assets.

- i. By direct purchase of assets
- ii. From private developers who build subdivisions and vest roads and associated transport assets in Council. Council makes it a condition of consent for these developments that the full cost of forming these roads is the developers' and that assets are vested in Council. Council receives on average 2km of new vested road annually.
- iii. Revocation of State Highway status of existing roads by NZTA results in assets being vested in the Local Authority.

Council has to comply with three key requirements when purchasing new assets.

- i. Local Government Act requirement "to act financially prudently".
- ii. New Zealand Transport Agency Policies and Procedures Manual
- iii. New Zealand Transport Agency Competitive Pricing Procedures (CPP) Manual.

The two New Zealand Transport Agency policies only apply to subsidised projects.

The property purchase process is based on government valuation with consideration of market conditions.

All new asset purchases (excluding property) are required to have a defects and liabilities period where any faults, workmanship or problems are repaired by the contractor or supplier.

The management of the design and supervision of the construction of new assets is mainly done in-house by Council's Technical Services project section or managed by developers and vested in Council. The projects section occasionally appoint external consultants for work they cannot complete but this is kept to a minimum.

5.2.2 Condition and Performance Assessment Process

Condition relates to the physical integrity of the asset.

Performance relates to the capability of the asset to meet defined service criteria, and can address other failure modes such as reliability, capacity, and effect on water quality.

Historically asset monitoring to determine condition was subjective, based on local knowledge and experience. Formal procedures have been established to assess asset condition.

Table 5.3 shows the current condition information available and frequency of assessment.

Table 5.3 Condition Assessment Process for Assets

Asset Component	Asset Component Sub Group	Condition Assessment	Frequency (and Last Assessment)
Technical Levels of Service			
Road	Carriageway	Traffic counts/travel time surveys	Various frequencies
	Pavement structure	Field survey and roughness measurement	Biennially
	Pavement surfacing (rating)	Field survey (RAMM)	Biennially
	Kerb and channel (rating)	Field survey (RAMM)	Biennially
	Drains (rating)	Field survey (RAMM)	Biennially
	Regulatory signs, markings and guardrail	Independent audit	3 yearly (2003)
	Traffic signals	Audited by independent assessor	7 yearly (2005)
	Streetlights	Key arterial roads	10 yearly (2004)
	Road reserve, berms and landscaping	None	n/a
	Street furniture	None	n/a
Structures	Bridges	Assessed every 3 years	3 yearly (2004)
	Retaining structures	Varies, assessed every 5 years	5 yearly (2007)
Footpaths/ Walkways		None	
Cycleways		None	
Car parks		None	
Landscaping	Street trees	Assessed every two years	n/a
	Street gardens	On-going audits	n/a
Critical Assets	Arterial/Lifeline roads	Field survey and roughness measure	Annually/bi-annually
	Arterial/Lifeline bridges	Structural assessment and seismic assessment	3 yearly (2005)
	Lifeline retaining walls	Structural assessment survey	5 yearly (2006)

5.2.3 Summary of Assets

Table 5.4 provides an inventory of the key Transport assets.

Table 5.4 Transport Asset Inventory as at 30 June 2006

Asset Component	Asset Component Sub Group	Asset Description	Quantity	Units
Roading	Carriageway	Land for Legal Road	648.2	km ²
		Length of Formed Roads	248.4	km
	Surface	Sealed length	232.7	km
		Unsealed length	15.7	km
		Surfacing total area	1,941,576	m ²
	Drains	Intakes for Culverts	49	units
		Outfalls for Culverts	33	units
		Sumps	5,614	units
		Stormwater pipes	71,249	m
		Culverts	3,097	m
	Kerb & channel	Kerb and channel	300,241	m
		Kerb only	8,678	m
	Regulatory signs, markings and guardrails	Signs	2,882	units
		Posts	1,758	units
		Handrails/sight rails	6,443	m
		Guardrails	1,219	m
		Edge Marker Posts	441	units
		Speed Tables	41	units
		Road Humps	20	units
		Raised Pavement Markers	1,531	units
	Traffic Signals	Traffic signals (Includes Hampden crossing)	12	
	Streetlights	Streetlights	3,584	units
	Structures	Bridges	Bridges (Roads) Total	102
Single Lane			10	units
Weight Restriction			0	units
Timber deck or piles or beams			19	units
Retaining & Sea Walls		Retaining and Sea Walls	22,763	Area of face (m ²)
Fords		Fords	5	units
Footbridges		Footbridges	13	units
Footpaths/Walkways	Footpaths Walkways	Footpaths Area	457,428	m ²
		Walkways Area	33,067	m ²
Cycleways	Cycleways Off-street	Cycleways (off-road) area	39,660	M ²
		Cycleways (off-road) length	15.82	Km
Carparks	Carparks Off-street	Carparks CBD Off-road (excludes Hathaway Terrace)	871	Parks
		Carparks Stoke Off-road	237	Parks
		Pay and Display Meters	89	units
		Carpark Area	39,660	m ²

5.2.4 Critical Assets

Critical Assets are essential in times of emergency, albeit at a reduced level of service, or have an unacceptable consequence of failure.

Critical assets identified in this plan are:

- Lifeline and arterial bridges
- Lifeline and arterial road pavements
- Lifeline and arterial retaining walls

This plan does not consider the state highway inter-regional connections that are NZ Transport Agency assets.

5.2.5 Service Delivery

The operation and maintenance of Council's Transport assets is managed in-house by the Technical Services Department.

The maintenance contracts Council had in May 2008 are summarised in Table 5.5.

Nelson City Council uses schedules of rate and measure and value contracts. These contracts require maintenance inspections by the contractor and a proposed work programme to be submitted to Nelson City Council for approval. Once this is approved the work is completed.

Table 5.5 Nelson City Council Roading Maintenance Contract

No.	Contract No.	Title	Work Included	Contract Period Years	Contractor	Expiry Date	Comments
1	2983	2006/2009 Footpaths, vegetation	- All road maintenance including street cleaning, carparks and signs	3 years + 1 year + 1 year + 1 year	Downer EDI Works	2009 (Max 2012)	Awarded 20 July 2006
2	EC3114	Roads Electrical Maintenance	Electrical work and maintenance Parking meters Street lights Traffic signals	3 years + 1 year + 1 year + 1 year	Powertech	2011 (Max 2014)	Awarded 26 August 2008
3	EC2821	Traffic Counting	Nelson City traffic count information	3 years + 1 year + 1 year + 1 year	John Cross Ltd	2009	Awarded 1 July 2003
4	2970	Parking Meter Money Collection	Parking meter cash collection	3 years + 1 year + 1 year	Armour Guard ADT	2010 (Max 2012)	15 June 2007
5	Varies	Footpath Resurfacing	Footpath renewals (competitive tender annually)	1 year	Various	Annually	
6	2963	2005/2008 RAMM	RAMM inspection & roughness surveys	3 years + 1 year + 1 year	MWH	(Max 2010) 30 June 08	Awarded 30 November 2005
7	Varies	Carriageway resurfacing	Re-seals	Annual	Various	Annual	Annual
8	Varies	Bridge inspections	Inspect all road structures	Annual	Various	Annual	Annual

5.3 Roading infrastructure

This sub-section includes traffic counting, pavement structures, pavement surfacing and carriageway kerb, channels and drainage.

5.3.1 Background information and historical and future data

Nelson's roads are classified as State Highway 6, Arterial, Principal, Collector, Sub-collector and Local in the Nelson Resource Management Plan. The plans in Figure 5.1 and Figure 5.2 show the classifications of the roads in the district.

Road Asset Maintenance Management (RAMM) software data shows that over 70% of the total traffic travelling on the Nelson network use the arterial roads and less than 5% use local roads. Local roads make up over 70% of the total Nelson road network.

This is shown diagrammatically in Figure 5.3.

Figure 5.1 Urban Road Hierarchy

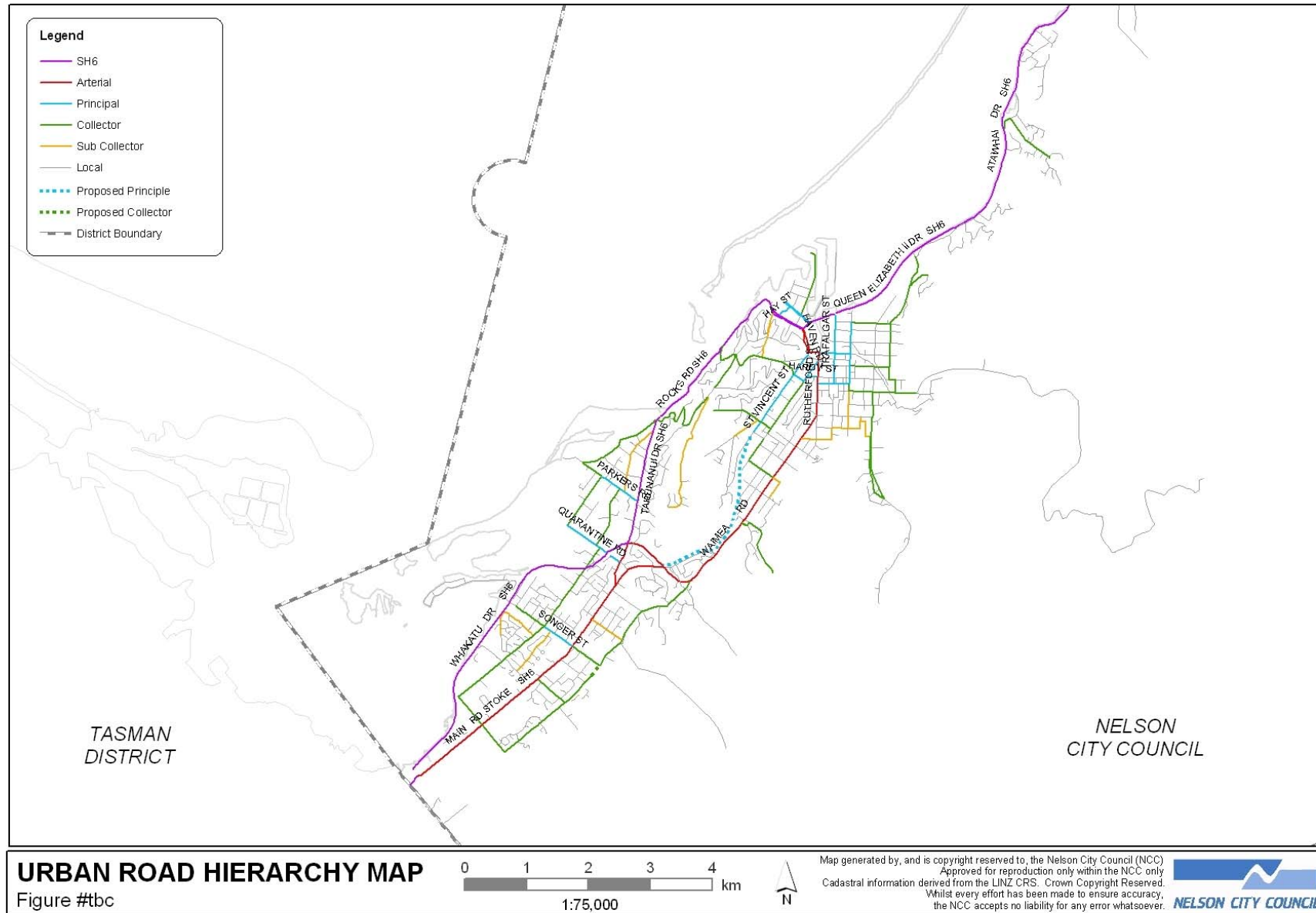


Figure 5.2 District Road Hierarchy

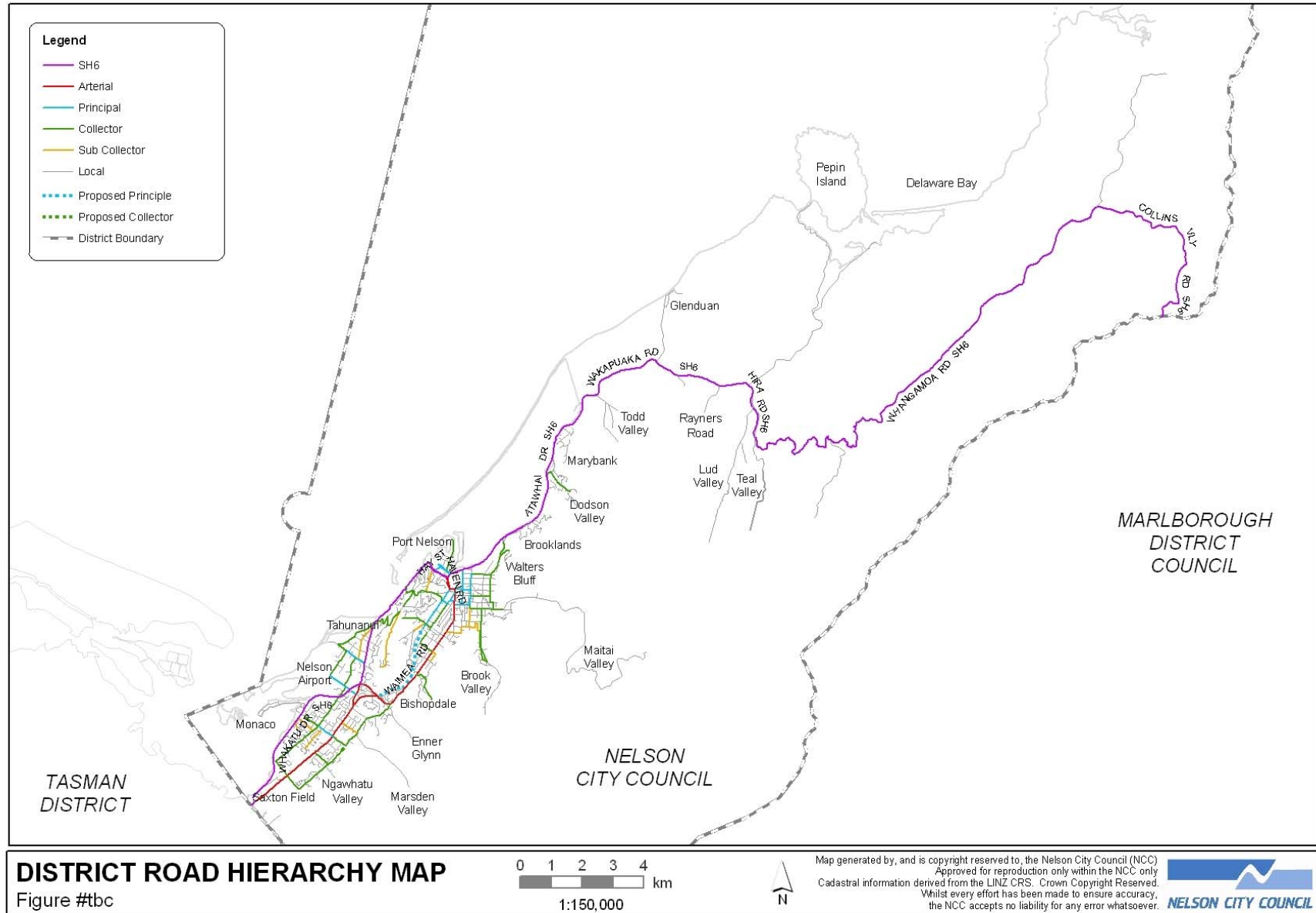
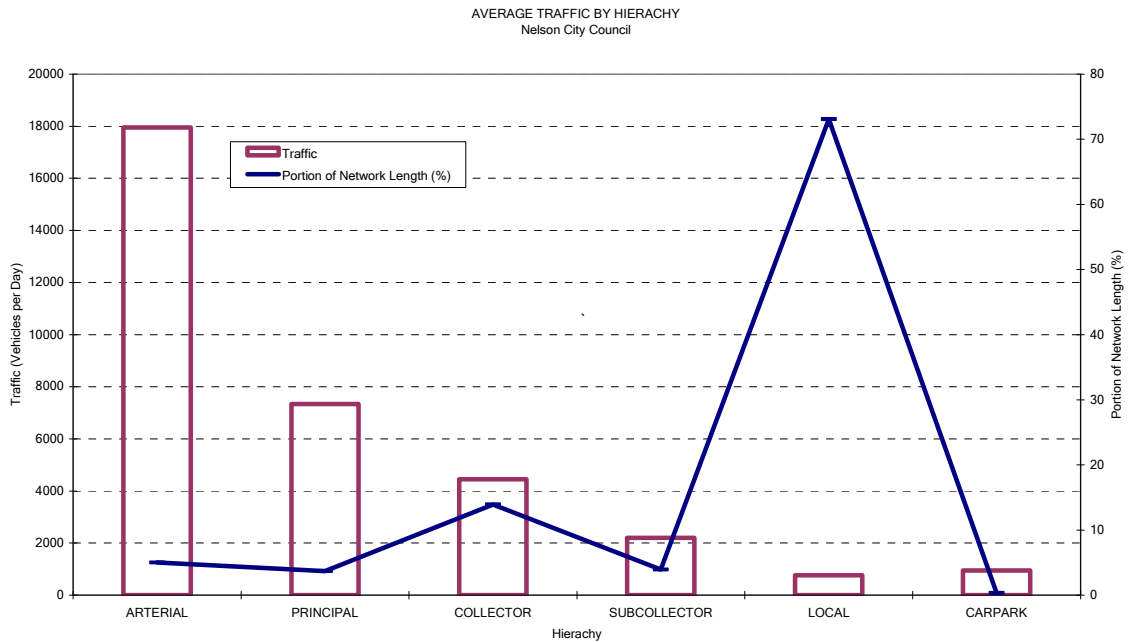


Figure 5.3 Average Traffic by Hierarchy



5.3.2 Traffic data

Traffic data is gathered for two purposes. It assists the Council and Regional Land Transport Committee to make strategic decisions about the road network and assists Council’s road lifecycle decisions.

Regional Traffic Data

Traffic count data is gathered across the Nelson and Richmond screenlines (see Figure 3.3 and Figure 3.4) on a 3 monthly basis.

This data is reported to the end of June each year in the Regional Land Transport Strategy annual report.

Council traffic data

There are established count sites throughout the road network recorded monthly, six-monthly or annually depending on their location. Count data is entered into the RAMM database to provide an overall picture of the network’s traffic use. A plan of the count sites is shown in Appendix 11.

This data is reported to the end of June each year in the annual department reports.

5.3.3 Traffic modelling

Regional modelling

As part of the Nelson to Brightwater Corridor Study a four-step model was established to assist in predicting traffic volumes on the major network corridors. This model was based in part on 2001 Census data and the planning zones identified in the Nelson RM Plan. This model is being updated to reflect the 2006 Census data and recent Nelson RM Plan zone changes. Subsequent updates are scheduled for 2012 and 2017.

Council modelling

Council has a micro model that it uses to assess parking and traffic circulation in and around the CBD. This model was established in 2004 and needs updating with more recent traffic data. It is proposed that this update is carried out as part of Council's Arterial routes study.

5.3.4 Asset condition and performance

Every formed Council owned road is recorded in the RAMM database. This database records pavement and surfacing construction, and maintenance history, inspection data and traffic volumes.

RAMM surveys are done every second year to assess the condition of the road pavement and surfacing. Assessments are carried out over a 50m stretch of every road. Long roads are split into sections. The pavement condition rating assesses rutting, cracking, potholes and shoving. The surfacing assessment considers flushing, bleeding, scabbing, ravelling and delaminating of chipseals, asphaltic concrete and slurry surfaces.

Road roughness surveys, using a NAASRA roughness meter, are done annually and the data recorded in RAMM.

Outputs from the 2006 RAMM survey are shown in Figure 5.3.

Figure 5.3 Average Roughness by Hierarchy

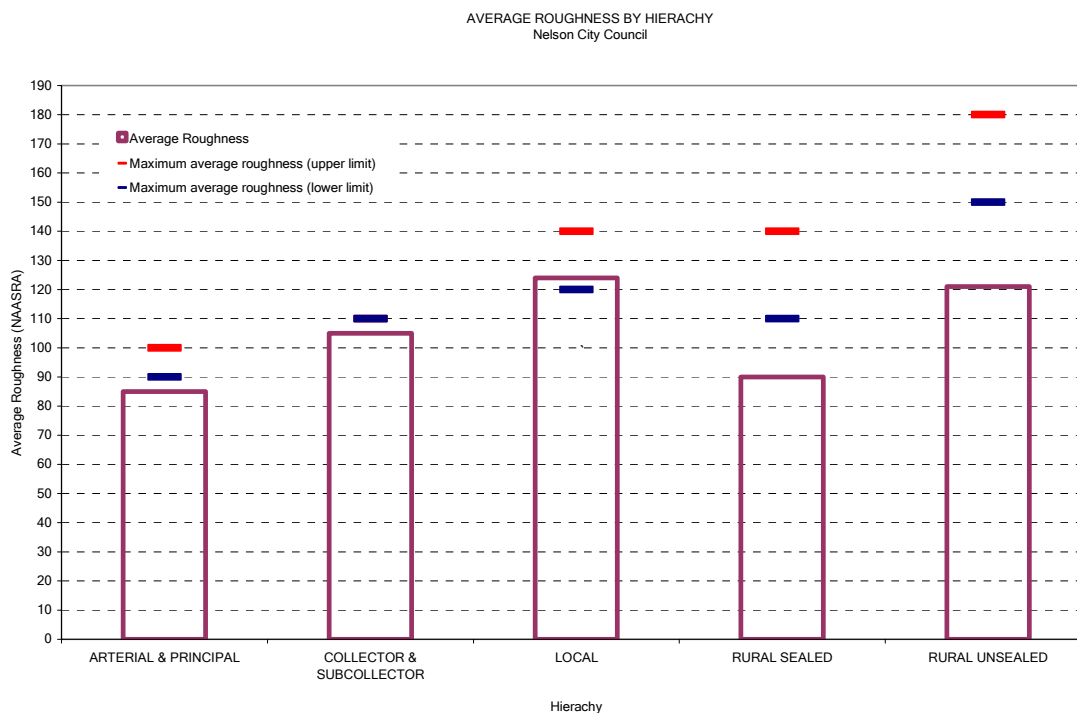


Table 5.6 shows how the average roughness has changed since 2003. The lower the NAASRA reading the smoother the road.

Table 5.6 Road roughness by road classification

Road type	2003 NAASRA	2005 NAASRA	2006 NAASRA
Arterial / principal	110	104	85
Collector & Subcollector	130	109	105
Local	145	141	124
Rural sealed	145	108	90
Rural unsealed	150	122	121

Road roughness measurements in the urban environment are significantly affected by manhole covers in the carriageway.

Council has budgeted \$440,000 a year since 2000 for resurfacing. The 2006 NZTA technical review of Nelson’s road maintenance programme identified that the resurfacing programme was falling behind that recommended from RAMM analysis. The review said:

“This level of service is meeting the immediate needs of the network, but is indicative of possible discrepancies within the RAMM database that may affect long-term maintenance programming.”

Since this review, RAMM data accuracy has improved significantly. The resulting “distribution of seal age” and “remaining seal life” graphs are shown as Figure 5.4 and Figure 5.5.

Figure 5.4 **Distribution of Seal Age**

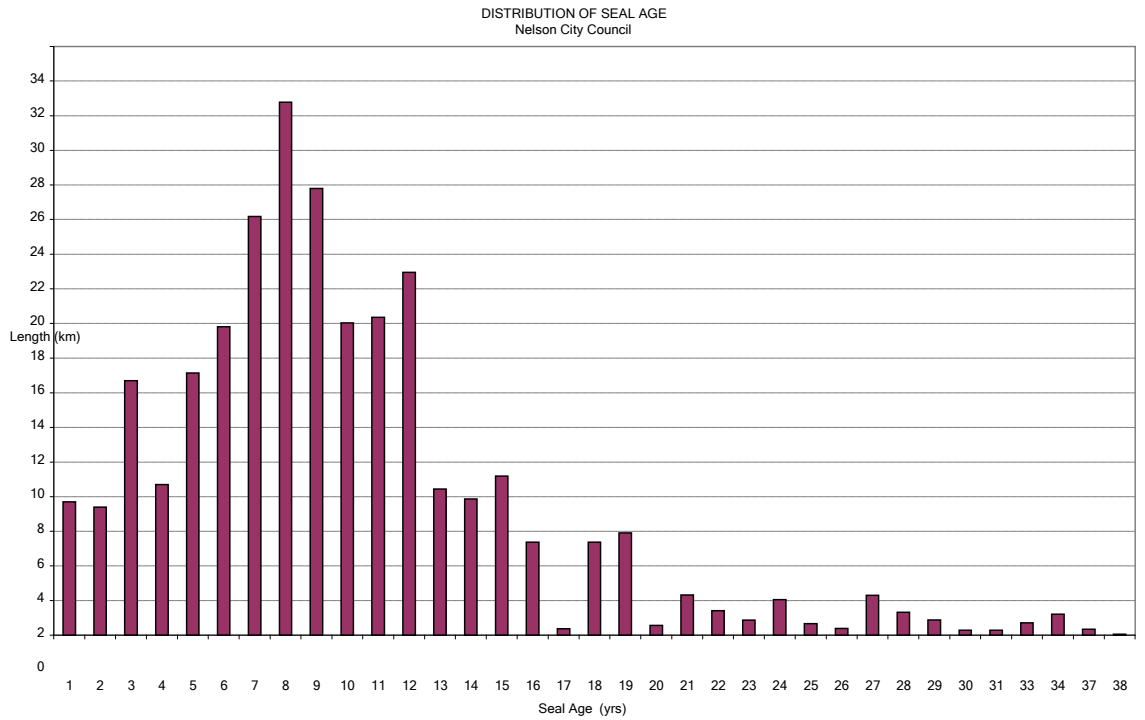
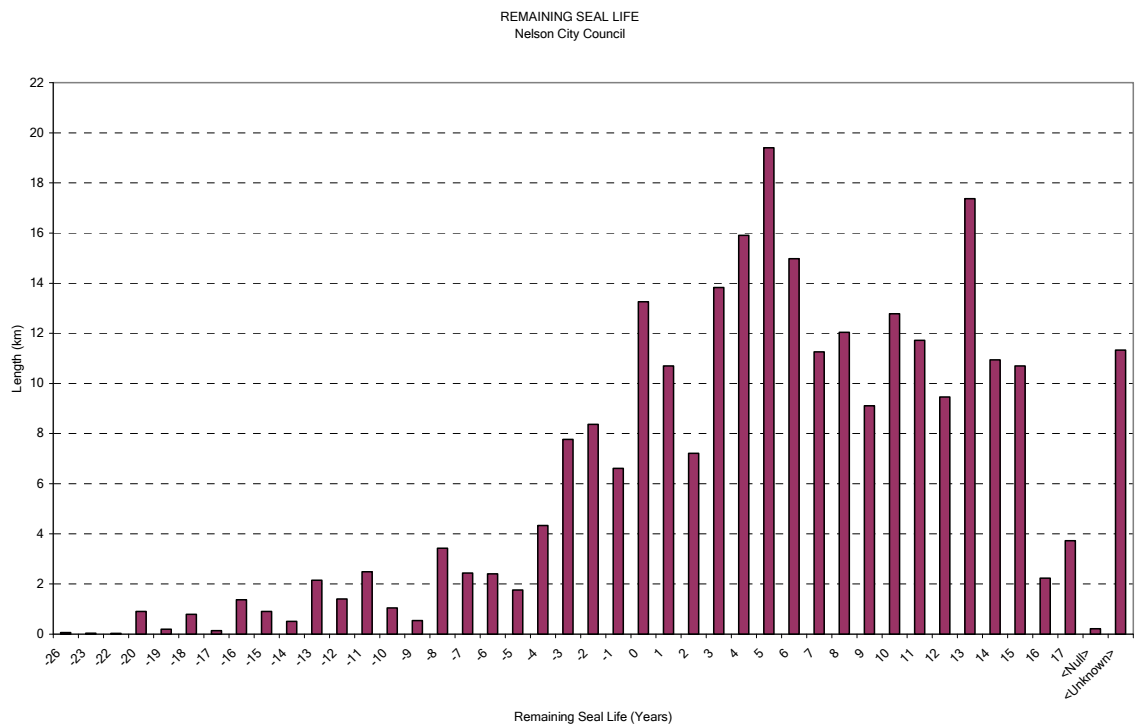


Figure 5.5 **Remaining Seal Life**



These graphs indicate the \$450,000 a year re-sealing budget requires increasing to ensure further falling behind does not occur as result of increasing bitumen prices.

Council has many local and rural roads that do not comply with the design widths or standards required in the Nelson RM Plan and Engineering Standards. This non-

compliance includes a lack of road width, cycleway and footpath, inadequate drainage, poor pavement structure and inadequate lighting. It affects road safety, traffic speed and vehicle capacity and the ability to provide adequate footpath, cycling and parking facilities to meet demand.

The condition of kerb and channels is assessed annually as part of the RAMM inspections. Where installed kerb and channels generally comply with the Engineering Standards. Generally local roads that do not comply with the Engineering Standards do not have kerb and channel, but may have temporary asphaltic bunds installed to control stormwater to some extent.

An inventory of roading culverts is contained within the RAMM database. All culverts comply with the Engineering Standard requirements.

Council has not carried out a sump or lateral condition assessment. Sumps are recorded on the Council GIS system. Sumps are either bubble up or connected to a stormwater system.

Kerbs and channels, culverts, sumps and laterals are generally constructed from concrete and have a life of over 80 years. It is not considered that these assets are nearing the end of their life. No renewal or replacement programme has been established.

5.3.5 Sustainability Issues

Wide roads place an additional future re-sealing burden on Council, reduce natural stormwater infiltration, and reduce landscaping opportunities. Provision of carriageway parking and cyclelanes requires increased road widths and can give the perception of increased vehicle safety which encourages faster driving. It is proposed that the Engineering Standards and Council's local road upgrades are reviewed with a view to incorporating streetscape controls into designs so that speeding is discouraged, and less social severance occurs.

As oil prices increase so does the cost of sealing roads. The social and environmental benefits of sealing unsealed roads should be considered in detail three years prior to commencement of the proposed seal extension programme for rural roads in 2016/17 to check to see if justification for the programme is robust.

Recycled glass collected in Nelson should be continued to be permitted in road construction until a more economically beneficial use can be found.

The standard of treatment of stormwater runoff from roads and carparks is specified in the Reticulated Stormwater Quality Improvement Plan (RSQIP). Treatment provision is provided for in the road maintenance contract and the stormwater accounts.

5.3.6 Maintenance plan

The operation and maintenance of Council's Transport infrastructure is managed by the Technical Services Department. The roading maintenance contract was awarded to Downer EDI Works Ltd in 2006. The contract runs for 3 plus 1 + 1 + 1 years. The contract allows for the provision of all road maintenance and includes street and car park cleaning, road markings and signage.

All maintenance costs and traffic count data is to be recorded and inputted into the RAMM database monthly.

5.3.7 Renewal and re-seal plan

Where RAMM data and local observation indicates that poor pavement structure is critical then generally this is renewed as a stand alone project.

The RAMM database has the ability to produce a forward work programme for the re-sealing of roads. This programme indicates that \$450,000 of resurfacing each year requires increasing to maintain the network to the current level of service for the next three years. This expenditure level should be further reviewed in light of increasing re-seal costs and updated RAMM outputs in 2010/11.

5.3.8 Upgrade / acquisition plan

The RAMM database is also used to provide a forward work programme for the rehabilitation of roads. To date this programme has not been accurate enough, or the extent of the rehabilitation critical enough to warrant any upgrades.

Nelson's street layout plans were initially developed in England and established 20m wide road reserves. The layout did not take the topography into account and as a result many formed roads are a lot narrower than the width of the land legally designated as road.

Up to a few years ago most of the roads that have been upgraded to provide footpaths, parking and correct road widths have been on the flatter land. More recently the footpath upgrade programme has meant that roads have been upgraded on hills. To achieve the necessary standards, retaining walls have become a necessary part of these upgrades, at significant cost.

5.3.9 Financial considerations

NZ Transport Agency funds road maintenance and renewals by 43% of their total cost, and upgrades at 53%. Council's district road programme is submitted to NZTA every three years for funding approval. NZTA assesses the level of funding requested based on its overall revenue, other regions' requirements, and its own assessment of Council's funding requirements. Road upgrades generally require a benefit cost ratio of 4 to be eligible for funding. It is unlikely that any of Council's road upgrades can justify the benefit cost ratio required to attract funding.

Council's draft 2009/10 to 2011/12 three year District Road Programme is shown in Table 6.2, Table 6.3 and Table 6.4.

5.4 Structures on Road Reserve

5.4.1 Background information, historic and future data

The RAMM database contains an inventory of all Council-owned retaining walls. Council's bridge inventory contains bridge and footpath data.

The bridge inspection report was carried out by Connell Wagner Consultants in 2004 and the survey of retaining walls was carried out by Tonkin and Taylor in 2007.

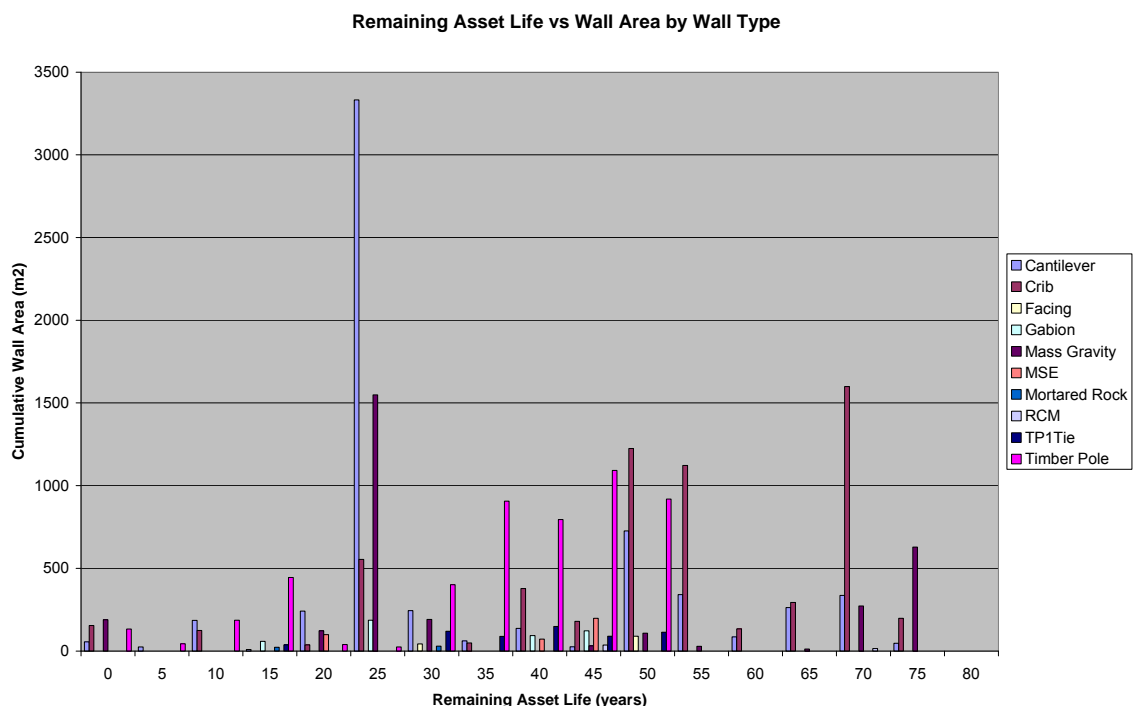
5.4.2 Asset condition and performance

The 2004 bridge inspection report covered 109 bridges and found that 17 of them required maintenance work valued at greater than \$5,000.

As part of the 2009 revaluation of Council assets, it is intended to value the surface coating of large steel structures as a separate asset component. This will allow an improved condition assessment of steel paint work and better financial forecasting of this expenditure. Repainting large steel structures is expensive, with Collingwood Street Bridge projected to cost \$220,000 in 2008/09.

The retaining wall survey inspected 327 retaining walls. Figure 5.6 shows the remaining life of the retaining walls (from RAMM).

Figure 5.6 Remaining Asset Life vs Wall Area



5.4.3 Maintenance plan

Council's bridge maintenance programme provides the following bridge inspection regime:

- Full structural inspections every three years, the next is planned for 2009/10. The previous inspection should have been in 2007/8 but no funding was allocated.
- Annual inspection by a maintenance engineer.
- Six monthly inspection by the contractor, or after any earthquake or flood.

The 2004 bridge inspection report included a programme of maintenance works. Council budgets \$36,500 a year to action this programme.

The retaining wall survey found 88 that were high risk and required maintenance inspections every second year and 232 that required maintenance inspections every five years.

The survey also identified 58 requiring maintenance works. Council budgets \$31,500 a year to action this work.

5.4.4 Renewal and re-seal plan

The retaining wall survey found that eight walls required replacement. The retaining wall replacement programme is set out in Table 5.11.

Table 5.11 Retaining Wall Replacement Programme

Year	Location	Cost estimate (\$)
2009/10	Matipotu plus varies	60,000
2010/11	1 Waimea Rd	285,000
2011/12	41 Arapiki Rd	70,000
2012/13	17 Coster St	100,000
2013/14	6 Champion Tce	114,000
2014/15	6 Konini St	110,000
2015/16	24 Montcalm St	50,000
2016/17	3 Mahoe St	300,000

5.4.5 Upgrade / acquisition plan

There is no capital upgrade programme for retaining walls, although new walls are adopted and incorporated into the RAMM database through new road construction. These roads are funded as part of the road construction, either by Council or a developer.

5.4.6 Financial considerations

NZ Transport Agency funds Council's bridge and retaining wall maintenance programme by 43% of the total cost.

Council has submitted a funding application for the retaining wall replacement programme identified in Table 5.11.

5.5 Pedestrian Network

5.5.1 Background information

The Pedestrian Strategy 2005 was not fully implemented as planned. The Implementation Plan 2009 in Section 2.5 improves budget and resource alignment.

5.5.2 Pedestrian data

Pedestrian counts are carried out on the main streets of the CBD by Property Institute of New Zealand.

Council carries out pedestrian counts on the Railway Reserve, Wakefield Quay and Bishopdale one day each year.

The RLTS requires additional pedestrian assessment which includes surveys to determine modes of journey to work to supplement the five yearly census data.

5.5.3 Asset condition and performance

RAMM records footpath and walkway condition assessment although this data requires improvement.

5.5.4 Sustainability Issues

The RLTS states that more should be done to encourage pedestrians to use the footpath and walkway network. The Pedestrian Strategy 2005 provides direction to do this.

Further consideration of the walkway lighting programme is required. The cost of implementation and the operation and maintenance of walkway lighting may not match the benefits provided although new solar lights may reduce costs.

The walkway lighting programme review will consider costs and benefits in more detail, particularly for walkways where there are nearby lighted footpaths. At the current rate of implementation, the walkway lighting programme will end about 2035.

5.5.5 Maintenance plan

Footpath maintenance (\$90,000/annum) and vegetation and berm maintenance (\$80,000/annum) has been a regular aspect of footpath maintenance for a number of years. Additional expenses proposed in the 2009 Implementation Plan are:

- CPTED audits of projects over \$100,000 \$50,000/annum
- Area specific safety audits \$30,000/annum

Walking promotions and publicity projects are provided for under the Travel Demand Management Plan.

5.5.6 Renewal and re-seal plan

Council has provided around \$140,000 a year to re-seal deteriorated footpaths in the past. It is proposed that this is increased to \$175,000 per year.

This level of funding is satisfactory for the next three years but will be reviewed for the next AMP after the RAMM data has been improved and a realistic work programme can be obtained from RAMM.

5.5.7 Upgrade and acquisition plan

Council historically budgets \$52,000 a year for new walkway connections, \$52,000 a year for walkway lighting and \$20,000 a year on new walkway facilities for the elderly and mobility impaired. It has been decided to postpone the walkway budget in 2009/10 and increase the budget in 2010/11 to fund the Will Watch Way walkway. Similarly the walkway lighting budget has been postponed to 2011/12.

In 2007 NZTA approved Council's application for a five year subsidised footpath programme on the basis that the programme will increase pedestrian activity and improve pedestrian safety. The approved and revised programme is shown in Table 5.12.

Table 5.12 Footpath Programme

Street	Length (m)	Approved Year	Revised Year
Stansell Ave	530	2007	2006/07
Locking St	540	2008	2010/11
Cleveland Tce	875	2008	2008/09
St Vincent St	430	2009	2010/11
Jenner Rd	170	2009	2010/11
Tosswill Rd	680	2010	2008/09
Hampden Cul-de-sac	260	2010	2016/17
Queens Rd	1030	2011	2011/12
Rangiora Tce	260	2011	2012/13

The estimates are based on a full width road upgrade to comply with Engineering Standards. While the cost of the footpath is subsidised, the cost of the rest of the upgrade is not. Additional costs include road widening, drains, parking, driveway modifications, streetlighting and cable undergrounding.

The footpath upgrade programme is shown diagrammatically in Appendix 2.

Additional footpath upgrades are prioritised and specifically listed for programming after 2015/16 in Appendix 3. Minor footpath projects are placed on the minor improvements list where they are identified and are prioritised annually. These projects are implemented using the minor improvements budget.

5.5.8 Financial considerations

Generally footpaths are not funded by NZTA so costs are covered through rates or loans. Nelson City Council was the first Roding Authority for many years to obtain footpath upgrade capital funding for this programme. Funding is provided at 53%.

5.6 Cycle Network

5.6.1 Background information

Additional funding, resources, and the outcome of the Nelson North to Brightwater Corridor Study will assist in implementing the Cycle Strategy Implementation Plan 2008 in Appendix 6 .

Nelson City has recently developed an expanded cycleway network. New routes include the Whakatu Drive, QEII drive and Atawhai cycleways. A plan of Council's cycleways is shown in Figure 5.12. This plan requires updating to include the recently completed Airport cycleway and NZTA Atawhai cycleway. The plan also needs updating to show the new Tahunanui intersection.

5.6.2 Cycling Data

Council carries out an annual count at the same locations as the pedestrian counts. The Cycle Strategy recognised that this level of data was insufficient and NZTA has also indicated that improved monitoring is needed for any further project funding. Budgets are allocated for 2008/09 to establish a cycle counting programme incorporating permanent loops in the cycleways and a comprehensive intersection spot count to build up a city-wide picture of cycle activity.

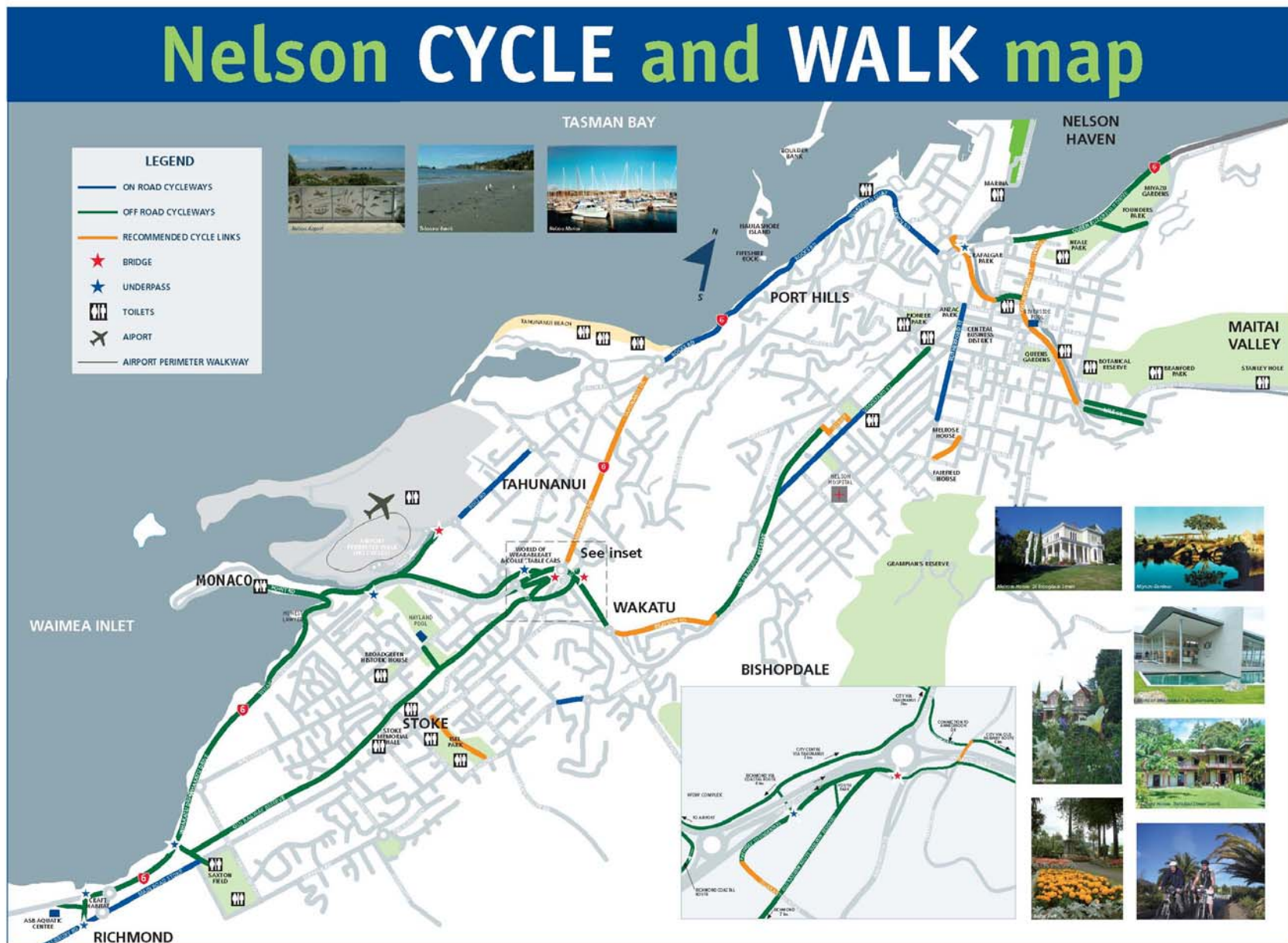
5.6.3 Asset condition and performance

The condition of off-road cycleways is included in RAMM assessments. These are all relatively new assets, constructed in the last 10 years so no analysis has been carried out to date.

5.6.4 Sustainability Issues

Cycleway lights require further investigation. The current budget allocation of \$50,000 a year does not align with the requirements of Appendix 12. Cycleway lighting is expensive and the trial of solar lights did not prove to be successful with nearly 100% failure of those lights that weren't vandalised. Technology is continuously improving and better solar lights are coming onto the market all the time. A more targeted revised programme is required to align to the allocated budget. Alternatively the budget needs to be considerably increased to align with the programme better.

Figure 5.12 Nelson Cycle and Walk Map



5.6.5 Maintenance plan

Council budgets \$25,000 a year on cycleway maintenance, \$30,000 a year on sweeping to remove glass from cycleways and \$16,000 a year on maintaining Council's AIS system.

Community programmes are also allocated to this Council budget. It is proposed that from 2009/10 these programmes are included in the new Travel Demand Management budget. These budgeted programmes, identified in the Cycle Strategy are:

- Employee cycle storage facilities
- Enhanced private sector cycling
- Education campaigns
- Secondary school promotions
- School cycle storage (50% NZTA, 50% school funded)

5.6.6 Renewals plan

No renewals assessment has yet been completed. It is proposed that \$12,500 a year is allocated over the next three years for cycleway re-sealing and that this requirement is reviewed in the next AMP.

5.6.7 Upgrade / acquisition plan

Appendix 6 identifies the proposed cycleway programme, with the budgets shown in Table 6.2, Table 6.3 and Table 6.4.

In addition to the cycleway programme, \$25,000 a year is proposed for minor cycleway improvements. This allocation is to enable minor issues to be addressed when they are identified by cyclists rather than wait at least a year for action through the minor improvements budget.

Additional budgets to upgrade cycle racks and provide secure cycle parking facilities are proposed to come under the Travel Demand Management budget.

5.6.8 Financials

Council has allocated 47% of loan capital to fund the cycleway capital upgrade programme. The remaining 53% is budgeted income from a cycle package application. This package is yet to be submitted and these projects will not proceed until the application is approved.

5.7 Passenger Transport Network

Council's Passenger Transport service delivery is about to be altered following development of the Regional Land Transport Committee's Passenger Transport Plan.

There are a number of procurement issues Council will have to work through to implement the Passenger Transport Strategy which would render lifecycle analysis obsolete. The section will therefore be completed in the next AMP.

5.8 Network Control and Management

5.8.1 Background information, historic and future data

Council has not developed a signs inventory to date. While it is considered that this task would not produce a net benefit for the road network, an inventory of parking, pedestrian and cycleway signs would improve the performance of these networks.

5.8.2 Asset condition and performance

There has been no condition assessment of guardrails apart from routine maintenance inspections.

Nelson City completed an independent condition assessment of all its traffic signals in 2004. This identified four key areas that require upgrading to meet current national best practice:

- New pedestrian call buttons
- Audio pedestrian phone signals
- Improved alignment of signal pedestrian call buttons with pedestrian crossings at selected signals
- Entry and exit lane improvements at some intersections

5.8.3 Sustainability Issues

Vandalism costs and data have not been gathered to date. Anecdotally, damage to street poles and signs, parking meters, traffic lights and bus shelters is increasing. Further measures to prevent vandalism will be considered in the future.

Cycleway line marking hasn't yet been renewed. \$50,000 is allocated in 2008/09 and then every five years to renew cycleway line marking, including green paint at intersections. It is anticipated that new technologies might be developed to improve the way cycleways are marked.

5.8.4 Maintenance plan

The condition of signs are checked by the maintenance contractor on the following basis:

- CBD area (inside ring road and Gloucester & Vanguard Street), every two weeks
- Rest of Nelson City every three months, broken into zones

Road markings are maintained on a 24 month cycle with high use areas in CBD and key intersections repainted every six months, arterials, principal and collector roads annually. All other roads are remarked every two years. \$100,000 is budgeted annually for street marking with an additional \$50,000 budgeted biannually. Council allocated an additional \$10,000 a year for line marking to maintain new subdivisions, upgrading and parking lines.

The minor improvements budget is used to upgrade the traffic lights. This upgrade should be completed by 2009/10.

5.8.5 Renewal and re-seal plan

There is no renewal plan for these items.

5.8.6 Financial considerations

NZTA provides a 43% subsidy for network maintenance and control.

5.9 Safety Engineering and Education

5.9.1 Background information and historical and future data

Council's Safety Management System for roads was completed in August 2007. To date this document has not been implemented although minor safety projects, RSAP's, Council's safety education programme and crash reduction studies continue.

An accurate asset inventory for streetlights and pedestrian crossing lights is contained in the Street Light Maintenance Management System (SLIMM) database.

5.9.2 Asset condition and performance

Nelson completed a performance assessment of 65 roads with streetlights (arterial, principal, collector and CBD roads) in 2004. The results of this survey are shown in Table 5.13.

A significant 77% of roads do not meet accepted national standards for road lighting. This figure seems high but many roads only fail in compliance for small parts of their lengths. For example Rutherford Street has been upgraded from Selwyn Place to Halifax Street but is still below standard from Selwyn Place to Bronte Street.

Table 5.13 Streetlight Condition Assessment

Road Hierarchy	No Roads Surveyed	Lighting Standard		% Poor	Notes
		Good	Poor		
Arterial Roads	5	0	5	100%	Lighting poor in sections
Principal	13	3	10	77%	Lighting poor in sections
Collector	39	7	32	82%	
CBD	7	5	2	29%	Hardy and Bridge St lighting upgrades completed 2006/07
Totals	64	15	49	77%	

5.9.3 Sustainability issues

Higher efficiency light bulbs are starting to appear on the market. Manufacturers suggest that these bulbs can provide power savings of up to 20% over the standard high pressure sodium bulbs used in Nelson. Even more efficient light emitting diodes (LED's) are also being developed and used in some traffic lights. Manufacturers are also investigating electronic lighting systems that enable the lights to be dimmed by 50%. This could provide significant power savings if Council adopted a reduced level of service between, say, the hours of 11pm and 6am. The cost of these new bulbs is relatively high and it would be economically prudent to delay making any strategic lighting decisions until this new technology is proved reliable.

Council replaces high power mercury vapour and fluorescent bulbs with the more efficient high pressure sodium bulbs when it carries out street upgrades. Often pole spacings and pole heights also require altering.

Council is trialing three different types of streetlights in Todds Valley. These are the Cosmo white lights (60W), Phillips Sons (yellow) and normal ones. The Cosmo white lights are of a lower lighting standard than that required in the Engineering Standards and the Phillips Sons provide 100% cut-off.

5.9.4 Maintenance plan

The proposed road safety education programme provides the following:

- Administration support to Road Safe Nelson Bays Incorporated
- Plunket car seat education
- Te Korowai Trust car seat rent to buy scheme
- Intersection safety
- Drive time campaign
- Driver licensing assistance
- Cycle safety including "share the path" messages and 0800 Cyclecrash
- Drive Sober campaign
- Adult seat belt education
- Streetwise – early intervention programme
- Safe with Age programme

Appendix 13 provides more programme detail.

5.9.5 Renewal plan

Council budgets \$120,500 a year for the renewal of streetlights. Renewals generally occur where there is evidence of potential pole failure.

5.9.6 Upgrade/Acquisition Plan

There is currently only a limited lighting upgrade programme of \$31,500/annum. New streetlights are acquired through the vesting of new streets from subdivision developments, so any significant street lighting improvements, or lighting head replacement programme, is not currently planned.

5.9.7 Disposal plan

Lighting companies offer a rebate for the recovery of streetlight componentry. Concrete streetlight poles are stockpiled for resale or disposed to landfill. Bulbs are disposed to landfill.

5.9.8 Financial considerations

The NZ Transport Agency funds 75% of the road safety education programme.

The NZ Transport Agency funds 43% of all streetlight maintenance and electricity costs and 53% of upgrade costs where the minor improvements budget is used. Renewals and upgrades are 100% rates funded, except in the CBD where the inner city enhancement differential rate is used.

5.10 Car Parking Infrastructure

5.10.1 Background information, historic and future data

Council has eight car parks, two in Stoke (237 parks) and six in the CBD (871 parks). The number of spaces in each park is identified in Table 5.14.

Table 5.14 Carparking Spaces in Nelson and Stoke

1	Strawbridge Square (Stoke)	180	time restricted
2	Putaitai Street/Fire Station Car Park (Stoke)	57	time restricted
3	Tahaki Street (Nelson Library)	59	time restricted
4	Millers Acre	92	metered
5	Wakatu Square	173	metered
6	Buxton Square	229	metered
7	Montgomery Square	268	metered
8	Betts Car Park	52	leased to individual users
9	Bridge Street Car Park		leased to individual users
	TOTAL	1,108	

5.10.2 Asset condition and performance

Off-street car parks have been incorporated and included in the RAMM database.

There is no identified major renewal requirement for carpark assets, apart from a pavement upgrade on the Rutherford Street exit of Montgomery Car Park.

Car parking meters were substantially renewed in 2006 to ensure compliance with the introduction of new currency and are consequently in excellent condition.

The existing CALE and METRO machines in the CBD car parks will be replaced if they begin to have high fault rate but currently they continue to provide a good level of service.

5.10.3 Sustainability Issues

Car parking controls are recognised in the RLTS as significantly reducing people's reliance on vehicles. Car parking controls need to be introduced to support the direction of the RLTS, and changes to the RM Plan parking requirements in the inner city fringe will be reviewed.

5.10.4 Maintenance plan

The Inner City Enhancement account is used to address car parking and maintenance of the CBD. The budget covers the cost of the Central City Coordinator (\$120,000 per annum), parking meters, hanging baskets, brickwork, street sweeping, footpath cleaning, street furniture cleaning and litter collection.

5.10.5 Renewal plan

\$15,000 is allocated each year to replace parking meters.

5.10.6 Upgrade / acquisition plan

The Inner City Enhancement account is used to fund development work and purchases in the CBD. \$10,500 each year is allocated for decorative lighting and \$30,000 every three years for CBD artwork.

5.10.7 Financial considerations

The Inner City Enhancement account is funded from the CBD differential rate and parking revenue.

6 FINANCIAL

6.1 Asset Valuation

Council last updated its asset valuation in June 2008, based on replacement cost valuation. The full Transport asset valuation, including an assessment of asset life, is included in Council's Valuation of Infrastructural Assets, dated 30 June 2008.

The total replacement valuation is \$601 million, with the main components of this valuation listed in Table 6.1.

Table 6.1 Summary as of 30 June 2008 Replacement Value

No.	Asset Group	Replacement Value	% of Total	Depreciated
1	Land for Legal Road	\$321 million	53%	No
2	Road Formation	\$59 million	10%	No
3	Sub base	\$27 million	5%	No
4	Base Course	\$27 million	5%	Yes
5	Retaining Walls	\$27 million	5%	Yes
6	Bridges	\$23 million	4%	Yes
7	Surfacing	\$21 million	3%	Yes
8	Stormwater Pipes	\$21 million	3%	Yes
9	Footpaths	\$20 million	3%	Yes
10	Kerb and Channel	\$18 million	3%	Yes
11	Remainder (includes cycleways)	\$37 million	6%	Yes
Total		\$601 million		

The annual expenditure on the Transport asset group is made up of the three categories; Operational & Maintenance, Renewals, and Capital Expenditure. Council's internal general ledger accounting systems separates accounts expenditure into two categories; expenses (operational and maintenance costs) and capital expenditure. The 2009/10 to 2011/12 three year DRP and 2009-19 LTCCP are shown in Table 6.2, Table 6.3 and Table 6.4.

These estimates do not allow for fuel prices or inflation escalation and assume that the levels of service will remain unchanged and that staff resources will be available to commission all the actions required.

Table 6.2 2008 Estimates – Operations and Maintenance

Year		1	2	3	4	5	6	7	8	9	10
		2009/19 LTCCP			2012/22 LTCCP			2015/25 LTCCP			2018/28 LTCCP
		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
SUBSIDISED ROADING											
WC003	Provide Studies & Strategies		55,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
WC151	Network & Asset Management	456,400	456,400	456,400	456,400	456,400	456,400	456,400	456,400	456,400	456,400
WC002	Road Studies		70,000			70,000			70,000		
WC003	Crash reduction Studies		20,000			20,000			20,000		
WC111	Sealed pavement mtce	576,000	576,000	576,000	576,000	576,000	576,000	576,000	576,000	576,000	576,000
WC112	Unsealed pavement mtce	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
WC113	Routine drainage mtce (Split)	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000
WC114	Structures mtce (Split)	70,000	100,000	70,000	70,000	100,000	70,000	70,000	100,000	70,000	70,000
WC121	Environmental mtce (Split)	169,500	169,500	169,500	169,500	169,500	169,500	169,500	169,500	169,500	169,500
WC122	Traffic services mtce (Split)	338,500	451,900	368,900	451,900	368,900	451,900	368,900	451,900	368,900	451,900
WC123	Operational traffic mtce	115,000	115,000	115,000	115,000	115,000	115,000	115,000	115,000	115,000	115,000
	Provide traffic services			80,000							
WC002	Regional transport studies (GP modelling and Census update)				35,000					35,000	
WC001	Regional Land Transport Planning (0.15%)	15,000	40,000	40,000	15,000	40,000	40,000	15,000	40,000	40,000	15,000
ROAD SAFETY & TDM											
WC431	Community Coordination	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
WC432	Community Programmes(split)	222,998	281,000	261,000	261,000	261,000	261,000	261,000	261,000	261,000	261,000
WC432	TravelSmart		100,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000
WC432	Workplace Travel Plans		40,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
WC432	Investigate tele-working		50,000								
WC002	Road pricing investigations							50,000			
WC432	TDM monitoring and evaluation			30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
	Implimentation of parking Controls					50,000	50,000				
	DHB TDM	279,624	320,000	320,000							
	DHB Travel Plan	80,000	80,000								
UNSUBSIDISED ROADING											
	After Hours Duty Officer	20,100	20,100	20,100	20,100	20,100	20,100	20,100	20,100	20,100	20,100
	Asset Information Systems	32,880	32,880	32,880	32,880	32,880	32,880	32,880	32,880	32,880	32,880
	Property Management	41,050	41,050	41,050	41,050	41,050	41,050	41,050	41,050	41,050	41,050
	Legal Fees	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
	Customer Services	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800	9,800
	Road Maintenance	28,150	28,150	28,150	28,150	28,150	28,150	28,150	28,150	28,150	28,150
	Mtce: Rocks Rd Bollards	11,400	11,400	11,400	11,400	11,400	11,400	11,400	11,400	11,400	11,400
	Provide: Tahunanui traffic calming investigation							50,000			
	Provide: Seal extension cost/benefit analysis					50,000					
	Non-sub Professional Services	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000	70,000

Nelson City Council
Transport Activity Management Plan

	Year	1	2	3	4	5	6	7	8	9	10
		2009/19 LTCCP			2012/22 LTCCP			2015/25 LTCCP			2018/28 LTCCP
		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
FOOTPATHS											
	Electricity Lighting Walkways	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
	Provide Professional Services	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000	23,000
	Footpath Maintenance	93,000	93,000	93,000	93,000	93,000	93,000	93,000	93,000	93,000	93,000
	Mtce: Vegetation & Berm Mtce	81,500	81,500	81,500	81,500	81,500	81,500	81,500	81,500	81,500	81,500
	walkway network missing links study				20,000						
	Ped safety audits	30,000	30,000	30,000	10,000						
	Develop Eng stds for mobility scooters			10,000							
	CPTED audits of >100k projects	10,000	10,000	10,000	10,000						
	Safe Journey to school (from TDM Strat)				50,000	50,000	50,000	50,000	50,000	50,000	50,000
CYCLEWAYS											
WC151	Cycle Counting & Modelling	8,000	21,500	1,500	8,000	8,000	8,000	8,000	8,000	8,000	8,000
	Wiamea Rd feasibility study		20,000								
WC124	Cyclepath mtce	71,440	71,440	71,440	71,440	71,440	71,440	71,440	71,440	71,440	71,440
WC432	Community Programmes (split)	10000	10,000								
WC432	Community Facilities		20,000								
STREETLIGHTS											
	Electricity non-subsidised	10,000	10,000	10,000	10,000	11,000	11,000	11,000	11,000	11,000	11,000
WC122	Traffic Sev Electricity (Split)	403,000	403,000	403,000	403,000	403,000	403,000	403,000	403,000	403,000	403,000
	Contribution: Undergrounding	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
WC122	Traffic Services Mtce (Split)	171,200	171,200	171,200	171,200	171,200	171,200	171,200	171,200	171,200	171,200
WC123	Operational Traffic Mtce (Split)	13,900	13,900	13,900	13,900	13,900	13,900	13,900	13,900	13,900	13,900
STREET GARDENS											
	Electricity	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
	Water by Meter	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
	Community Services Overhead	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150	4,150
	Property Mtce: Contract	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000
STREET TREES											
	Community Services Overhead	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
	Property Mtce: Contract	74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000
STREET CLEANING											
	Provide Street Cleaning Service	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300	8,300
	Street Sweeping	90,700	90,700	90,700	90,700	90,700	90,700	90,700	90,700	90,700	90,700
WC113	Sump Cleaning	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000	94,000
	Community Cleaning Services	33,020	33,020	33,020	33,020	33,020	33,020	33,020	33,020	33,020	33,020
WC113	Routine Drainage (Split)	62,720	62,720	62,720	62,720	62,720	62,720	62,720	62,720	62,720	62,720
WC121	Environmental Mtce (Split)	14,560	14,560	14,560	14,560	14,560	14,560	14,560	14,560	14,560	14,560
PARKING REGULATION											
	Flea market towing	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500
	Provide Parking Reg Service	304,500	304,500	304,500	304,500	304,500	304,500	304,500	304,500	304,500	304,500
	Towage/Storage: Abandoned Vehicles	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
	Vehicle identification fee/MOT	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
	Court Processing	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000
	Hand held lease	9,540	9,540	9,540	9,540	9,540	9,540	9,540	9,540	9,540	9,540

Nelson City Council
Transport Activity Management Plan

	Year	1	2	3	4	5	6	7	8	9	10
		2009/19 LTCCP			2012/22 LTCCP			2015/25 LTCCP			2018/28 LTCCP
		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
CAR PARKS											
	Electricity	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500
	Rent (Wakatu Leases)	158,900	160,334	160,334	160,334	160,334	160,334	160,334	160,334	160,334	160,334
	Rates	167,000	167,000	167,000	167,000	167,000	167,000	167,000	167,000	167,000	167,000
	Water by Meter	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	Valuations	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
	Security/Cash Collections	26,700	26,700	26,700	26,700	26,700	26,700	26,700	26,700	26,700	26,700
	Asset Information Systems	16,440	16,440	16,440	16,440	16,440	16,440	16,440	16,440	16,440	16,440
	Legal Fees	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
	Provide: Technical Services	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200	6,200
	Provide: CBD Coordinator	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000	120,000
	Provide: CBD Professional Services	27,900	27,900	27,900	27,900	27,900	27,900	27,900	27,900	27,900	27,900
	Mtce: Off Street Meters	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000	83,000
	Mtce: On Street Meters	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
	Hanging Baskets	82,000	82,000	82,000	82,000	82,000	82,000	82,000	82,000	82,000	82,000
	Mtce: Brickwork & Furniture	80,000	80,000	100,000	101,000	102,000	103,000	103,000	103,000	103,000	103,000
	Mtce: CBD Street Sweeping	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000	56,000
	Clean Asphalt Footpaths	128,000	128,000	128,000	128,000	128,000	128,000	128,000	128,000	128,000	128,000
	Mtce: Street Trees	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500
	Mtce: Street Gardens	7,900	7,900	7,900	7,900	7,900	7,900	7,900	7,900	7,900	7,900
	Mtce: Carpark Mtce	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
	Mtce: CBD Seat Cleaning	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
	Mtce: CBD Litter Collection	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000	21,000
PUBLIC TRANSPORT											
	New Bus Service				2,850,000	2,850,000	2,850,000	2,850,000	2,850,000	2,850,000	2,850,000
WC513	Bus concession fares	384,600	512800	512800	512800	512800	512800	512800	512800	512800	512800
WC514	Bus facilities mtce & ops (Split)	60,000	60,000	60,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000
	SuperGold card admin	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200	13,200
WC632	Passenger Transport Admin	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
WC412	Arterial routes study	355,000									
TOTAL MOBILITY											
	General Expenses	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500
	Service Provision: Operators	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000	45,000
WC517	Total Mobility Services	225,900	225,900	225,900	225,900	225,900	225,900	225,900	225,900	225,900	225,900
WC519	Total Mobility Mtce & Ops	4,000									
WC521	Total Mobility Flat rate	52,500	52,500	52,500	52,500	52,500	52,500	52,500	52,500	52,500	52,500
WC633	Total Mobility Admin	33,200	33,200	33,200	33,200	33,200	33,200	33,200	33,200	33,200	33,200

Table 6.3 2008 Estimates – Renewals

	Year	1	2	3	4	5	6	7	8	9	10
RENEWALS		2009/19 LTCCP			2012/22 LTCCP			2015/25 LTCCP			2018/28 LTCCP
		2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
SUBSIDISED ROADING											
WC211	Unsealed road metalling	22,000	22,000	22,000	23,000	23,000	23,000	24,000	24,000	24,000	25,000
WC212	Sealed road resurfacing	690,000	696,900	703,900	707,000	707,000	707,000	707,000	707,000	707,000	707,000
WC213	Drainage	230,000	235,000	240,000	245,000	245,000	245,000	245,000	245,000	245,000	245,000
WC214	Pavement rehabilitation	320,000	325,000	330,000	455,000	335,000	335,000	335,000	335,000	335,000	335,000
WC231	Associated improvements	215,000	220,000	225,000	230,000	230,000	230,000	230,000	230,000	230,000	230,000
WC241	Bridge (Retaining Walls)	60,000	285,000	70,000	100,000	114,000	110,000	50,000	300,000	0	0
WC222	Traffic Services			90,000	90,000	90,000	90,000	90,000			
		1,537,000	1,783,900	1,680,900	1,850,000	1,744,000	1,740,000	1,681,000	1,841,000	1,541,000	1,542,000
FOOTPATHS											
	Footpath renewals	175,000	176,750	178,750	180,000	180,000	180,000	180,000	180,000	180,000	180,000
CYCLEWAYS											
WC124	Cycleway renewals	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500
STREETLIGHTS											
WC222	Streetlights	180,000	120,500	120,500	120,500	120,500	120,500	120,500	120,500	120,500	120,500
STREET GARDENS											
	Furniture	15,000	4,000	4,500	4,500	4,500	4,500	4,500	4,500	4,500	4,500
CAR PARKS											
	Parking meter renewals on/off street	15,000	15,150	15,300	15,450	15,600	15,600	15,600	15,600	15,600	15,600

Table 6.4 2008 Estimates – Capital

Year		Development Contributions	Projection	1	2	3	4	5	6	7	8	9	10
CAPITAL	(excludes CCS projects)			% Growth	2009/19 LTCCP			2012/22 LTCCP			2015/25 LTCCP		
			2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
SUBSIDISED ROADING													
WC341	Minor Improvements		225,000	348,000	357,000	360,000	350,000	350,000	350,000	350,000	350,000	350,000	350,000
WC324	Waimea Rd/Ridgeway Intersection	100		20,000		300,000							
WC325	Waimea Rd / Market / Boundary Rd Int	100					75,000		750,000				
WC326	Waimea Rd / Motueka St Intersection	100		65,000	750,000	→							
WC327	Waimea Rd / Van Diemen St Int	100							60,000		600,000		
WC328	Salsbury Rd 2 laning between r'bouts	100						80,000		800,000			
WC002	Review of Corridor Study options	100						100,000					
Total w/ Renewals			225,000	1,970,000	2,890,900	2,340,900	2,275,000	2,274,000	2,900,000	2,831,000	2,791,000	####	1,892,000
UNSUBSIDISED ROADING													
	Sundry Land Purchases		320,000	100,000	100,000	100,000	1,000,000	100,000	100,000	100,000	100,000	100,000	100,000
	Council Share Development Contributions		210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000
Footpath	Rangiora Tce				30,000		577,000						
Footpath	Scotia					400,000							
Roads/ Footpath	Locking St		20,000		1,300,000								
S/W	Iwa Rd		16,000		870,000								
S/W	Halifax St (Tasman to Milton)				0		285,000						
Roads	Shelbourne St			21,000		356,000							
Safety	Alton St				15,000		139,000						
Roads	Brougham Street		15,947		422,000								
Roads/ Footpath	Wigzell Area Upgrade (Franklyn/Tipahi)		52,327			1,008,000							
Roads/ Footpath	Marsden Rd (below The Ridgeway)		0	21,000		175,000							
Roads	Seymour Ave		2,571		268,000								
Footpath	Queens Rd		0	21,000		1,000,000	500,000						
Safety	Russel St edge formation					5,000		100,000					
Roads	Fountain Pl							45,000		458,000			
	Halifax/Shakespeare		0				608,000						
S/W	Atawhai Drive			330,000									
S/W	Tasman St (Grove to Cambria)					20,000		289,000					
S/W	Tasman St (Halifax to Grove)			20,000		200,000							
Roads/ Footpath	Alfred/Kawai/Hampden St		52,000					1,065,000					
WC324	Cable Bay Rd (within 50km zone)	50				40,000		200,000					
WC324	Cable Bay Rd (before Maori Pa jct)	100			40,000		498,400						
Roads/ Footpath	Hampden St west								20,000		454,000		
Roads/ Footpath	Mount Street								50,000		500,000		
Roads	Marsden Valley Rd upgrade	100	21,000				1,445,000						
Structure Plan	Muritai St road diet						30,000		500,000				

	Year			1	2	3	4	5	6	7	8	9	10
CAPITAL	(excludes CCS projects)	Development Contributions	Projection	2009/19 LTCCP			2012/22 LTCCP			2015/25 LTCCP			2018/28 LTCCP
			% Growth	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Structure Plan	Tahunanui / Parkers Rd intersection							50,000		400,000			
Structure Plan	Muritai St / Parkers Rd intersections								20,000		100,000		
WC325	Ross Road	100									600,000		
WC325	Todds Valley Rd	100										1,500,000	
WC325	Lud Valley Rd	100											1,000,000
WC325	Maitai Rd	100											
WC325	Kokoroa Rd	100											
S/W	Milton St (Grove to Cambria)						25,000		300,000				
	Nayland Rd			237,660									
	Unsubsidised Total w/ renewals		709,845	960,660	3,255,000	3,514,000	5,317,400	2,059,000	1,200,000	1,168,000	1,964,000	#####	1,310,000
FOOTPATHS													
WC451	Other fpath upgrades		102,672							450,000	450,000	450,000	450,000
WC451	Capital: Walkway Connections		94,997		85,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000
WC451	Capital: Lighting		86,231			52,000	52,000	52,000	52,000	52,000	52,000	52,000	52,000
WC451	Sub Capital: St Vincent/Jenner Road				934,789								
WC451	Ped facilities to walkways		20,000	20,000	20,000	20,000							
	Nayland Rd	100	140,000	140,000									
	Airlie St			20,000		275,000							
WC451	Sub Capital: Locking Terrace				151,000								
WC451	Sub Capital: Queens Rd					288,000							
WC451	Sub Capital: Rangiora Tce						73,000						
WC451	Princes Drive					500,000	500,000						
WC451	Stanley Crescent						200,000						
WC451	Emano St							300,000					
WC451	Montreal Rd								180,000				
	Rainer St						80,000						
	Total w/ Renewals			355,000	1,367,539	1,365,750	1,137,000	584,000	464,000	284,000	284,000	284,000	284,000
CYCLEWAYS													
WC452	Waimea Rd to Beatson Rd	20		30,000		340,000							
WC452	Trafalgar 200 connection to Maitai via Collingwood St	20	15,000	135,000									
WC452	Path widening in high use areas	20				50,000	50,000						
WC452	T4 Saxton Field Mn Rd Stoke/Orphanage Creek cycle underpass	20	5,000		300,000								
WC452	Poomans / Mn Rd Stoke to Nayland Rd	20	100,000			50,000							
WC452	Cycleway lighting		50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
WC452	Gloucester / Kerr / Oxford St cyclane & Hardy St crossing	20			60,000								
WC452	Maitai path widening	20			75,000								
WC452	St Vincent St cyclelanes	20			50,000								
WC452	Halifax St cyclelanes	20			25,000		120,000						
WC124	Minor cycleway improvements	20		25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
WC452	Secure cycle parking facilities		0	5,000		60,000							
WC452	The Brook to Central city	20				10,000		100,000					
WC452	Jenkins Creek - Quarentine Rd to Annesbrook Dr	20									600,000		

Nelson City Council
Transport Activity Management Plan

Year		Development Contributions	Projection	1	2	3	4	5	6	7	8	9	10
(excludes CCS projects)				2009/19 LTCCP			2012/22 LTCCP			2015/25 LTCCP			2018/28 LTCCP
CAPITAL		% Growth	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
WC452	Waimea Rd cyclelanes	20							40,000				
WC452	Upgrade cycle racks			5,000		10,000	10,000						
	Total w/ Renewals			212,500	597,500	607,500	267,500	187,500	127,500	87,500	687,500	87,500	87,500
STREETLIGHTS													
	Streetlight Poles (power underground)		31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500
STREET GARDENS													
	Street garden development		32,500	45,000	35,700	35,700	40,000	40,000	40,000	40,000	40,000	40,000	40,000
	Planting		22,950	22,700	23,800	25,000	27,000	27,000	27,000	27,000	27,000	27,000	27,000
STREET TREES													
	Street tree development		20,000	30,000	32,000	34,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
CAR PARKS													
	Capital: Parking Meters			15,000	15,150	15,300	15,450	15,600	15,600	15,600	15,600	15,600	15,600
	Capital: CBD Artwork		30,695	0	0	31,000	0	0	32,000	0	0	33,000	0
	Capital: CBD Decorative Lights		10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500	10,500
PUBLIC TRANSPORT													
WC531	Nelson / Stoke Bus interchange	100			15,000	235,000							
WC533	CBD / Rutherford St bus priority	100				75,000							
WC533	Whakatu r'bout & Beatson Rd changes	100			5,000	115,000							
WC533	Waimea Rd bus priority lanes	100			15,000	285,000							
WC514	Bus Facilities New (Split)	100		36,000	36,000	400,000	250,000	30,000	30,000	30,000	30,000	30,000	30,000
TOTAL MOBILITY													
	None												
TRAVEL DEMAND MANAGEMENT													
WC421	Implementation of Parking Controls				0	0							

The annual expenditure for Transport in 2008/09 in relation to previous years is shown in Table 6.5.

Table 6.5 Transport Annual Expenditure 2002 and 2008/09 Estimate

Activity	2002 / 2003	2003 / 2004	2004 / 2005	2005 / 2006	2006 / 2007	2007 / 2008	2008 / 2009 PROJ
Operations and Maintenance	3,679	4,208	4,840	4,988	5,070	5,386	6,642
Capital	4,142	5,822	8,584	5,365	7,094	6,363	9,026

Table 6.6 Transport Annual Expenditure 2009/10 to 2011/12 Estimate

Activity	2009 / 2010 Estimate	2010 / 2011 Estimate	2011 / 2012 Estimate
Operations and Maintenance	7,813	8,484	8,309
Capital	3,899	8,720	9,816

6.2 Funding

Council funds Transport asset expenditure by five methods:

- Loans raised
- Financial contributions
- Depreciations
- Revenue
- General rates

6.2.1 Loans Raised

Council raises loans to fund capital work only. Council cannot borrow to fund depreciation or operation and maintenance work.

6.2.2 Development Contributions

The Development Contributions Policy identifies the amount per subdivision lot payable to Council. This amount is calculated from the growth related expenditure budgeted by Council in the most recent Community Plan.

6.2.3 Depreciation

Each year Council depreciates its assets according to the Replacement Value method. This money is used first to fund renewal projects and then can either be set aside in a separate account or used to repay Council Loan debt. Council policy is to use the annual surplus depreciation to fund loan repayment.

6.2.4 Revenue

The major component of revenue is the income of up to \$2.5 million that Council receives annually from Central Government's road funding agency New Zealand Transport Agency.

Council receives varying levels of subsidies on transport related work as set out in the New Zealand Transport Agency Policies & Procedure Manual and its subsequent updates.

In summary Council receives the following subsidies from New Zealand Transport Agency:

- 43% on all maintenance work and preventative maintenance renewals.
- 43% to 50% on any special emergency event reinstatement of Transport assets depending on available funds.
- 53% on any capital project with New Zealand Transport Agency funding approval.
- 53% Minor Safety Projects with a maximum individual value of \$150,000.
- 75% on Community Road Safety and Travel Planning.
- 50% for Passenger Transport and Total Mobility Services.
- 100% for Administration of New Zealand Transport Agency Budget and Requirements based on 2.25% of total budget.
- 25% of Regional Land Transport Planning costs and Passenger Transport Administration.

6.2.5 General Rates

Council receives annual rates from businesses and ratepayers.

Council receives a special rate from inner city and Stoke businesses to cover provision of special services to these businesses including inner city car parking facilities.

7 PLAN IMPROVEMENT AND MONITORING

This chapter of the Transport Asset Management Plan sets out the improvements proposed over the next three years to this document. The three year time frame has been used as this is the period between adoption of this document and a full review of the Plan.

8 ACTION PLAN

Table 8.1 details the 2003 Rooding AMP Action Plan and Table 8.2 lists all the actions from this AMP.

Table 8.1 Previous Rooding AMP 2003 Action Plan

No.	Action	Completion Date	Completed	Comment
Levels of Service				
1	Ensure rooding satisfaction question in public survey	Annual	Yes	Ongoing
2	6 monthly traffic sign audit	6 monthly	No	Assessments carried out continuously by Contractor
3	Forward streetlighting programme	2004	Assessment completed	Refer Section 5.9
4	Retaining wall inventory and condition	2004	2007	Refer Section 5.4
5	Detailed inventory of parking assets	2004	2004	
6	CBD Parking study	2004/05	2005	
7	Stormwater runoff study	2004/05	2005	RSQIP developed by Stormwater Asset Engineer
10	Advance warning of service authorities to reduce trenching problems	2005	Ongoing	
11	Kerb and channel forward work programme	2004	Refer footpath programme	
12	Limit line controls on all side roads on arterial, principal and collector	2005	Vanguard St. completed	Other streets addressed when issues arise
13	Centre line reflectorised on arterial, principal and collector	Dec 2005	Yes	Programme extended to include from edge lines
14	Traffic services forward work programme	2004	No	Reactive maintenance process
15	CBD lighting upgrade	2005/06	2006	
16	Lighting upgrade programme	2004	2006	Refer Section 5.9
17	Investigate lighting of walkways and cycleways	2004	2006	Refer Section 5.5 and 5.6
18	Review cycle strategy	2005	2006	
19	Car parking promotion	Ongoing	Yes	
20	Cycle promotion	Ongoing	Yes	
21	Black spot study	2004	2004	

No.	Action	Completion Date	Completed	Comment
GROWTH				
1	Develop Hira development strategy	2004	No	Postponed by NUGS outcome
2	Port Nelson access strategy	2004/05	No	Postponed by Corridor Study outcome
3	Traffic model Nelson CBD and connections	2004/05	2005	
Risk				
1	Upskill building inspectors to check road safety	2004	No	Infrastructure Assets responsibility
2	Update contract procedures	2004	2004	
3	Tree study	2004	No	
Asset Lifecycle Management				
1	Ensure documentation process of new assets	6 monthly checks	2007	
2	Condition assessment of car parks	Annual	Yes	Included in RAMM
3	Structural bridge inspection	2004	Yes	
4	Annual bridge inspection	Annual	Yes	
5	Inspection after earthquake and floods of bridges	As required	Yes	

Table 8.2 Transport AMP 2008 Action Plan

AMP ref.	Action	Completion Date	Comment
	Regional Land Transport Strategy		
	Establish annual monitoring (details to be specified following adoption of RLTS).	Annual	
	Submit RLTS annual report to RLTC and Infrastructure Committee by October each year.	Annual	
	Review and report on the Pedestrian Strategy 2005, incorporating the recommendations identified in Tables 2.3, 2.4, 2.5 and 2.6, in the RLTS and Assets annual report.	Annual	
	Review and report on the Cycle Strategy 2006, incorporating the recommendations identified in the AMP, in the RLTS and Assets annual report.	Annual	
	AMP Monitoring		
	Record travel time data between Nelson city and Annesbrook six times a year between the time of 7.30 and 9.30 in the am peak and 4.00 and 6.00 in the pm peak, and between 10.00am and 2.00pm in the interpeak and twice a year between Nelson City and Richmond.	Jan/Feb, Mar, May, July, Sept and Nov each year	
	Record am and pm peak vehicle occupancy rates across the Rocks Rd screenline bi-annually.	March and October each year	
	Continue to record traffic/cycle and pedestrian count data across the Nelson network and record traffic data in RAMM.	Ongoing	
	AMP Reporting		
	Include Road Safety Strategy implementation and performance monitoring in Assets annual report.	Annual	
	Review and report on the technical effectiveness and direction of the SMS in August each year as part of the Assets annual report.	Annual	
	Asses delivery of road safety education programme in Assets annual report.	Annual	
	RAMM road roughness and rating data gathered through surveys over 100% of the network every 2 years and reported in Assets Annual reports.	Annual	
	Report on annual telephone customer satisfaction survey in Assets annual report.	Annual	

AMP ref.	Action	Completion Date	Comment
	Roads		
	Continue with Roding Review Team.	2008/09	
	Review annual reseals budget every three years (utilising RAMM treatment selection outputs) to ensure that the reseals backlog does not increase.	2010/11	
	Structures on Road Reserve		
	Implement the maintenance programme and inspections recommended in the Connell Wagner bridge inspections report.	Ongoing	
	Implement the maintenance and upgrade programme and maintenance inspections recommended in the Tonkin and Taylor retaining wall report.	Ongoing	
	Review the Road Occupation Policy and broaden the scope to incorporate other structures.	2009/10	
	Commission 3 yearly full structural bridge inspections. (Inspection should have been in 2007/8 but no funding was allocated).	2009/10	
	Commission an options report to address roads at risk from batter slope failure with a view to improving the level of service of these roads where feasible and reducing long term maintenance costs through upgrades, programmed preventative maintenance or monitoring.	2011/12	
	Enter bridge inventory data into RAMM database.	2011/12	
	Pedestrian Network		
	To implement all the Pedestrian Strategy Implementation Plan 2008 actions, incorporating the recommendations identified in Tables 2.3 to 2.6.	Ongoing	
	Audit all central city and walkway projects in accordance with CPTED guidelines.	Ongoing	
	Reviewing walkway lighting programme in terms of sustainability and CPTED issues and develop a revised forward work programme.	2010/11	
	Identify and develop forward work programme to improve the top five pedestrian crash sites.	2011/12	

AMP ref.	Action	Completion Date	Comment
	Cycle Network		
	Update Nelson cycle and walk map (Fig 5.11).	Annually	
	To implement all the Cycle Strategy 2006 actions, incorporating the budgeting and scheduling recommended in Appendix 6.	Ongoing	
	Develop cycle network model.	2008/09	
	Carry out comprehensive cycle counts incorporating permanent counters.	2008/09	
	Develop and commission annual cyclist journey purpose surveys.	2010/11	
	Prepare Cycle / Pedestrian shared path code of conduct.	2008/09	
	Consider installing shelters over existing CBD cycle stands.	2009/11	
	Passenger Transport Network		
	Investigate the provision of bus lanes along Rutherford Street/Waimea Road using \$40,000 of the System Use Studies budget in 08/09.	2008/09	
	Network Control and Management		
	Independently audit pavement markings, all signs, raised reflectorised pavement markers (RRPM's) bi-annually (once day, once night) and ensure deficiencies are rectified within 6 months.	Twice yearly	
	Review the Sign Policy 2004.	2009/10	
	Review the Parking and Vehicle Control Bylaw 2004 and Speed limit Bylaw 2004.	2009/10	
	Review the 2002 streetlighting policy with a view to developing a streetlight upgrade programme commencing 2010/11. Programme to consider types of energy efficient streetlights.	2009/10	
	Review the networks signage.	2009/10	
	Ensure all major route destinations are clearly sign posted.	2010/11	
	Carry out independent traffic light audits every seven years (next one in 2010/11).	2010/11	
	Review the 2006 CBD lighting upgrade and rectify any deficiencies where feasible.	2009/10	
	Establish and implement monitoring programme to ensure all approvals (including street opening notices and TMP's) are obtained.	Ongoing	
	Safety Engineering and Education		
	Coordinate and support the RSAP process.	Ongoing	
	Implement all aspects of the SMS.	Ongoing	

AMP ref.	Action	Completion Date	Comment
	Implement the road safety education programme.	Ongoing	
	Carry out design safety audits on roading projects exceeding \$100k.	Ongoing	
	Establish six-monthly independent road network audit.	Twice yearly	
	Commission crash reduction studies (including consideration of pedestrian safety) every three years commencing 2008/09 and implement findings where feasible.	2008/09	
	Update RSAP to consider goals and targets of RSS.	2008/09	
	Review RSS and SMS.	2009/10	
	Establish a Police traffic emergency procedures process as identified in OFI 6 of SMS.	2011/12	
	Specify action to identify sites to be completed by June 2011.	2010/11	
	Identify and improve the top five pedestrian crash sites.	2011/12	
	Review safety barriers and develop upgrade and maintenance programme as identified in OFI 10 of SMS.	2011/12	
	Travel Demand Management		
	Review management of car parks in conjunction with Central City Enhancement Strategy.	2008/09	
	Consider inner fringe parking requirements in RM Plan.	2008/09	
	Ensure that the Central City Enhancement Study considers CPTED principles.	2008/09	

Appendix 1 Critical Assets

Arterial and Life Line Roads

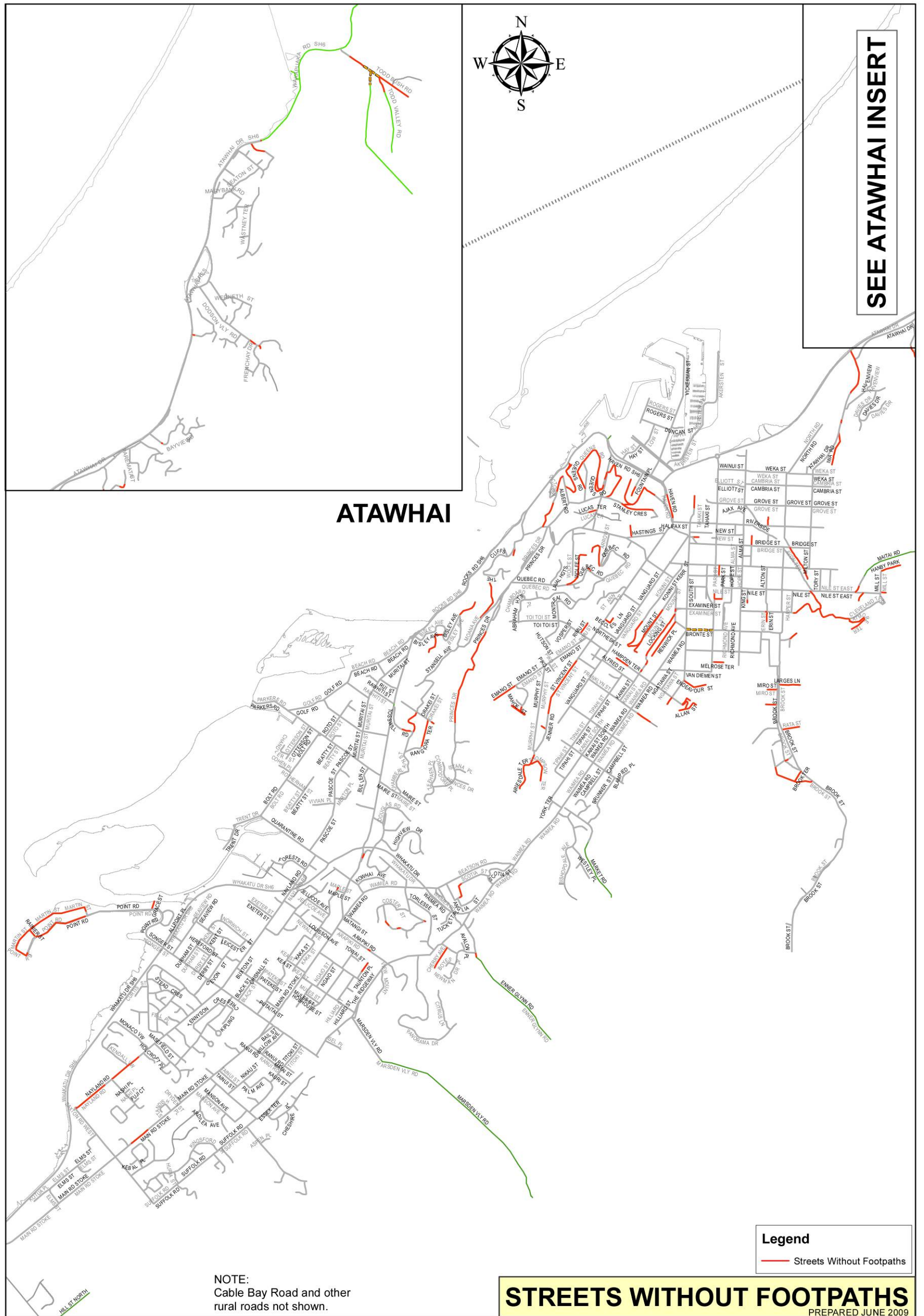
Road	Start	Finish	Length	Risk
Main Road Stoke	All			Low
Saxton Road West	All			Low
Nayland Road	Saxton Road West (to A/D Yard)			Low
Songer Street	Main Road Stoke	Seaview Road		Low
Marsden Road	All			Low
Marsden Valley Road	All			Medium
Annesbrook Drive	Main Road Stoke	Annesbrook Roundabout		Low
Whakatu Drive SH6 (1)	Quarantine Road	Beatson Road		Medium
Annesbrook Drive SH6 (1)	Annesbrook Drive	Tahunanui Drive		Medium
Tahunanui Drive SH6 (1)	All			High
Waimea Road	All			Medium
Rutherford Street	All			High
Washington Road	All			Low
Princes Drive	All			Medium
Hardy Street	Rutherford	Vanguard		High
Vanguard Street	Hardy Street	Pascoe		Medium
St Vincent Street	Pascoe Street	End		Low
Jenner Road	All			Medium
Murphy	Jenner Road	Ariesdale		Low
Airesdale	All			Low
Bishopdale Ave	Waimea	Market Road		Low
Market Road	All			High
St Vincent Street	Haven Road	Washington Road		High
Haven Road	St Vincent St	Wakefield Quay		High
Halifax Street	Haven Road	Trafalgar St		Medium
Trafalgar Street	Halifax Street	Grove Street		Low
Grove Street	Trafalgar Street	Atawhai Drive		Low
Atawhai Drive	All			Medium
Selwyn Place	All			Low
Collingwood Street	Selwyn Place	Nile Street		Low
Nile Street East	All			Low
Marsden Valley Road	All			Medium
Tasman Street	Nile Street	Brook Street		Low
Brook Street	All			Low
		Total		

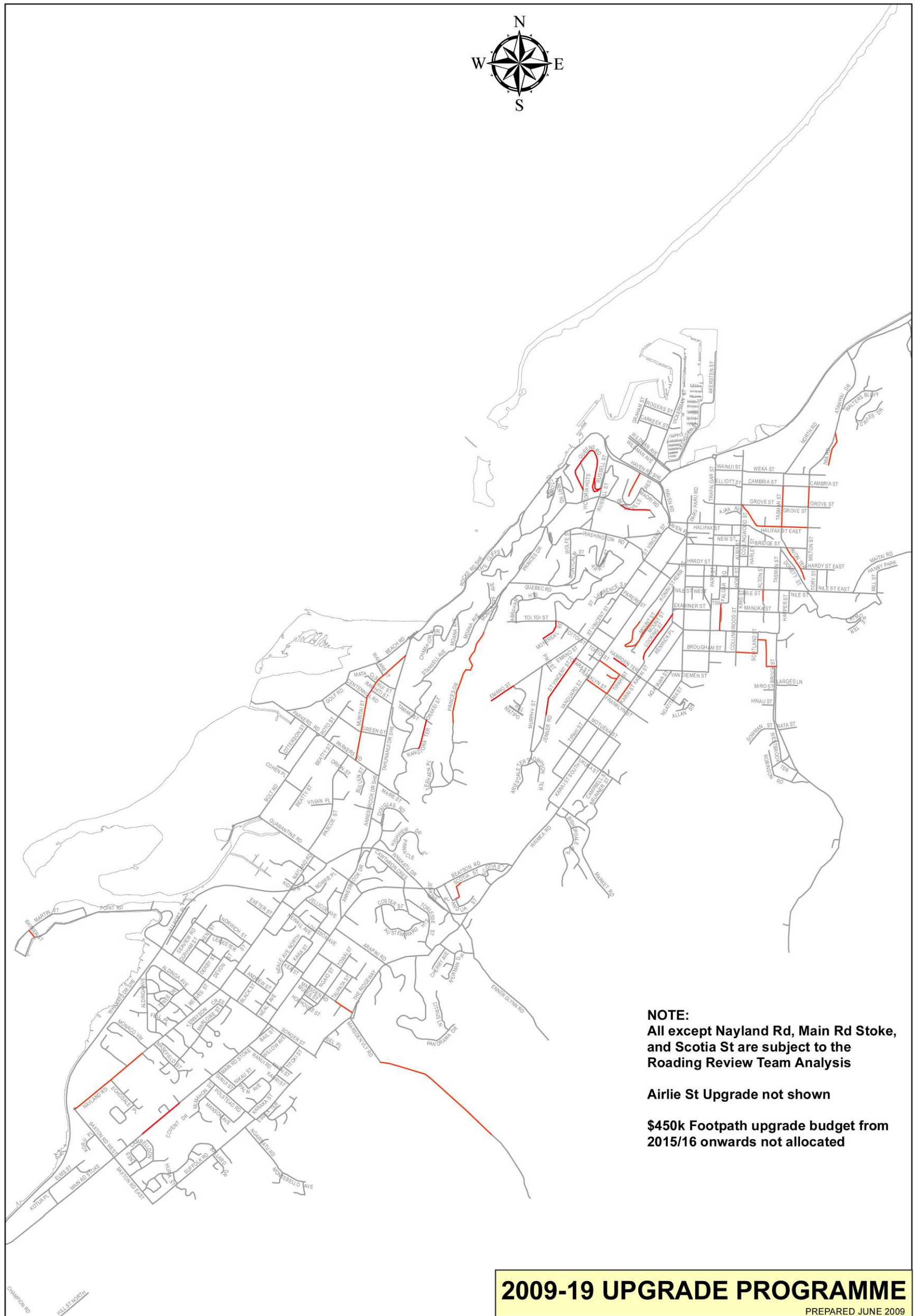
Note: SH6 is managed and maintained by Transit NZ.

Arterial and Lifeline Bridges

No	Bridge No	Name	Location	Length (m)	Rate	Seismic Strength
1	102	Orphanage Culvert	Main Road Stoke	2816	High	Poor
2	100		Main Road Stoke	205	Low	Good
3	101	Poor Mans Valley Stream	Main Road Stoke	18	Low	Good
4	30	-	Marsden Valley Road	6.3	Low	Good
5	32		Marsden Valley Road	11	High	Poor
6	38	Arthur Cotton Bridge	Waimea Road	10.5	High	Poor
7	35	-	Quarantine Road	145	High	Poor
8	83	Annesbrook Cycle Bridge	Annesbrook	101	Low	Good
9	84	Gracefield Street Bridge	Gracefield Street	24	Low	Good
10	-	Whakatu Drive cattle culvert	(Quarantine to Annesbrook)	35	Low	Good
11	94		Halifax Street	30	Low	Good
12	1	Trafalgar Bridge	Trafalgar Street	41	High	Poor
13	19	Convergence Bridge	Westbrook/Brook	10	High	Poor
14	20	OK Coral	OK Corral (Brook St)	15	Low	Good
15	14	Nile/Tasman Bridge	Tasman/Nile Street Culvert	85	Low	Good
16	4	Nile Street (Maitai)	Nile St (Maitai)	55	Low	Good
17	6	Maitai Valley Road	Maitai Valley Road	34	Low	Good
18	7	Maitai Valley Road	Maitai Valley Road	44	High	Poor
19	9	Maitai Valley Road	Maitai Valley Road	21	High	Poor
20	95	Maitai Valley Road	Maitai Valley Road	55	High	Poor
21	8	Maitai Valley Road	Maitai Valley Road	13.5	Low	Good
22	11	Maitai Valley Road	Maitai Valley Road	7.5	High	Poor
23	12	Maitai Valley Road	Maitai Valley Road	37.6	Low	Good
24	31	-	Marsden Valley Road	9.3	Low	Good
25	43	-	Waimea Road Culvert	272	Low	Good
26	103	Aripiki Stream	Annesbrook Drive	30	Low	Good

Appendix 2 Footpath Upgrade Programme





799927

SHEET 2

Appendix 3 Footpath Upgrades not scheduled in 2009-19 Community Plan (prioritised to assist future planning)

STREET NAME	START	FINISH	DIST/m	RATE/m	TOTAL COST ESTIMATE	FOOTPATH PRIORITY RATING						Priority Ranking	Comments
						COST	PED TRAFFI	SAFETY	Strategic	Social deprev	Total		
Princes Drive	Retaining Wall	New Subdivision	450	\$1,500	\$675,000	8	4	12	8	0	32	1	
Princes Drive	Pipers Park	Retaining Wall	400	\$2,000	\$800,000	8	4	12	8	0	32	2	
Rainer Street	Point Road	Martin Street	80	\$1,000	\$80,000	10	4	4	4	0	22	3	
Todds Bush Rd	SH6	Little Todds Valley	300	\$1,500	\$450,000	6	6	6	4	0	22	5	
Beachville Crescent	Maori Road	End	491	\$2,500	\$1,227,500	4	8	6	4	0	22	4	
Martin Street	Point Road	Point Road	1,000	\$1,000	\$1,000,000	8	4	2	4	0	18	6	
Hanby Park	Mill Street	End	200	\$1,000	\$200,000	10	4	4	0	0	18	7	
Natalie Street	St Vincent Street	End	90	\$1,000	\$90,000	10	4	2	2	0	18	8	
Grenville Terrace	Bisley Avenue	End	200	\$2,000	\$400,000	4	6	2	4	0	16	9	
Mount Pleasant Ave	Russell Street	Stanley Crescent	500	\$3,500	\$1,750,000	2	6	4	4	0	16	10	
Larges Lane	Brook Street	End	200	\$1,000	\$200,000	10	4	2	0	0	16	11	Well used lookout (tourists) check
Thompson Terrace	Murphy Street	End	250	\$2,000	\$500,000	2	4	4	2	4	16	12	
Atmore Terrace	Cleveland Terrace	End	415	\$2,000	\$830,000	4	4	2	4	0	14	13	
Robinsons Road	Brook Street	Blick Terrace	400	\$1,000	\$400,000	4	4	2	4	0	14	14	
Fifeshire Crescent	Richardson Street	End	500	\$2,000	\$1,000,000	0	6	4	4	0	14	15	Narrow, windy
Poytners	SH6	Albert	330	\$3,500	\$1,155,000	0	6	4	4	0	14	16	
Moorehouse Avenue	Charlotte Street	End	100	\$1,000	\$100,000	10	2	2	0	0	14	17	Narrow, windy, steep
Hinau Street	Westbrook Terrace	End	100	\$1,000	\$100,000	10	2	2	0	0	14	18	
Arrow Street	Quebec Road	End	300	\$2,000	\$600,000	4	4	4	0	0	12	19	
Champion Terrace	Bisley Avenue	End	250	\$2,000	\$500,000	0	4	4	4	0	12	20	
Rata Street	Brook Street	End	200	\$1,000	\$200,000	8	2	2	0	0	12	21	
Brook Terrace	Brook Street	End	80	\$1,000	\$80,000	4	4	2	2	0	12	22	
Clouston Terrace	Nile Street East	End	80	\$2,000	\$160,000	4	4	2	0	0	10	23	Narrow
Ronaki Terrace	Hampden Street	End	50	\$2,000	\$100,000	0	4	4	2	0	10	24	
Allan Street	Ronaki Terrace	End	220	\$2,500	\$550,000	0	4	4	2	0	10	25	
Kakenga Road	Marsden Road	End	200	\$1,500	\$300,000	4	4	2	0	0	10	26	Narrow
Moncreiff Avenue	Moana Avenue	End	380	\$2,500	\$950,000	4	4	2	0	0	10	27	
Nile Street	Cleveland Terrace	Eastem End	50	\$2,000	\$100,000	0	4	2	4	0	10	28	
Lucas Terrace	Russell Street	End	85	\$1,500	\$127,500	4	2	2	0	0	8	29	
Endeavour Streer	Ngatitama Street	End	200	\$1,500	\$300,000	0	4	4	0	0	8	30	Access to walkway
Renwick Place	Wellington Street	End	380	\$3,000	\$1,140,000	0	2	4	0	0	6	31	Has a footpath of sorts
Montcalm Street	Quebec Road	End	400	\$2,000	\$800,000	0	2	2	0	0	4	32	

8881

Tasman St Upper Bronte Bronte not assessed

Appendix 4 Walkway Lighting Programme

WALKWAY VISIBILITY UPGRADE PROGRAMME													
Walkway Name	Location / Description	Length m	Use	Steps	Grade	Safety	Cost per m	Cost score	Location	RANK	Total Cost	Improvement	
2007/08											\$45,841		
The following works are due for completion in 07/08 using the \$50k budget allocation													
THETFORD CHASE WALK	THETFORD - RESERVE	47	10	0	10	8	\$134	4	8	58	\$5,180	P, L, C, S	
HAMPDEN TO VANGUARD	HAMPDEN-VANGUARD	121	6	46	2	10	\$7	9	10	53	\$3,116	L, M	Legend:
NGAIRE LANE	BRIDGE ST - NGAIRE PL	47	6	0	10	6	\$7	9	10	53	\$1,350	L	P = poles
BEAVANS WAY	MURATAI ST - ROTO STREET	156	6	0	10	8	\$134	4	10	52	\$13,590	P, L, C, S	C = cable & connection
FERGUSON WALK	FERGUSON -	51	8	0	10	6	\$63	6	8	52	\$6,845	P, L, C, S	S = signage
NEI NEI LANE	PALM AVE - NIKAU ST	85	6	0	10	8	\$63	6	8	52	\$15,760	P, L, C	M = mirror
FIDDLE LANE	BRIDGE ST - BUXTON CAR PARK	44	10	0	10	10	\$0	10	10	70	\$0	no work required	R = reflectors / SRPMs
MERTON WAY	MERTON STREET - BLACKWOOD ST	107	2	0	10	10	\$0	10	8	52	\$0	no work required	V = trim vegetation
BANK LANE	TRAFALGAR ST	41	10	4	5	10	\$0	10	10	65	\$0	no work required	N = nose of steps - paint
W KANE LANE	MAIN ROAD STOKE - STRAWBRIDGE SQUAR	21	6	0	10	10	\$0	10	10	62	\$0	no work required	X = Needs new footpath
The following cost estimates and programme requires reviewing beyond this point in light of increased actual costs received for the 07/08 projects													
GORRIE ST	GORRIE ST - TOTARA ST	61	10	0	10	10	\$7	9	10	69	\$427	S	
ALTON STREET WALK	ALTON ST - MANUKA ST	110	6	0	10	6	\$15	8	10	52	\$2,000	L, V	
FELL PL	FELL PL - HARFORD COURT WALK	77	6	0	10	8	\$63	6	6	50	\$4,870	P, L, C, S	
WILLOW WALK	MANUKA ST - BRONTE ST	196	6	0	10	6	\$63	6	10	50	\$12,397	P, L, C, V, M	
2008/9											\$60,996		
SHELBOURNE WALK	SHELBOURNE ST - TRAFALGAR SQ EAST	19	4	0	10	6	\$7	9	10	49	\$141	V, M	
KERR ST	KERR TO MOUNT	180	8	10	5	4	\$63	10	10	49	\$11,340	P, L, C, S, N	
WELLINGTON TO MOUNT WALK	WELLINGTON ST - MOUNT ST	40	4	10	5	8	\$7	10	10	49	\$297	V	
APPLE LANE	PALM AVE - ORCHARD ST	87	4	0	10	6	\$14	8	10	48	\$1,244	L, V	
POORMANS BROADGREEN INTER	NAYLAND ROAD - RAILWAY RES	357	6	0	10	6	\$134	4	10	48	\$47,974	P, L, C, S	
2009/10											\$57,867		
WATSON STREET	WATSON ST - QUEBEC RD	176	4	15	5	8	\$7	9	10	48	\$1,308	S, N	
BEST PLACE WALK	BEST PL - CAMPBELLDON	85	4	0	10	8	\$7	9	4	47	\$595	S	
CHAUCER LANE	SONGER ST - TENNYSON CRES	76	2	0	10	8	\$7	9	8	47	\$543	L, V, S	
FOUNTAIN TO BEACHVILLE	BEACHVILLE - FOUNTAIN PLACE	67	2	0	10	10	\$292	2	10	46	\$19,589	P, L, C, M	
MAITLAND WALK	MAITLAND - THE RIDGEWAY	126	4	2	10	6	\$14	8	8	46	\$1,802	L, C	
WOLFE TO MONTCALM	WOLF ST	149	2	0	10	8	\$14	8	8	46	\$2,131	L, C, S, R	
BISHOPDALE AVE WALK	BISHOPDALE - MARKET RD	42	4	0	10	8	\$7	9	2	45	\$294	V, S, R, N	
FIFESHIRE CRES- ALBERT ROAD	FIFESHIRE CRES - ALBERT ROAD	104	2	0	10	8	\$7	9	4	43	\$773	V, L	
WILL WATCH WAY	RUSSELL ST - QUEENS RD	131	2	7	5	8	\$63	8	10	43	\$8,286	P, L, C, R, N	
BERRY LANE	KARAKA ST - THE RIDGEWAY SOUTH	92	2	0	10	6	\$14	8	8	42	\$1,316	S, L	
COBHAM - RWAY	COBHAM CRESCENT - RAILWAY RESERVE	43	6	0	10	6	\$134	4	4	42	\$5,778	P, L, C, S	
NEALE AVENUE - RAILWAY RES	NEALE AVENUE - RAILWAY RESERVE	115	6	0	10	4	\$134	4	8	42	\$15,454	P, L, C	
2010/11											\$51,456		
POINT ROAD TO MARTIN STREET	POINT RD - MARTIN ST	86	4	0	10	8	\$0	6	2	42	\$0	no work required	
TRENT WAY	NEALE AVENUE - KAKA STREET	67	4	0	10	6	\$134	4	8	42	\$9,005	P, L, C, S	
VINING WALK	VINING CRES - SUFFOLK RD	66	2	0	10	8	\$63	6	6	42	\$4,175	P, L, C, S	
WASHINGTON TERRACE WALK	WASHINGTON VALLEY - WASHINGTON TERR	40	4	0	10	4	\$63	6	10	42	\$2,530	V, S, L	
BISHOPS WAY	M R STOKE - SADLIER STREET	201	4	0	10	4	\$134	4	10	40	\$27,010	R, S	
BROWNING CRES - RAILWAY RES	BROWNING CRES - CYCLEWEAY RWAY RES	65	4	0	10	6	\$134	4	6	40	\$8,736	P, L, C, S	
2011/12											\$46,548		
BYRON PLACE - RAILWAY STOKE	BYRON PLACE - CYCLEWAY RAILWAY STOKE	38	4	0	10	6	\$134	4	6	40	\$5,107	P, L, C, S	
KERERU WAY	DODSON VALLEY - TUI GLEN RD	81	4	8	5	8	\$7	9	2	40	\$567	V, P	
MANSON LANE	MAIN ROAD STOKE - MCMAHON ST	88	4	0	10	6	\$0	4	6	40	\$0	no work required	
NEWLANDS WAY	NAYLAND ROAD - LIECESTER	77	4	0	10	6	\$134	4	6	40	\$10,349	P, L, C, V	
MARY ANN LANE	POYNTERS CRESCENT - FIFESHIRE CRES	61	2	0	10	6	\$63	6	6	38	\$3,858	S, P, C, L	
MOUNT STREET - LOCKING TCE	MOUNT ST - LOCKING TCE	105	2	36	2	8	\$63	6	10	38	\$6,641	P, L, C	
VANGUARD TO JENNER WALK	VANGUARD STREET - RAILWAY RESERVE	61	2	0	10	6	\$134	4	8	38	\$8,198	P, L, C, S	
WORDSWORTH PLACE	WORDSWORTH PLACE	88	4	0	10	6	\$134	4	4	38	\$11,827	P, L, C, R	

WALKWAY VISIBILITY UPGRADE PROGRAMME												
Walkway Name	Location / Description	Length m	Use	Steps	Grade	Safety	Cost per m	Cost score	Location	RANK	Total Cost	Improvements
2012/13											\$37,063	
HOLCROFT WALK	HOLCROFT - GLOVER	47	2	0	10	6	\$134	4	6	36	\$6,317	P, L, C, M
MASEFIELD STREET	MASEFIELD STREET	41	2	0	10	6	\$134	4	6	36	\$5,510	P, L, C, S
NORTH RD - ATAWHAI DR	NORTH RD - ATAWHAI DR	78	6	0	10	2	\$134	4	6	36	\$10,483	P, L, C, S
PORRIT - RAILWAY RES	PORRIT PLACE - RAILWAY RESERVE	42	2	2	10	6	\$63	4	6	36	\$2,657	P, L, C, S
KAWAI STREET - RENWICK PLACE	KAWAI ST - RENWICK PLACE	90	2	8	5	6	\$134	4	10	35	\$12,096	P, L, C, N
2013/14											\$57,018	
ARROW STREET TO QUEBEC	ARROW - QUEBEC CUL DE SAC	195	6	48	2	4	\$292	2	10	34	\$57,018	P, L, C, V, N
2014											\$41,434	
BRETHERN WALK	ARAPIKI ROAD - TOWAI ST	107	2	0	10	6	\$134	4	4	34	\$14,381	P, L, C, S
KONINI TO VANGUARD WALK	KONINI - VANGUARD	167	4	61	2	4	\$63	6	10	34	\$10,563	P, L, C, N
ORPHANAGE LANE	TROLOVE PLACE - SUFFOLK ROAD	74	2	0	10	4	\$63	6	6	34	\$4,681	P, L, C, S
GRACEFIELD TO ANNES CUL-DE-SAC	GRACEFIELD - ANNESBROOK	70	2	0	10	4	\$7	9	2	33	\$520	X, park
STRUMER LANE	ARDELIA AVE - TROLOVE PLACE	84	2	0	10	4	\$134	4	6	32	\$11,290	P, L, C, V, S, R
2015											\$38,594	
BASIN RESERVE	ROCKS ROAD - MALCOLM PL	233	4	74	5	4	\$134	4	6	31	\$31,336	X, P, L, C, Solar
CAROLINE WALK	CAROLINE PLACE - SUFFOLK RD	54	2	0	10	4	\$134	4	4	30	\$7,258	P, L, C, S
2016											\$38,981	
MATIPO TCE WALK	MATIPO TCE TO VANGARD ST	250	4	42	2	4	\$132	4	8	30	\$33,095	P, L, C, S, V, N
QUEBEC TO ABRAHAM	QUEBEC - ABRAHAM	71	4	66	2	6	\$14	6	2	30	\$1,015	S, V, R
TAMAKI WALK	TAMAKI ST - TAHUNANUI DRIVE	77	2	26	2	6	\$63	6	6	30	\$4,870	P, L, C, V, N
2017											\$49,099	
ALLPORT PLACE WALK	ALLPORT PLACE - SEAVIEW RD	141	2	0	10	2	\$292	2	8	28	\$41,172	X, P, C, V, S, M
BISLEY TO ROCKS	BISLEY TO ROCKS RD	75	2	63	2	6	\$14	8	2	28	\$1,073	L, V, R
JENNER TO MURPHY	JENNER - MURPHY STREET	51	2	28	2	6	\$134	4	6	28	\$6,854	S, L, P, C, R
STAFFORD WALK	STAFFORD WALK - RICHARDSON STREET	64	2	21	2	6	\$63	6	4	28	\$4,048	P, L, C, V, N
2018											\$60,412	
TUKUKA STREET - RAILWAY RES	TUKUKA ST - RAILWAY RESERVE	48	2	0	10	4	\$292	2	4	28	\$14,035	P, L, C, V, S, R
PRINCES - COMMODORE PL WALK	PRINCES DR - COMMODORE	94	2	15	5	6	\$134	4	2	27	\$12,642	P, L, C, S, N
BEATSONS ENNER GLYNN	BEATSONS - WAIMEA	251	2	0	10	4	\$134	2	2	26	\$33,734	P, L, C, S, N, R
2019											\$73,292	
BRUNNER ST WALK	BRUNNER ST - WAIMEA RD	251	4	0	10	2	\$292	2	2	26	\$73,292	X, P, C, V, S, M
2020											\$55,237	
KIDSONS - FORESTS	FORESTS RD CUL DE SAC	32	2	0	10	4	\$292	2	2	26	\$9,357	P, L, C, S
STEPHNEY LANE	QUEENS RD - HARBOUR TCE	116	2	67	2	6	\$292	2	6	26	\$33,918	P, L, C, N
TORLESSE AUSTIN WARD	TORLESSE - AUSTIN WARD	89	2	34	2	6	\$134	4	4	26	\$11,962	P, L, C, S
2021											\$18,816	
RAILWAY RES - JENNER ROAD	RAILWAY RES - JENNER ROAD	140	2	18	5	4	\$134	2	6	25	\$18,816	P, L, C, R, S
2022											\$76,609	
WAIMEA TO BRUNNER WALK	WAIMEA RD - BRUNNER ST	262	2	3	5	4	\$292	2	6	25	\$76,609	P, L, C, V, S, R
2023											\$57,895	
DAYS TRACK	PRINCES DRIVE - TOI TOI ST	198	4	59	2	2	\$292	2	8	24	\$57,895	P, L, C, V, M
2024											\$12,194	
COMMODORE PL WALK	COMMODORE - ZEEHAEN PL	91	2	18	5	4	\$134	4	2	23	\$12,194	P, L, C, S, N
2025											\$69,299	
PRINCES TO THE CLIFFS	PRINCES DRIVE - THE CLIFFS	237	2	12	10	2	\$292	2	2	22	\$69,299	P, L, C, N, R, V
2026											\$29,532	
MOANA AVE - PRINCES DRIVE	MOANA AVE - PRINCES DRIVE	101	2	14	5	2	\$292	2	6	21	\$29,532	P, L, C, V, M
2027											\$122,640	
NEWMAN DR WALK	NEWMAN DR - PANORAMA DR	420	2	6	5	4	\$292	2	2	21	\$122,640	P, L, C, V, M, R Solar
2028											\$58,772	
DAYS TRACK	GRENVILLE TERRACE - MOANA AVE	201	4	66	2	2	\$292	2	4	20	\$58,772	P, L, C, V, M
2029											\$55,264	
DAYS TRACK	ROCKS ROAD - GRENVILLE TCE	189	4	51	2	2	\$292	2	2	18	\$55,264	P, L, C, V, M
2030											\$55,848	
CHAMPION TO PADDYS KNOB	CHAMPION TCE - PADDYS KNOB	191	2	20	5	2	\$292	2	2	17	\$55,848	P, L, C, S, M, N, R

Legend:
P = poles
L = luminaire
C = cable & connection
S = signage
M = mirror
R = reflectors / SRPMs
V = trim vegetation
N = nose of steps - paint
X = Needs new footpath

Appendix 5 Deficiencies Database

FINAL DEFICIENCY DATABASE - Multi-criteria analysis															
Amended: AUG 2009															
Date Added	Description	High Deprivation Area (8,9 & 10)	Area of benefit / Affected parties	Exposure	Crash History (italics= assumed)	Vulnerable user crashes	Road classification	Vulnerable road users	Public concerns	Observed issues	Posted speed	Estimated cost	Ranking	Estimated Cost	Comments
1	03/08 Days Track / Rocks Road footpath extension		1	4	1	3	4	3	3	2	2	1	2.2	\$160,000	Continuing work from last year - RC issues have stalled work Build 09/10
2	06/07 Hardy St / Oxford Tce cycle refuge		4	5	3	4	3	3	3	3	2	4	3.0	\$75,000	Agreement with Smiths City & local businesses reached. Repair & sealing of ROW & ped refuge on Hardy
3	01/08 Weka / Wainui / Collingwood cyclist refuge	Yes	3	5	2	1	2	3	3	4	2	4	2.7	\$40,000	Kerb build outs and ped refuge. Realignment of parking on Colingwood St
4	09/08 Sovereign St traffic calming	Yes	3	4	1	1	5	3	3	3	2	3	2.6	\$55,000	Related to boy racers. Install central island, formalise parking. Some Parks work also.
5	08/08 Nile / Tasman roundabout improvements		4	3	4	3	2	3	3	2	2	2	2.6	\$150,000	Safety improvements from TDG crash reduction study 2009. Build 10/11
6	03/08 Vanguard St- extend island in front of New World	Yes	3	5	2	1	2	3	3	2	2	5	2.5	\$10,000	Extend traffic island on Vanguard St southwards to stop people turning right
	08/09 MR Stoke -Ryman footpath		NOT											\$35,000	Added Aug 09 - Stage 2 - finish footpath and install refuge.
7	08/08 Hamden St School - new footpath - Ngatiawa St & Kea Xing on Van Diemen		5	3	1	1	1	5	3	2	2	5	2.5	\$25,000	Marg P has discussed with school. Want 2m path in front of angled parking. Safe Journey to School group
8	03/09 Trafalgar St South - path & kerb repairs by Girls High		5	2	3	3	1	3	3	2	2	4	2.5	\$25,000	Safety improvements - fix footpath / low kerb by roundabout. Need to lift f/p and retain etc -cycle accident 3/09
9	06/08 Alton St parking for Central School		5	4	2	3	2	2	3	2	2	2	2.5	\$150,000	Additional parking for school needed - Historic precinct. Issues between school & residents.
10	04/09 Halifax St - Anzac Pk to Saltwater creek walkway		4	5	1	3	4	2	1	2	2	4	2.5	\$25,000	Ped refuge between park and Trafalgar Centre. Requires investigation
11	03/09 Polstead Rd ped refuge by Nikau St	Yes	5	3	1	1	2	5	2	2	2	4	2.5	\$25,000	By the shops. Safe Journey to School
12	02/08 Hastings / Washington Rd intersection	Yes	3	3	2	3	2	4	3	2	2	4	2.5	\$40,000	Realign intersection to slow traffic and push onto Washington Rd
13	03/09 Trafalgar St linemarking review		4	3	2	1	4	4	1	1	2	5	2.4	\$5,000	To remove kinks in road
14	03/09 Vanguard/Motueka St cyclist provision for school kids	Yes	4	2	2	3	2	3	3	2	2	5	2.4	\$20,000	Ped & cyclist crossing point req'd at intersection with Motueka St. Widen footpath
15	05/09 Install ped refuge Nile St by shops		5	2	3	1	2	5	1	1	2	4	2.4	\$20,000	Central school crossing on Nile st by Alton St intersection
16	03/09 Gracefield St - overpass cycle improvements		2	2	2	3	4	2	3	2	2	5	2.3	\$10,000	Widen footpath and improve bends for cyclists.
17	04/09 Waimea Road Loop		1	5	1	1	4	1	3	1	4	4	2.3	\$40,000	Just past Chings Rd. New K&C to narrow entrance & exit, move pole, rumble strip to slow traffic
18	01/09 Ped refuge on Rocks Rd opp new wall & f/p		3	5	1	1	5	1	1	1	2	4	2.2	\$30,000	Install crossing point by Parks new wall - south of fishbazar - to apartments
19	03/09 Bridge Street and Hardy Street ped crossings to Queens Gardens entrances		5	2	2	1	1	5	1	1	2	4	2.2	\$40,000	Install ped refuges. For elderly and school kids
20	07/08 Underpass at Seaview Road- Improve lites & edge marking		5	1	1	1	1	3	3	2	2	5	2.1	\$5,000	The tide comes over the walkway/cycleway. Needs visible edge. Investigation req'd
21	05/08 Target Boards for traffic lights		3	5	1	1	4	1	1	1	2	5	2.1	\$15,000	Traffic light improvements
22	03/08 Alton St streetlights (at Hardy St end)		5	1	1	1	1	3	3	1	2	5	2.0		Very dark in places. Ped safety issue
23	09/08 Harley St - piece north of Bridge St by Supermarket		3	1	1	3	2	5	1	1	2	5	2.0		Traffic calming to prevent boy-racers cutting through carpark
24	08/08 Moana Avenue speed reduction		2	5	1	1	2	1	3	1	2	5	2.0		Resident lobbying to reduce speeds. See below. Consider kerb buildouts etc to reduce boy racer speeding.
25	05/09 Victory - relocate Kea xing. Additional parking on Franklyn	Yes	5	2	2	1	2	3	1	1	2	2	2.0		Requires investigation. LTCCP submission
26	08/08 Bisley Ave speed reduction	Yes	2	5	1	1	2	1	3	1	2	5	2.0		Residents lobbying (1) need to reduce speeds - do with above. Requires investigation
27	03/08 Tipahi bend speed reduction	Yes	5	1	3	1	1	1	3	1	2	5	2.0		Recent crash history. Consider traffic calming .
28	06/08 Karaka St - by Orchard St flats	Yes	4	1	1	1	1	5	3	1	1	5	2.0		Traffic calming by Council flats
29	02/09 Stoke school- consider xing for students	Yes	3	1	1	1	4	5	1	1	1	5	2.0		The ex. zebra crossing needs buildouts and ped refuge. For Stoke School.
30	02/09 Access to Apartments Wakefield Quay DIL paid		1	2	2	2	5	2	1	1	2	5	2.0		Access improvements to Apartments on Wakefield Quay - yellow ones by Yacht club.
31	11/07 Brougham St narrowing, angle parks & throat Island		3	1	2	1	1	2	3	3	2	3	1.9		From Rutherford St to Trafalgar St, parking for Fairfield Park, include Brougham/Rutherford intersection
32	04/09 Marybank - Seaton Crossing Point		2	2	1	1	1	5	1	2	2	5	1.9		Build out or central cycle island approx 25m uphill on Marybank Rd from Marybank / Seaton St intersention. F/p extended along frontage of 27 Marybank Rd up to driveway from intersection.
33			1	3	1	1	4	3	1	1	2	5	1.9		Traffic light improvements
34	02/09 Cnr Bronte St/Scotland St - ped crossing onto Willow Walk and bridge to Brook St		5	1	2	3	1	2	1	1	2	5	1.9		Request by St Josephs School. Safe Journey to School
35			3	2	2	1	2	2	1	2	2	4	1.9		Requires investigation
36		Yes	1	2	1	1	4	2	1	2	2	5	1.8		Reduce congestion at the Vanguard / Toitoti intersection
37		Yes	4	1	2	1	1	1	3	1	2	5	1.8		re Neighbourhood Support letter
38		Yes	4	2	2	3	1	1	1	1	2	4	1.8		Remove swale, install K&C
39			3	1	2	1	1	3	1	2	2	4	1.8		Opposite 4 square, possibly safer routes to school project
40			2	1	1	1	4	2	1	1	2	5	1.7		Traffic light improvements
41			2	1	2	1	1	2	3	2	1	4	1.7		At crest of hill. Improve crossing for school kids
42			2	1	1	1	1	5	1	1	2	3	1.6		Consider purchasing or paying to change Allastair St from private or ROW. Close access to SH.
43			3	1	1	1	1	3	3	1	2	1	1.6		No footpath the present. Used by school pupils.
44		Yes	1	1	1	1	1	3	1	1	2	5	1.4		Safe Journey to School. Path through ex. refuge
45		Yes	1	1	1	1	1	5	1	1	1	1	1.3		Requested by neighbour, link to school
46	05/09 Allisdair St to 940 Atawhai Dr footpath addition.		2	2	1	1	2	1	1	1	2	1	1.3		Possibly Safe Journey to School
47		Yes	2	1	1	1	1	1	1	1	2	5	1.3		Traffic calming required along straight connecting to Princes Dr.
48			1	1	2	1	1	1	1	1	2	4	1.3		Involves sale of land - talk to Paul McArthur
49		Yes	2	1	1	1	1	1	1	2	2	2	1.3		Maybe needed in future as people wander from Kerr St to New World carpark close to Konini St cnr.
50			2	1	1	1	2	1	1	1	2	2	1.3		Continue cycleway under bridge.

KEY

MINOR SAFETY WORKS
PEDESTRIAN FACILITIES
CYCLE FACILITIES

TRAFFIC CALMING
SCHOOL RELATED WORK
LIGHTING IMPROVEMENTS

Appendix 6 – Nelson Cycle Strategy 2009 Implementation Plan

Cycle Strategy Ref	Departmental Actions	Recommendation	08/09	09/10	10/11	11/12	Budget Ref
	Actions for Infrastructural Assets						
A4.1	Council will undertake a comprehensive city-wide cycle use survey at main intersections on the road and path network during the 2007/08 year, repeat this in 2011/12, and use a small number of annual count sites in the intervening years to extrapolate esti	Carry out comprehensive survey in 08/09	15,000		15,000		O & M cycle counting & modelling
A4.1	Annual Count sites	Install permanent counters in 08/09 & 09/10	18,000				O & M cycle counting & modelling
No action but a Target	Public Satisfaction Survey	Include question in 2009 annual resident survey					
A4.1	Council will undertake journey purpose surveys of a sample of cyclists using different parts of the path system, as well as a corresponding city-wide survey, and compare the results. This data will help to determine journey purpose, destination and any issues with the existing network. This can then be used for data modelling.	Carry out in 10/11			5,000		O & M cycle counting & modelling
A4.1	Data will be used to update the Network Traffic Model to provide a cycle flow model to evaluate cycle volumes and trigger infrastructure upgrades. This could be completed in 2007/08 when the current traffic model will be updated with Census 2006 data.	Commence in 08/10. Separate Cycle model to be developed		8,000			
A4.2	Longer-term secure cycle parking should be considered in any proposed new car parking or Public buildings.						
A4.3	A right-turn cycle lane will be installed on the Rutherford Street (northbound) approach to the Rutherford Street/ Selwyn Place intersection, to provide for Waimea Road cyclists accessing the central core.	Considered by Council with Rutherford / Hardy Street intersection modifications					
A4.7	The sign and branding theme will be incorporated in implementation activities as continuity features are achieved, and used to promote the network to residents of Nelson and beyond.	Parks & Facilities need to consider not using green directional signs					
A4.8	Council will invite participation from the cycle group in the once yearly cycleway network audit	Commence in 10/11			1,500	1,500	O & M cycle counting & modelling
A4.9	Council supports cycle group participation where appropriate in auditing designs.	Commence in 09/10					
	Actions for Infrastructural Operations & Maintenance						
A4.2	Audit traffic light systems for cycle detection and identify the detector loop by marking it with paint.	Implementation ongoing					
A4.4	Warning signs should be installed for the difficult crossing of Trafalgar Street (just south of the Maitai River bridge), and in the longer term cycle access across this bridge will be investigated.	Raised crossing proposed in Central City Strategy					
A4.9	Off-road cycle routes should have signs to alert cyclists and pedestrians to hazards and the need for caution.	Implementation ongoing					
A4.10	Signs will be provided to alert motorists and cyclists where cycle paths cross roads (e.g. on the Railway Reserve)	Completed					
No action but programmed	Cycleway sweeping & minor mtce	Implementation ongoing	25,000	30,000	30,000	30,000	O & M cyclepath mtce
	Actions for Travel Demand Management						
A4.2	Implement an end of route cycle provision programme including cycle stands and lockers with major employers. Funding has been allocated in 2008 to 2011 for this.	Commence in 09/10		10,000	10,000		O & M Community programmes
A4.2	Investigate the possibility of installing shelters over existing cycle stands.	Commence investigation and implementation in 09/10		5,000		10,000	Capital - upgrade cycle racks
A4.2	Investigate and research the needs of providing secure locker facility in the CBD.	Commence investigation and research in 09/10		5,000			Capital - secure cycle parking facility
A4.2	Provide first one, then a second, high-quality secure cycle parking facilities, in conjunction with workplace-related travel planning involving central core businesses, including investigating other cycling-related services as a cycle centre. These should be as close to the central City area as possible, and locations will need to be investigated. Funding has been allocated in 2008 to 2011 for this.	Installation in 11/12				60,000	Capital - secure cycle parking facility
A4.11	Changes to roads, streets and routes around schools will be made as required to address deterrents to school cycling identified in the <i>Safe Journeys to School project</i> .	Use new Cycle minor safety budget, commence 09/10		15,000	15,000	15,000	Cycle Minor safety budget

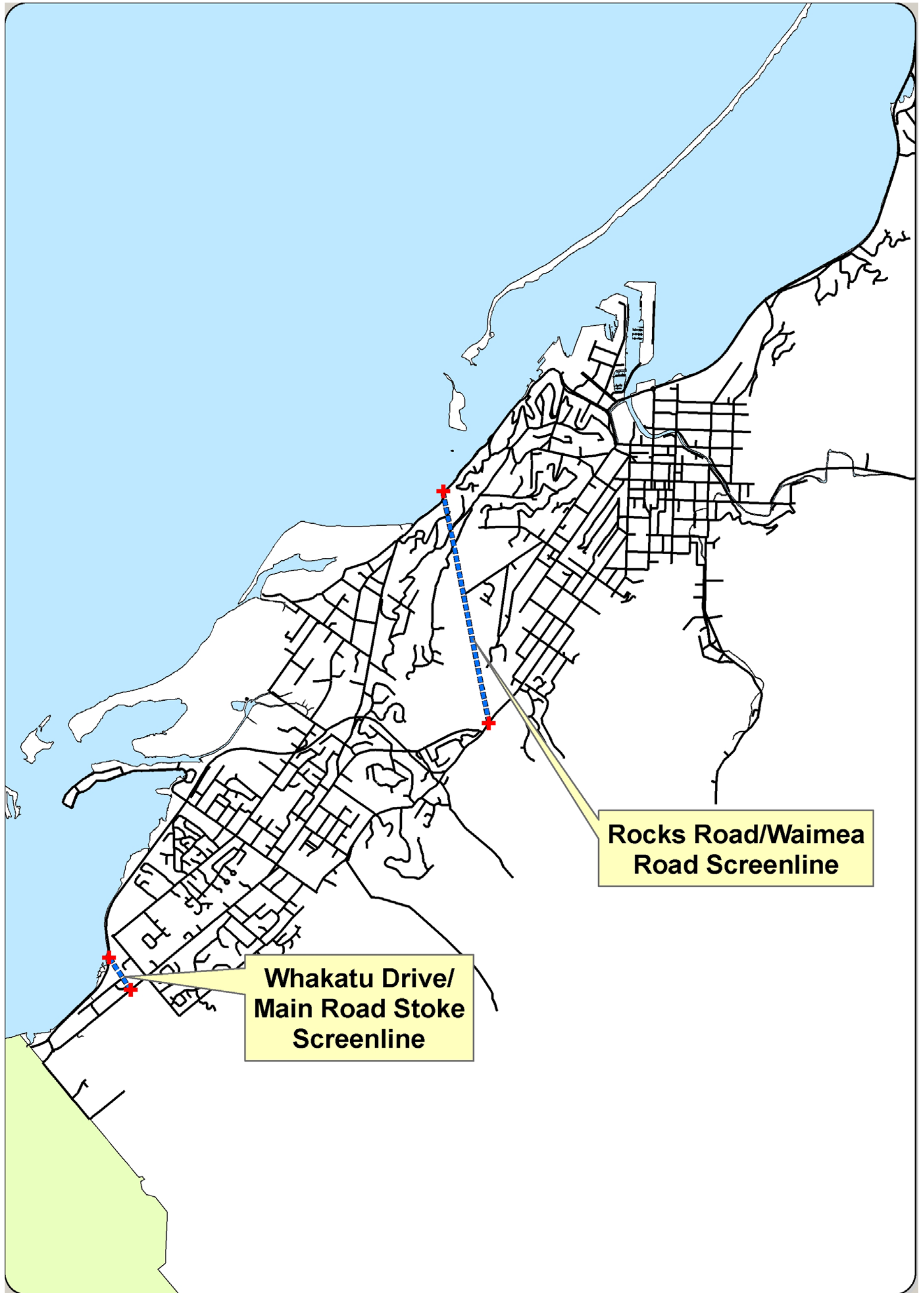
Cycle Strategy Ref	Departmental Actions	Recommendation	08/09	09/10	10/11	11/12	Budget Ref
	Actions for Travel Demand Management						
A4.11	The <i>Safe Journeys to School</i> project will be extended, by one school annually, as proposed in Council's Walking Strategy "Stepping Out". Applications for this project will be funded from Land Transport NZ.	Review action plans to date and implement valid recommendations using new Cycling minor safety budget, commence 09/10		10,000	10,000	10,000	Cycle minor safety budget
A4.11	Council's road safety and environmental education work, both of which potentially embrace travel planning and travel behaviour change, will be coordinated.	Cycle safety implementation ongoing	20,000	20,000	20,000	20,000	O & M Community programmes
A4.11	Provision of secure school cycle storage will be further implemented.	Commence in 10/11. Schools required to pay local share.			20,000		O & M Community facilities
A4.11	A secondary school cycle to school education and promotion programme will be initiated.	Commence in 09/10		5,000	5,000	5,000	O & M Community programmes
A4.12	The <i>Bike Nelson</i> booklet and map will be produced and distributed.	Completed					
A4.12	General safety campaigns and initiatives under the <i>BikeWise</i> programme will continue.	Implementation ongoing					
A4.12	The <i>Re-cycling</i> adult tuition classes will continue.	Implementation ongoing					
A4.13	Central City secure cycle parking and suggested cycle station facilities will include a focus on private sector sponsorship, leisure cycling, cycle touring and mountain biking, with a view to enhancing their commercial viability in conjunction with a Land Transport NZ workplace-based travel planning subsidy, possibly in conjunction with cycling clubs.						
	Actions for Infrastructure						
A4.3	T4 The Maitai path will be upgraded to urban standard for a defined length (Collingwood to Nile St), including improvement of interface locations with the street network, as a cycle commuter link to the central city area	Construct in 10/11. Minimum urban standard 3m wide			75,000		Capital
A4.4	T5 Options for cycle route connections in the area between Trafalgar Street and Victory Square will be investigated, covering routes into and past the central City, and between the Port and residential areas such as Washington Valley, and including a link	Mark cycle lanes along St. Vincent St in 10/11			50,000		
A4.5	T7 Trafalgar 200 Cycleway, and connection via Collingwood Street and Trafalgar Street	Mark cycle lanes along Collingwood St (from end of Sovereign to Maitai path), including off ramps to Maitai path	15,000	135,000			Capital
A4.5	T11 The Brook – central City	Investigate design in 11/12				10,000	Capital
A4.5	T5 Vanguard Street/St Vincent Street quality, and connections north and south	Postpone until after 2012					
A4.5	T3 / M2 Waimea Road Bishopdale Hill to Station Reserve	Design in 08/09, construct 09/10		30,000		349,000	Capital
A4.5	T1 Railway Reserve, St Vincent Street – Beatson Road	Design and construct in 08/09 following adoption of RLTS	160,000				Capital
A4.5	T Bolt Road to Whakatu Dr via Nelson Airport's Trent Drive	Consider extending to Annesbrook Drive via Poormans Stream 2016/17					
A4.3	A continuous cycle route will be implemented linking the central City and the Vanguard Street cycleway via Kerr Street and Gloucester Street.	Mark Kerr/ Oxford St and Gloucester St cycle lanes and crossing on Hardy St installed in 10/11			60,000		
No action but programmed	T4 Saxton field	Construct in 10/11	5,000		300,000		Capital (balance budgeted by Stormwater account)
No action but programmed	T10 Path Widening	Commence in 11/12				50,000	Capital
No action but programmed	T Poormans / Main Rd Stoke	2nd stage construction in 11/12	100,000			50,000	Capital
No action but programmed	Cycleway lighting	Programme requires review	50,000		50,000	50,000	Capital
No action but programmed	Waimea Rd feasibility study, design and implementation	Design to be incorporated into Bus priority measures work were possible					

Cycle Strategy Ref	Departmental Actions	Recommendation	08/09	09/10	10/11	11/12	Budget Ref
Actions for Community Road Safety							
A4.1	Council will continue the 0800 CYCLECRASH system, and seek to attract a national subsidy for it because of its local and national benefits including benefits to other local councils from Nelson's experience.	Implementation ongoing	5,000	5,000	5,000	5,000	Road Safety - community programmes
A4.9	Council will explore possibilities for encouraging provision and use of cycle bells.	Project to be incorporated into road safety education programme					
A4.9	Cyclists and pedestrian users of paths will be provided with information and continued education to encourage responsible use, including respect for other users, whether on foot or cycle, and regardless of rights of way.	Code of conduct prepared in 2008/09. Report pending					
A4.10	The continuation of education and information campaigns with positive messages to all groups will improve driver and cycling behaviour and compliance with road rules.	Projects incorporated into road safety education programme					
Actions for Environmental Policy							
A4.2	Investigate and consider the merits of a Resource Management Plan Change to make cycle provisions mandatory for any new facility, business, shops, schools, churches and public facilities.	Environmental Policy to action.					
A4.14	A Resource Management Plan Change will be considered requiring developers to produce a local cycle network plan as part of new subdivisions and to install cycle facilities for staff and customers.	Environmental Policy to action					
Actions for Parks & Facilities							
A4.3	T8 Implementation of improvements to the crossing of Haven Road and Queen Elizabeth II Drive;	Design on hold until fundamental decisions on Rutherford Park are made					Budget to be reallocated when Development Plan scheduled
A4.3	T8 A new path to urban standard will be investigated, in Rutherford Park, (in conjunction with the Redevelopment Plan) connecting to the central City via the existing Trafalgar Street advanced stop box and approach lanes, and to the Port under the Queen E	Design on hold until fundamental decisions on Rutherford Park are made					Budget to be reallocated when Development Plan scheduled
A4.4	T8 Connections implemented between and through Trafalgar and Rutherford Parks, and respectively to Neale Park and the Haven Road/central City route (as mentioned above) to provide a continuous cycle route linking the Trafalgar cycleway with the Haven Road	Design on hold until fundamental decisions on Rutherford Park are made					Budget to be reallocated when Development Plan scheduled
A4.5	P1 Saxton Field paths	Improvements as part of Saxton Field development					
A4.6	Which specific paths are subject to 'urban' and 'rural' standards should be clearly defined, and best practice standards applied accordingly.	Parks & Facilities to action					
A4.6	Parks and recreation staff develop standards for rural shared use recreational paths.	Parks & Facilities to action					
A4.7	A branding theme for cycling in Nelson will be created. This will include use of colour, size, shape and symbols (on both urban and rural paths); will be developed in conjunction with a Parks sign policy; and will be consistent with other existing signs.	Parks & Facilities to action					
A4.8	Council supports the Regional Cycling Forum's adoption of BYPAD Level 3						
A4.12	Besides travel behaviour change initiatives covered in other action points, provision for cycle learner tracks or "fun trails" will be investigated for local parks (e.g. Victory Square, Saxton Field, Neale Park, and Pioneer Park) in conjunction with the R	If projects to proceed, to be funded from Parks & Facilities budget					
A4.13	Undertake to write a Mountain Biking strategy (Parks and Facilities)	Parks & Facilities to incorporate into their Activity Management plan					
A4.14	Opportunities will be taken to provide connecting paths within and between subdivisions, notably where linear open space is required to accommodate underground services and through parks and reserves where appropriate.	Parks & Facilities to action					
No action but programmed	Regional training cycle park	Training level paths are incorporated in the review of Parks and Facilities Activity Management Plan					
Actions for the NZ Transport Agency							
A4.5	14 Annesbrook roundabout, and nearby roads and paths	Included in RLTS.					
A4.5	T6 Annesbrook Drive – Tahunanui Drive.	Included in RLTS.					
RLTS	Clifton Terrace to Cable Bay Road cycleway	Included in RLTS.					
Central City Strategy	Widen cycle lanes along Haven Road (SH6 - to Rocks Road)	Included in RLTS.					

Appendix 7 Transport Sculpture Assets

Location	Description	Date Installed	Value
Achilles Lane	Two Cabbage Trees	2005	\$30,000
Central Trafalgar St	Southern Cross	1995	\$35,000
Neale Ave/Putaitai St	Bronze Hand	1998	\$30,000
Lower Trafalgar St/Halifax St on VIC Building	Stainless Steel Canoe	2005	\$25,000
Maitai River/Trafalgar St	Stainless Steel Reef Knot	2005	\$20,000
Alma Street Buxton Car Park to Hardy St	Two Large Mosaics	2004	\$10,000
Haven Rd	Mueller Fountain	1970s	\$30,000
Upper Trafalgar St	Symonds Gas Lamp Reproduction	1995	\$40,000
Upper Trafalgar St	Argillite Anchor Stone	2006	\$10,000

Appendix 8 Screenline Maps



Appendix 9 Risk Register

RISK ANALYSIS CALC SHEETS - semi-quantitative assesment

1. Road pavements (incl footpaths & cycleways)

Ref: 1.1
Issue: Failure by Earthquake or slip

	Likelihood	Consequence	Score
Public health	0.4	30	12
Asset Performance	0.4	50	20
Environmental and			
Legal Compliance	0.4	30	12
Historical or Cultural	0.4	30	12
Financial	0.4	30	12
Customer Perception	0.4	30	12
Total Score			80

Ref: 1.6
Issue: Vehicles travelling above speed limit

	Likelihood	Consequence	Score
Public health	0.9	30	27
Asset Performance	0.9	30	27
Environmental and			
Legal Compliance	0.9	30	27
Historical or Cultural	0.9	10	9
Financial	0.9	30	27
Customer Perception	0.9	30	27
Total Score			144

Ref: 1.5
Issue: Inadequate TMP for busy roads

	Likelihood	Consequence	Score
Public health	0.7	30	21
Asset Performance	0.7	10	7
Environmental and			
Legal Compliance	0.7	10	7
Historical or Cultural	0.7	10	7
Financial	0.7	10	7
Customer Perception	0.7	30	21
Total Score			70

Ref: 1.2
Issue: Rocks Rd closure by sea action

	Likelihood	Consequence	Score
Public health	0.4	10	4
Asset Performance	0.4	70	28
Environmental and			
Legal Compliance	0.4	50	20
Historical or Cultural	0.4	30	12
Financial	0.4	30	12
Customer Perception	0.4	30	12
Total Score			88

Ref: 1.7
Issue: Inadequate on-road local parking

	Likelihood	Consequence	Score
Public health	0.7	10	7
Asset Performance	0.7	30	21
Environmental and			
Legal Compliance	0.7	30	21
Historical or Cultural	0.7	10	7
Financial	0.7	30	21
Customer Perception	0.7	30	21
Total Score			98

Ref: 1.3
Issue: Vehicle crash damage

	Likelihood	Consequence	Score
Public health	0.7	10	7
Asset Performance	0.7	10	7
Environmental and			
Legal Compliance	0.7	30	21
Historical or Cultural	0.7	10	7
Financial	0.7	10	7
Customer Perception	0.7	30	21
Total Score			70

Ref: 1.4
Issue: Inadequate Maintenance

	Likelihood	Consequence	Score
Public health	0.4	10	4
Asset Performance	0.4	10	4
Environmental and			
Legal Compliance	0.4	10	4
Historical or Cultural	0.4	10	4
Financial	0.4	30	12
Customer Perception	0.4	30	12
Total Score			40

2.Road bridges-incl pedestrian & cycle

Ref: 2.1
Issue: **Structural failure due to earthquake**

	Likelihood	Consequence	Score
Public health	0.2	30	6
Asset Performance	0.2	70	14
Environmental and			
Legal Compliance	0.2	50	10
Historical or Cultural	0.2	30	6
Financial	0.2	70	14
Customer Perception	0.2	50	10
Total Score			60

3.0 Retaining walls on roads

Ref: 3.1
Issue: **Failure by Earthquake or slip**

	Likelihood	Consequence	Score
Public health	0.2	50	10
Asset Performance	0.2	70	14
Environmental and			
Legal Compliance	0.2	50	10
Historical or Cultural	0.2	30	6
Financial	0.2	50	10
Customer Perception	0.2	50	10
Total Score			60

Ref: 2.2
Issue: **Flooding greater than bridge capacity**

	Likelihood	Consequence	Score
Public health	0.4	50	20
Asset Performance	0.4	50	20
Environmental and			
Legal Compliance	0.4	30	12
Historical or Cultural	0.4	30	12
Financial	0.4	30	12
Customer Perception	0.4	50	20
Total Score			96

Ref: 3.2
Issue: **Inadequate Design**

	Likelihood	Consequence	Score
Public health	0.4	30	12
Asset Performance	0.4	50	20
Environmental and			
Legal Compliance	0.4	30	12
Historical or Cultural	0.4	10	4
Financial	0.4	30	12
Customer Perception	0.4	30	12
Total Score			72

Ref: 2.3
Issue: **Flooding closes cycle underpass**

	Likelihood	Consequence	Score
Public health	0.7	10	7
Asset Performance	0.7	30	21
Environmental and			
Legal Compliance	0.7	10	7
Historical or Cultural	0.7	10	7
Financial	0.7	10	7
Customer Perception	0.7	30	21
Total Score			70

Ref: 3.3
Issue: **Inadequate Maintenance**

	Likelihood	Consequence	Score
Public health	0.4	10	4
Asset Performance	0.4	30	12
Environmental and			
Legal Compliance	0.4	10	4
Historical or Cultural	0.4	10	4
Financial	0.4	30	12
Customer Perception	0.4	30	12
Total Score			48

4.0 Roading Drainage failure - sumps pipes etc

Ref: 4.1
Issue: **Inadequate road drainage**

	Likelihood	Consequence	Score
Public health	0.7	10	7
Asset Performance	0.7	30	21
Environmental and			
Legal Compliance	0.7	30	21
Historical or Cultural	0.7	10	7
Financial	0.7	30	21
Customer Perception	0.7	30	21
Total Score			98

Ref: 4.2
Issue: **Inadequate design or lack of K&C**

	Likelihood	Consequence	Score
Public health	0.7	10	7
Asset Performance	0.7	30	21
Environmental and			
Legal Compliance	0.7	10	7
Historical or Cultural	0.7	10	7
Financial	0.7	10	7
Customer Perception	0.7	30	21
Total Score			70

Ref: 4.3
Issue: **Inadequate maintenance**

	Likelihood	Consequence	Score
Public health	0.4	10	4
Asset Performance	0.4	50	20
Environmental and			
Legal Compliance	0.4	30	12
Historical or Cultural	0.4	10	4
Financial	0.4	30	12
Customer Perception	0.4	30	12
Total Score			64

5.0 Streetlights -

Ref: 5.1
Issue: **Inadequate /non Std lights**

	Likelihood	Consequence	Score
Public health	0.4	10	4
Asset Performance	0.4	30	12
Environmental and			
Legal Compliance	0.4	30	12
Historical or Cultural	0.4	10	4
Financial	0.4	10	4
Customer Perception	0.4	30	12
Total Score			48

Ref: 5.2
Issue: **Energy inefficient streetlights**

	Likelihood	Consequence	Score
Public health	0.9	10	9
Asset Performance	0.9	30	27
Environmental and			
Legal Compliance	0.9	30	27
Historical or Cultural	0.9	10	9
Financial	0.9	10	9
Customer Perception	0.9	10	9
Total Score			90

Ref: 5.3
Issue: **Inadequate maintenance**

	Likelihood	Consequence	Score
Public health	0.7	10	7
Asset Performance	0.7	30	21
Environmental and			
Legal Compliance	0.7	30	21
Historical or Cultural	0.7	10	7
Financial	0.7	10	7
Customer Perception	0.7	30	21
Total Score			84

6.0 Traffic Signals

Ref: 6.1
Issue: **Power failure or damage**

	Likelihood	Consequence	Score
Public health	0.7	30	21
Asset Performance	0.7	70	49
Environmental and			
Legal Compliance	0.7	10	7
Historical or Cultural	0.7	10	7
Financial	0.7	10	7
Customer Perception	0.7	50	35
Total Score			126

Ref: 6.2
Issue: **Inadequate maintenance**

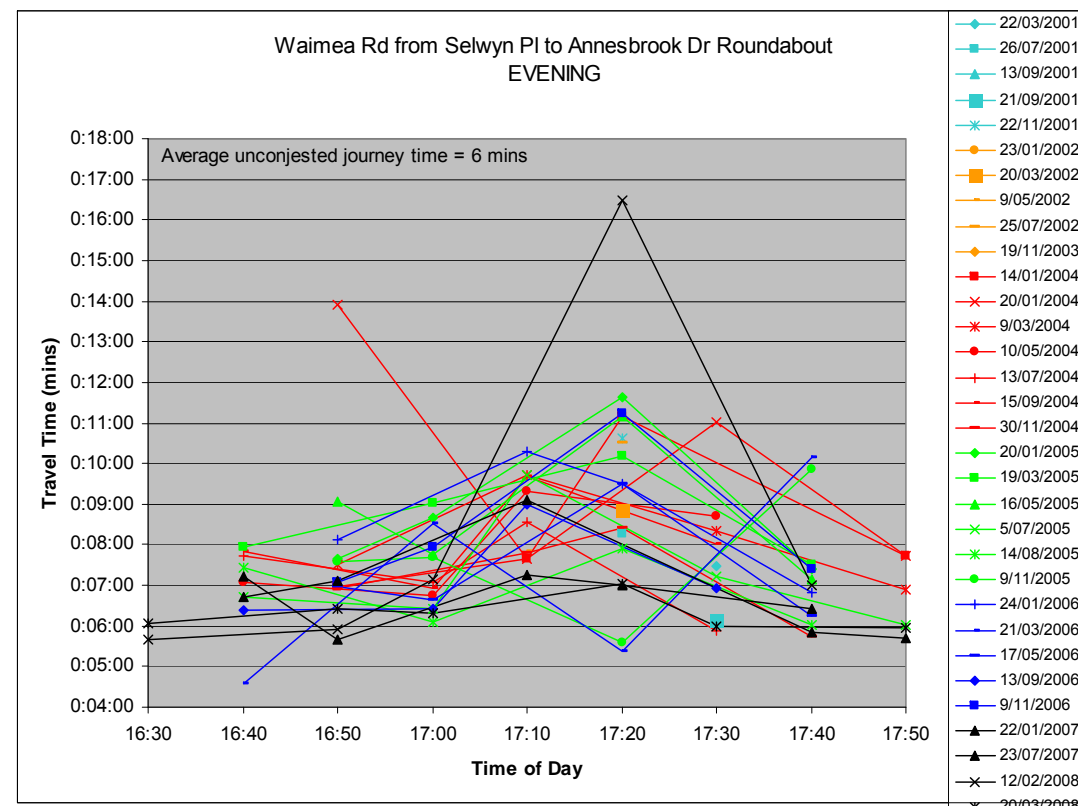
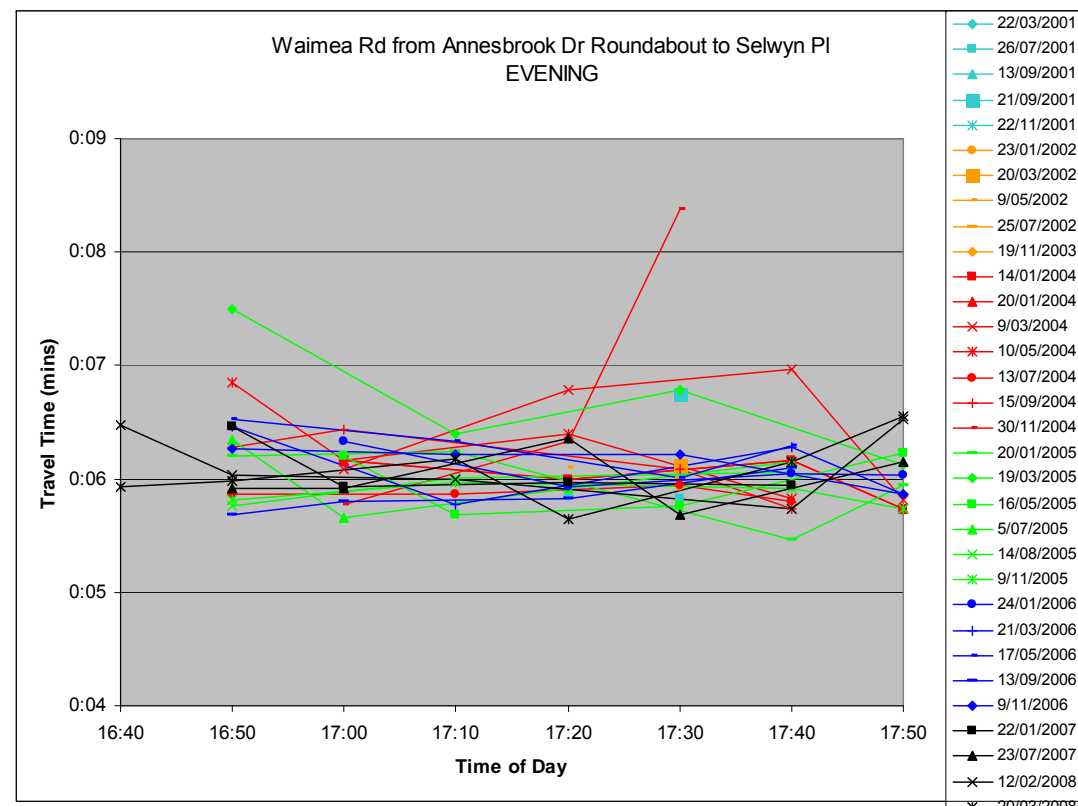
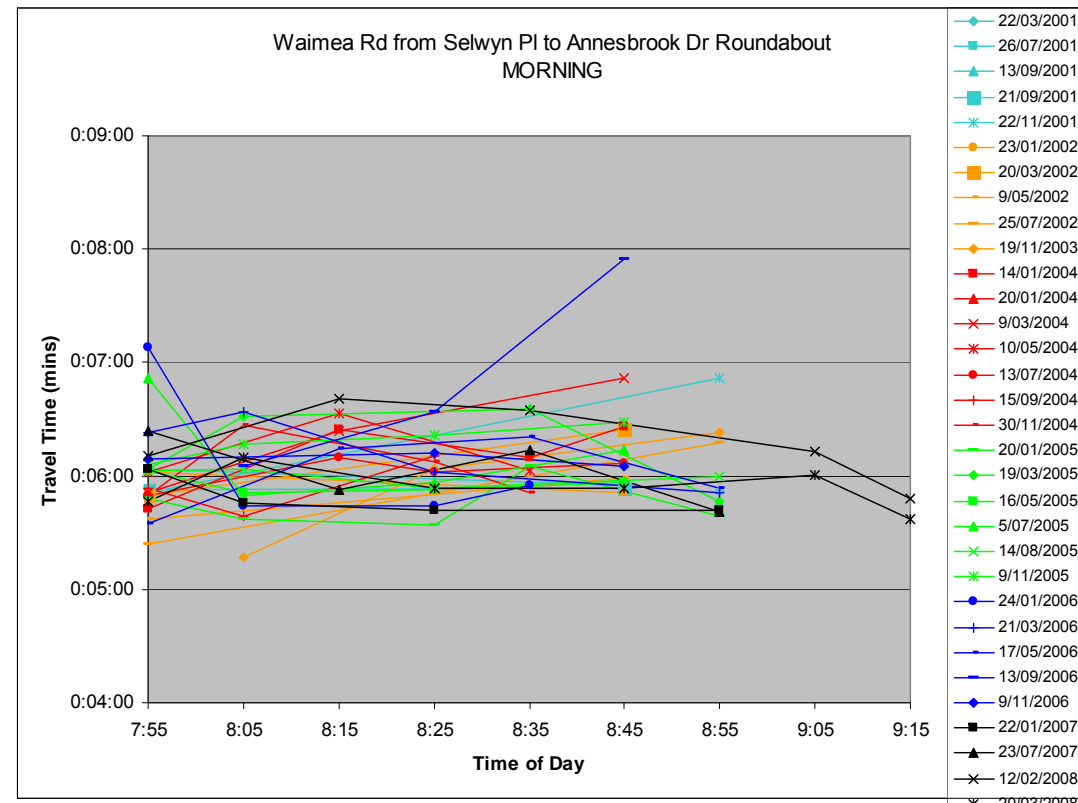
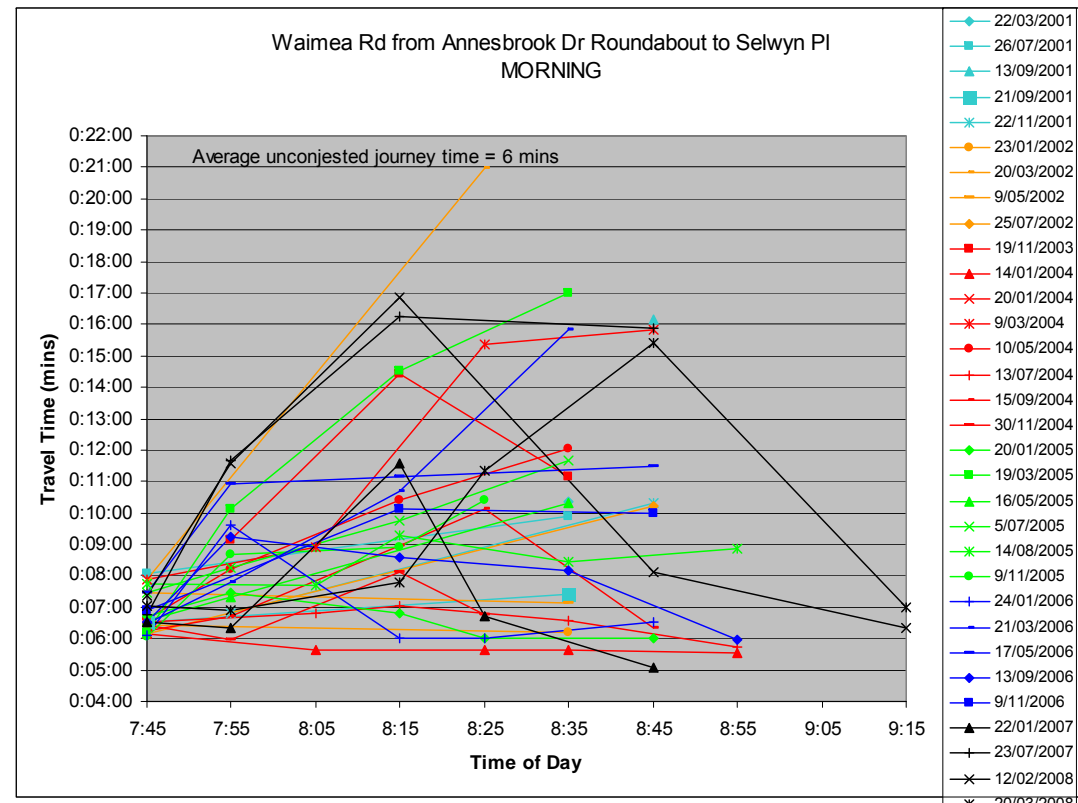
	Likelihood	Consequence	Score
Public health	0.4	10	4
Asset Performance	0.4	70	28
Environmental and			
Legal Compliance	0.4	30	12
Historical or Cultural	0.4	10	4
Financial	0.4	10	4
Customer Perception	0.4	50	20
Total Score			72

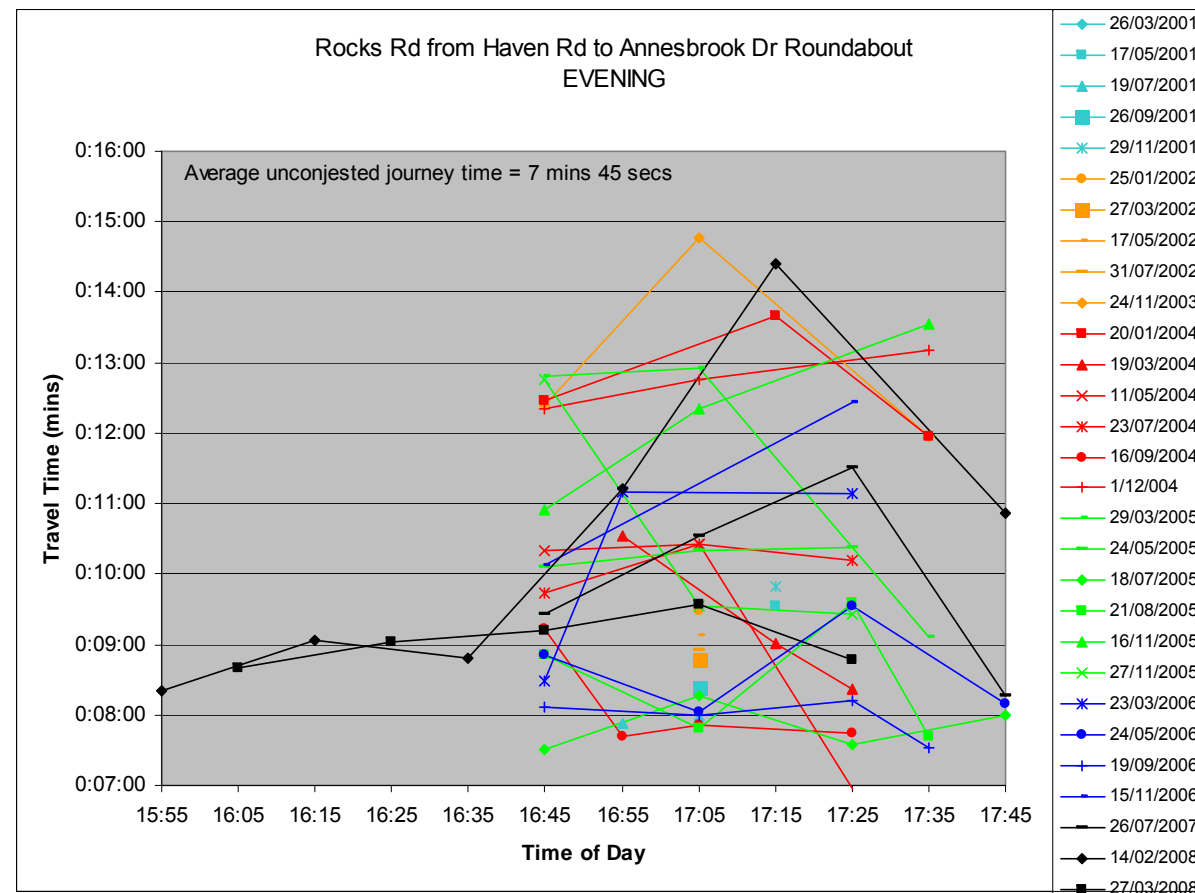
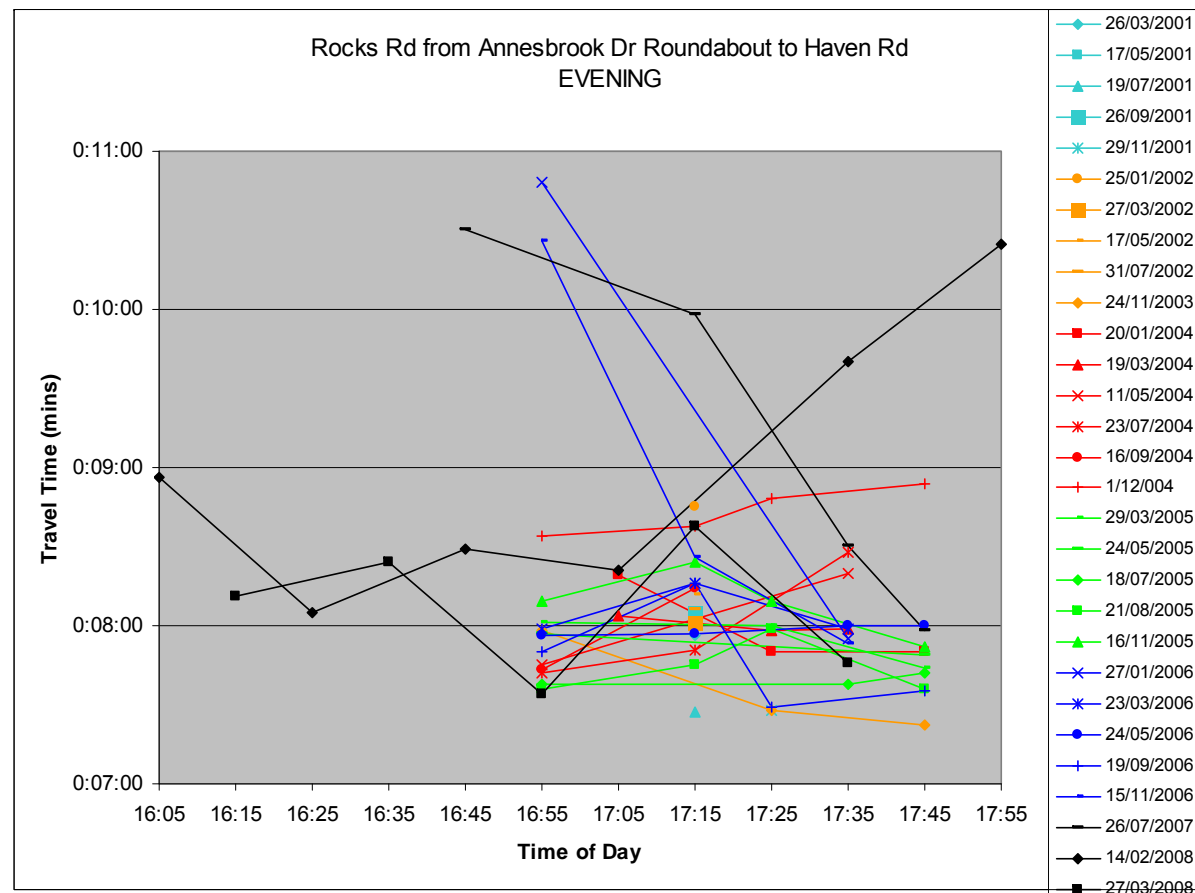
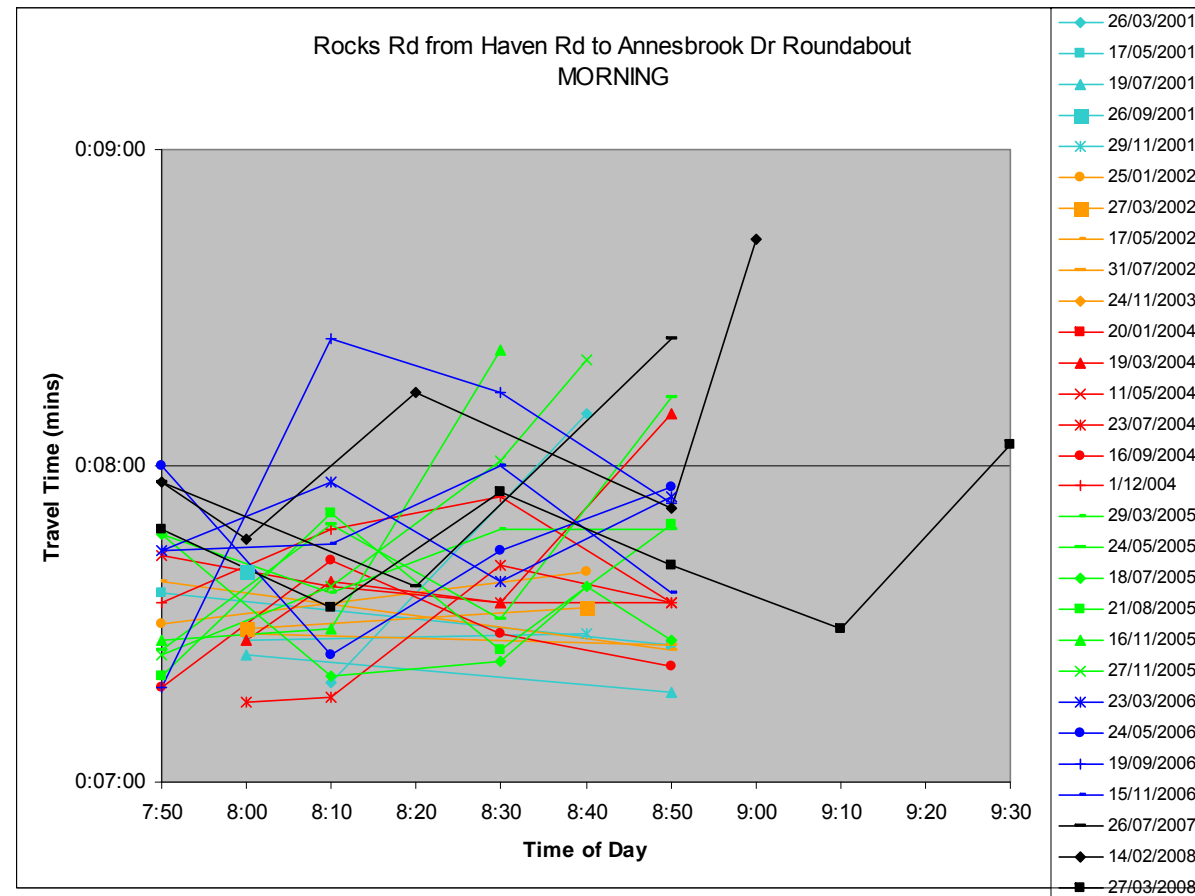
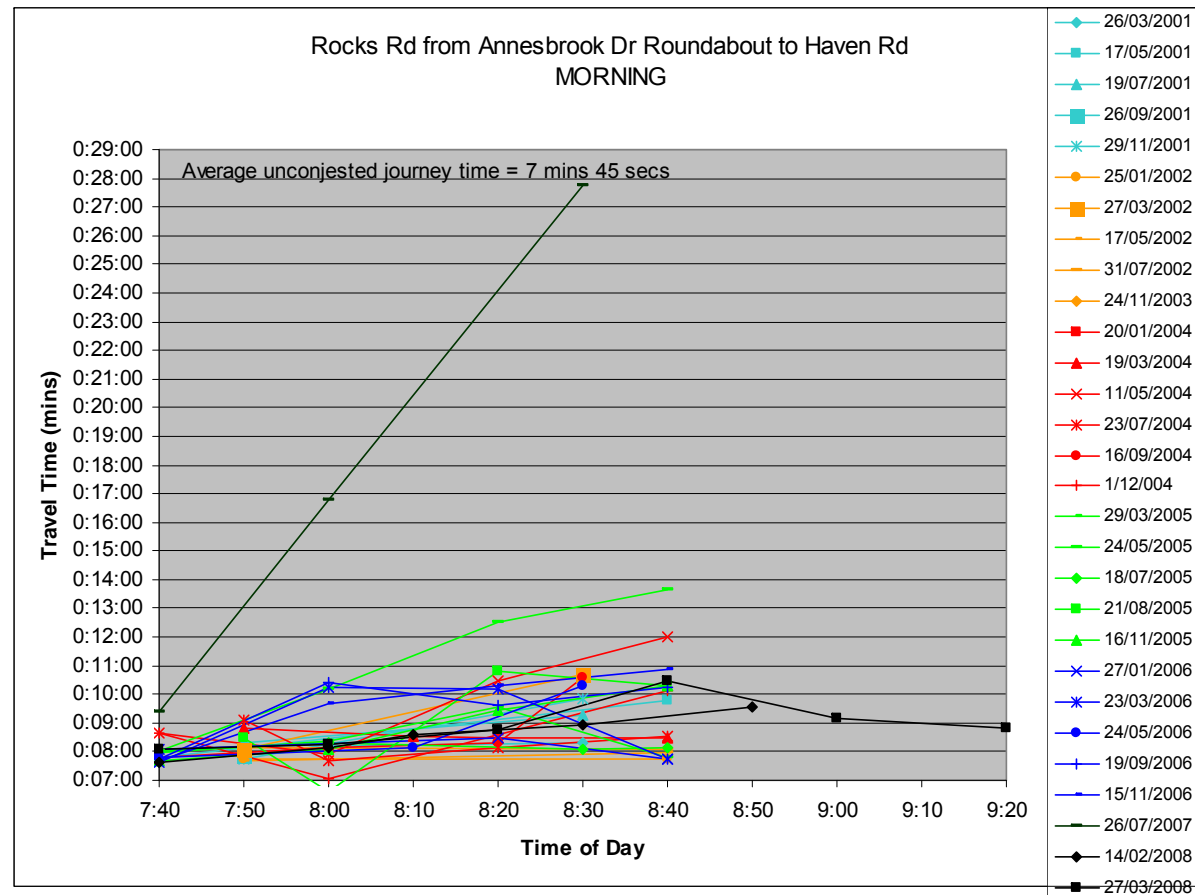
7.0 Safety Barriers

Ref: 7.1
Issue: **Inadequate and non-Std barriers**

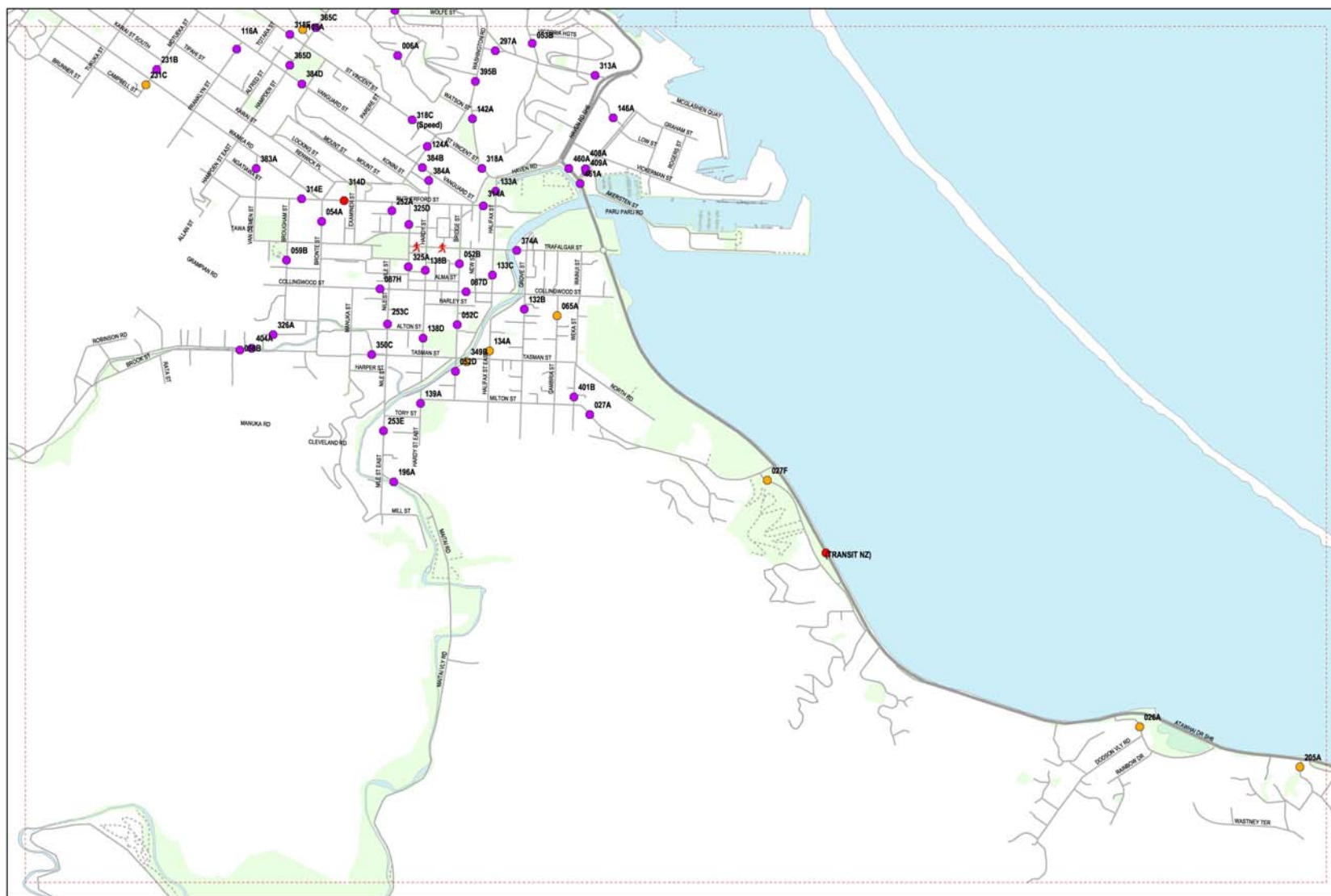
	Likelihood	Consequence	Score
Public health	0.4	30	12
Asset Performance	0.4	30	12
Environmental and			
Legal Compliance	0.4	30	12
Historical or Cultural	0.4	10	4
Financial	0.4	10	4
Customer Perception	0.4	50	20
Total Score			64

Appendix 10 Travel Times for Arterial Routes





Appendix 11 Traffic Count Sites



1:20,000
MAP 1
 Jul 07, 2004



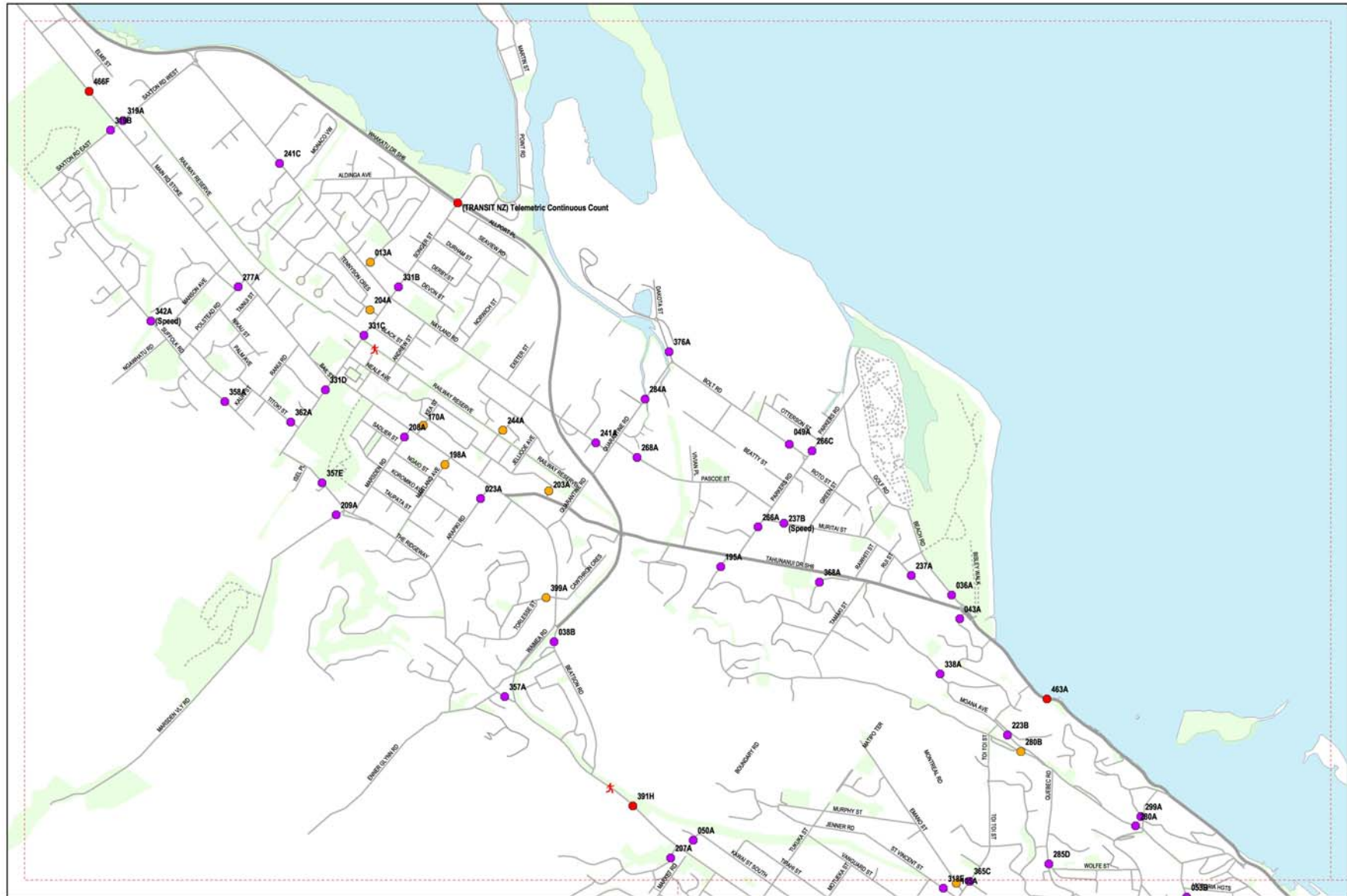
Maps Generated Nelson City Council's AIS Section

Legend

- 1 Monthly Traffic Count
- 6 Monthly Traffic Count
- 12 Monthly Traffic Count
- 🚶 Cycle/Pedestrian Count



NELSON CITY COUNCIL
REGULAR TRAFFIC COUNT SITES



1:20,000
MAP 2
 Oct 28, 2004



Maps Generated Nelson City Council's AIS Section

Legend

- 1 Monthly Traffic Count
- 6 Monthly Traffic Count
- 12 Monthly Traffic Count
- ★ Cycle/Pedestrian Count

Appendix 12 Cycleway Lighting Programme

Cycleway Name	Location From	Location To	Length m	cost per m	Total Cost	Improvements
MAITAI CYCLEWAY	TRAFALGAR ST	COLLINGWOOD	255	\$5	\$1,275	R
ATAWHAI DR	ATAWHAI DR	NORTH RD	172	\$134	\$23,117	U,L,S
TRAFALGAR 200	TRAFALGAR ST	ATAWHAI DR	1650	\$5	\$8,250	R
RAILWAY RES (NN)	ST VINCENT	BEATSON	1640	\$292	\$478,880	P,S,L
QUARANTINE RD	LANGDON BR	QUARANTINE RD	268	\$134	\$36,019	U,L,S
WHAKATU DR	AIRPORT	CHAMPION RD	3640	\$7	\$25,480	S,R,L
RAILWAY RES (STOKE)	QUARANTINE RD	NEWALL AVE	580	\$292	\$169,360	P
RAILWAY RES (STOKE)	NEWALL AVE	PUTAKE ST	610	\$292	\$178,120	P
RAILWAY RES (STOKE)	PUTAKE ST	SONGER ST	380	\$292	\$110,960	P
RAILWAY RES (STOKE)	SONGER	BYRON	600	\$292	\$175,200	P
RAILWAY RES (STOKE)	BYRON	STANDISH	540	\$7	\$3,780	S,R,L
RAILWAY RES (STOKE)	STANDISH	SAXTON	670	\$7	\$4,690	S,R,L
MAIN RD - WHAKATU DR	MAIN RD STOKE	WHAKATU DRIVE	380	\$7	\$2,660	S,R,L
					\$1,217,791	
P= poles & lights						
U = upgrade ex. lights						
R = raised reflectorised markers						
L= linemarking / pavement paint						
S = signage						

Appendix 13 Road Safety Programme 2010-2013

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-2010	BUDGET 2010-2011	BUDGET 2011-2012
Road safety and Travel plan Coordination Job codes J100987 J106985	To engage the community in safe and sustainable transport.	Increased numbers of people using sustainable transport methods. Reduced number of crashes and road related casualties in Nelson.	Variety of targeted road safety activities as schedule below. School travel plans.	On going through out year.	Nelson and Tasman community	\$100,000 \$60,000	\$100,000 \$100,000	\$100,00 \$100,000
Plunket car seat Education Job code J106981	Deliver education that will build an awareness in children and parents of the proper use of car seat restraints.	Maintain high levels of compliance seen in seat belt surveys. Reduce the percentage of errors in use of child restraints.	Plunket led visits to preschools and community groups using interactive teaching tool – “Buckle bear”.	On going through out year.	Plunket Preschools/ Kindergartens Community centres	\$10,000	\$10,000	\$8,000
Te Korowai Trust Car seat rent to buy scheme Job code J106982	Deliver a service and education that will build awareness of Maori/ Pacific Island parents for the proper use of car seat restraints and enable them to access them in a culturally appropriate way.	Increase use of child restraints in target population. Make seats available at an affordable cost and in a manner that overcomes cultural and economic barriers.	Te Korowai trust worker engages with individual families and educates and facilitates car seat use. A rent to buy scheme operates that enables seats to be changed over and privately owned as babies grow.	On going throughout year.	Te Korowai Trust – Maori Womens Welfare league.	\$4,000	\$4,000	\$3,000

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-2010	BUDGET 2010-2011	BUDGET 2011-2012
<p>Intersection Safety</p> <p>Job code J103435</p>	<p>-To raise awareness of the giveway, Stop, and lane usage rules.</p> <p>-To improve observation at intersections.</p> <p>-To improve merging behaviour at intersections.</p> <p>-To encourage safe following distances.</p>	<p>Utilise, review and update resources developed over the past 4 years –</p> <ul style="list-style-type: none"> ▪ Newspaper tabloid ▪ Video ▪ Billboards 	<p>To conduct a print media campaign explaining intersection rules at local black spot intersections. The campaign would be held in conjunction with national advertising timelines.</p>	<p>April – June each year</p> <p>Resources then used on an ongoing basis.</p>	<p>Police Media Community Road safety group</p>	<p>\$28,000</p>	<p>\$28,000</p>	<p>\$28,000</p>
<p>Drivetime Youth Focused Activity</p> <p>Job code J106986</p>	<p>To create an awareness of the importance of increasing the number of hours of supervised driving practice amongst novice drivers.</p>	<p>To promote and deliver a series of 6 Drivetime seminars across Nelson and Tasman in line with the national template/guidelines.</p>	<p>To give all participants advice and information to aid them to increase the number of supervised driving hours.</p> <p>To explain the graduated driver licence system (GDLS).</p> <p>To promote the Practice programme</p>	<p>March – April each year</p>	<p>Schools Police Youth Council Driving instructors Media Driver licensing agencies</p>	<p>\$4,000</p>	<p>\$6,000</p>	<p>\$6,000</p>

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-2010	BUDGET 2010-2011	BUDGET 2011-2012
<p>Driver Licensing Assistance</p> <p>Job code J106980</p>	<p>To reduce the number of people driving without licenses (Targeted to Maori/ new immigrants/ lower socio economic and those with literacy problems).</p>	<p>90% pass rate of people who participate in the programme.</p>	<p>Course is administered by Community Police and run in local community centre.</p> <p>Participants are helped through the road code and take the theory test at the end. Assistance in applying for WINZ grants to cover testing fees is supplied.</p>	<p>2 courses throughout each year – exact timing at discretion of Community Police</p>	<p>Police – Rueban McCormack Police volunteer Victory Community Centre Driving Instructor</p>	<p>\$3,000</p>	<p>\$4,000</p>	<p>\$4,000</p>

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-2010	BUDGET 2010-2011	BUDGET 2011-2012
<p>Cycle Safety and Promotion</p> <p>Job codes J106977 J107436 J106978</p>	<p>Support ongoing data collection through 0800CYCLECRASH.</p> <p>Deliver courses and a campaign that encourages safe cycling practice, draws motorists' attention to the presence of cyclists on the road and promotes the "share the road" message.</p> <p>Deliver campaign aimed at walkers/cyclists to share the path.</p>	<p>Decrease in the number of cyclist related crashes/ near misses (both CAS and 800data).</p> <p>Increase the number of cyclists using lights/ reflective clothing.</p> <p>Increase number of cyclists wearing helmets.</p>	<ul style="list-style-type: none"> - Provision and promotion of 0800CYCLECRASH phone in line. - Adult cycling courses (skills and maintenance) delivered through Community education. - "Be safe – Be Seen" campaign – reflective bands and lights in winter months. - Promotion of helmet use and correct fitting at events. - Develop resource regarding "Share the Path" campaign to protect walkers and cyclists on shared space. 	<p>On going throughout year</p>	<p>Police Bicycle Nelson Bays (CAN Affiliated) RCA engineers Schools Cycle retailers</p>	<p>\$3,000 \$25,000 \$17,000</p>	<p>\$3,000 \$20,000 \$20,000</p>	<p>\$3,000 \$25,000 \$7,500</p>

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-10	BUDGET 2010-2011	BUDGET 2011-2012
Drive Sober Job code J106984	To deliver a campaign that will reduce the number of drink / drugged drivers.	Reduction in the number of drink/drug drive related crashes.	Yet to be determined but likely to involve youth focus. May involve fatal Vision goggles.	Yet to be determined	Police SADD/ Schools Liquor Licensing Public health Hospitality industry Brain injury association	\$8,000	\$9,000	\$5,000
Adult seat belts Job code J106983	Raise awareness and promote use of safety belts among young adults (especially back seat wearing) and truck drivers (where there are poor wearing rates).	Increased compliance for seat belt wearing in target groups.	Use of billboards and other promotions will be used and campaigns carried out in conjunction with NCC and RTA. Use of radio advertising, print media and leaflets.	To be determined	Police RTA Media ACC	\$5,000	\$5,000	\$5,000

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-2010	BUDGET 2010-2011	BUDGET 2011-2012
Streetwise– Early Intervention programme Job code J104193	To provide identified high risk drivers with education and strategies that promote a change in their attitude and behaviour to prevent them from becoming recidivist traffic offenders.	To provide a tool to traffic court bench other than disqualification and fines that has a more rehabilitative aspect. Referrals are taken from JP's, Restorative Justice, CYFS, Youth Aid and police.	The package is in two parts – a publicly run defensive driving course and additional sections in first aid, alcohol and drugs, vehicle modifications, consequences.	To run 5-6 courses over a 12 month period	Police Department of Courts Alcohol & Drug Centre Brain Injury Assoc.	\$3,000	\$4,000	\$4,000
Safe with Age separately funded (i.e. not through LTP online) Job code J103439	To promote and deliver the frequent Safe With Age programmes as per the guidelines including promotion of the subsidised professional driving assessment since mandatory testing for 80+ drivers has ceased.	Courses completed within the stated timeframe and within budget. Long term indicators / data show a reduction in the number and severity of crashes when compared to the same period last year i.e. an annual reduction in number of crashes involving older drivers in the region.	The course format is as per the guidelines.	To run 8 public courses across Nelson and Richmond over a 12 month period and / or run some courses specifically requested for the target group (e.g. Probus clubs)	Police and Courts (referrals) Safe With Age Instructor	\$7,000	\$10,000	\$10,000

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-2010	BUDGET 2010-2011	BUDGET 2011-2012
<p>Safe Journeys to School / Walking School Buses promotion / Wayfinding Mapping</p> <p>Job codes J106979 J107437</p>	<p>To make the trip to and from school a safer one for school age road users.</p> <p>SJTS is an integrated road safety programme, combining an educational, engineering, and enforcement approach when dealing with road safety for school children.</p>	<p>Number of Schools involved.</p> <p>Numbers of children walking and cycling to school.</p> <p>Numbers of Walking School Buses.</p>	<p>SJTS Co-ordinator works closely with schools, BOT, police, kindergartens, pupils and parents throughout the project. Data collection includes surveys, meetings, displays and mapping exercises. Analysis is carried out and a final report produced June that highlights real and perceived dangers to pupils as they cycle or walk to school.</p> <p>Reports make recommendations for engineering, educational and enforcement action to be taken in the area to facilitate modal shift and increase vulnerable road users' safety.</p>	<p>Survey 2 schools in Nelson area per year and develop action plan.</p> <p>Maintain and support existing Walking School Buses and Cycle Trains</p>	<p>Schools Police Education TDC</p>	<p>\$6,000 \$20,000</p>	<p>\$8,000 \$25,000</p>	<p>\$7,500 \$20,000</p>

ACTION	AIMS	OUTCOMES PERFORMANCE INDICATORS	HOW	SCHEDULE	PARTNERS	BUDGET 2009-2010	BUDGET 2011-2011	BUDGET 2011-2012
Car pool and ride share promotion Job code J107103	To increase the number of registered car poolers on the NCC administered scheme. To encourage ride sharing.					\$10,000	\$15,000	\$15,000
Community Funds via Road Safe Nelson Bays Job code J106987	To support the administration of Road Safe Nelson Bays Inc and to encourage the community to address road safety issues in their area by making small amounts of funding available to them through a grants process.	Greater awareness of and engagement in road safety issues amongst the community.	Funding applications and processed by the Committee. Activities carried out that deliver road safety messages RSNB has a presence at events and has available tools such as the seat belt sled and road safety caravan for use at community events.	Ongoing throughout the year	Police NZTA TDC ACC BNB Driving instructors Walk groups	\$10,000	\$10,000	\$10,000
TOTAL						\$323,000	\$381,000	\$361,000

Appendix 14 – Glossary of Terms

Advanced Asset Management

Asset management which employs predictive modelling, risk management and optimised decision-making techniques to establish asset lifecycle treatment options and related long term cash flow predictions. (See Basic Asset Management).

Annual Plan

An Annual Plan is published in years two and three, alternating with the three-yearly LTCCP, that sets out Council's updated financial situation, intended activities and work programme for the following three financial years.

Asset

A physical component of a facility which has value, enables services to be provided and has an economic life of greater than 12 months. Dynamic assets have some moving parts, while passive assets have none.

Asset Management

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.

Asset Management System

An Asset Management system is a combination of processes, data and software applied to provide the essential outputs for effective AM planning such as reduced risk and optimum infrastructure investment.

Asset Management Plan

A plan developed for the management of an infrastructure asset that combines multi-disciplinary management techniques (including technical and financial) over the lifecycle of the asset in the most cost effective manner to provide a specified level of service. A significant component of the plan is a long-term cash flow projection for the activities.

Asset Register

A record of asset information considered worthy of separate identification including inventory, historical, financial, condition, construction, technical and financial information about each.

Core Asset Management

Asset management which relies primarily on the use of an asset register, maintenance management systems, job/resource management, inventory control, condition assessment and defined levels of service, in order to establish alternative treatment options and long-term cash flow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than risk analysis and optimised decision-making).

Benefit-Cost Ratio (B/C)

The sum of the present values of all benefits (including residual value, if any) over a specified period, or the lifecycle, of the asset or facility, divided by the sum of the present value of all costs.

Capital Expenditure

Expenditure used to create new assets or to increase the capacity of existing assets beyond their original design capacity or service potential.

Components

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Condition-Based Preventive Maintenance

Preventive maintenance initiated as a result of knowledge of an items condition from routine or continuous monitoring.

Condition Monitoring

Continuous or periodic inspection, assessment, measurement and interpretation of the resultant data, to indicate the condition of a specific component so as to determine the need for some preventive or remedial action.

Corrective Maintenance

The remedial actions performed as a result of failure, to restore an item to a specified condition. Corrective maintenance may or may not be programmed.

Critical Assets

Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.

Current Replacement Cost

The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.

Deferred Maintenance

The shortfall in rehabilitation work required to maintain the service potential of an asset.

Demand Management

The active intervention in the market to influence demand for services and assets. Demand management is based on the notion that as needs are satisfied expectations rise automatically and almost every action taken to satisfy demand will stimulate further demand.

Depreciated Replacement Cost (DRC)

The replacement cost of an existing asset less an allowance for wear or consumption having regard for the remaining economic life of the existing asset.

Depreciation

The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the cost (or revalued amount) of the asset less its residual value over its useful life.

Deterioration Rate

The rate at which an asset approaches failure.

Economic Life

The period from the acquisition of the asset to the time when the asset, while physically able to provide a service, ceases to be the lowest cost alternative to satisfy a particular level of service. The economic life is at the maximum when equal to the physical life; however obsolescence will often ensure that the economic life is less than the physical life.

Gap Analysis

A method of assessing the gap between a business's current Asset Management practices and targeted future objectives/practices. Also called needs analysis or improvement planning.

Generally Accepted Accounting Practices (GAAP)

Approved financial reporting standards (within the meaning of the NZ Financial Reporting Act 1993) so far as those standards apply to a particular entity; or, where there are no approved standards, accounting policies that are appropriate to the entity and have authoritative support within the accounting profession in New Zealand.

Geographic Information System (GIS)

Software which provides a means of spatially viewing, searching, manipulating, and analysing an electronic database.

Level of Service

The defined service quality for a particular activity (i.e. water) or service area (i.e. water quality) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental, acceptability and cost.

Lifecycle

The cycle of activities that an asset (or facility) goes through while it retains an identity as a particular asset i.e. from planning and design to decommissioning or disposal.

Lifecycle Cost

The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.

Likelihood

Used as a qualitative description of probability or frequency.

Lifeline Assets

Lifeline Assets are those which have been assessed as being essential or very important for the safe and efficient function of the City.

Long Term Council Community Plan (LTCCP)

Prepared as a requirement of the Local Government Act 2002, with the purpose of describing Council's activities, describing the 'community outcomes' (goals) of the Council area, providing integrated decision-making and coordinating the resources of Council. It provides a long-term focus for the decisions and activities of the Nelson City Council, and is an important basis for the accountability of the Council to the Nelson community. It provides an opportunity for the public to participate in decisions on activities to be carried out by Council. It covers ten years planned financial expenditure in detail.

Maintenance

All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal. Fixed interval maintenance is used to express the maximum interval between maintenance tasks. On-condition maintenance is where the maintenance action depends upon the item reaching some predetermined condition.

Maintenance Standards

The standards set for the maintenance service, usually contained in preventive maintenance schedules, operation and maintenance manuals, codes of practices, estimating criteria, statutory regulations and mandatory requirements, in accordance with maintenance of quality objectives.

Monitor

To check, supervise, observe critically, or record the progress of an activity, action or system on a regular basis in order to identify change.

Non-asset Solution

A non-asset solution is one where demand for an asset's service is dealt with in a way other than by additional investment in new resources and infrastructure. This might be by regulation (restricting time of use and type of use), economic incentives (such as pricing structures and subsidies), educational campaigns and provision of alternative ways of meeting customers' needs.

Optimised Decision Making

An optimisation process for considering and prioritising all options to rectify existing or potential performance failures of assets. The process encompasses NPV analysis and risk assessment.

Optimised Replacement Cost

The minimum cost of replacing an existing asset with modern equivalent assets offering the same level of service. The optimisation process adjusts the value for technical and functional obsolescence, surplus assets or over- design.

Payback Period

The time it takes for the cumulative benefits or savings of an investment to pay back the original investment and other accrued costs.

Performance Measure (PM)

A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance measures commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Performance Monitoring

Continuous or periodic quantitative and qualitative assessments of the actual performance compared with specific objectives, targets or standards.

Planned Maintenance

Planned maintenance activities fall into three categories:

Periodic – necessary to ensure the reliability or to sustain the design life of an asset.

Predictive – condition monitoring activities used to predict failure.

Preventive – maintenance that can be initiated without routine or continuous checking (e.g. using information contained in maintenance manuals or manufacturers' recommendations) and is not condition- based.

Q₅₀ and Q₁₅

The peak flow arising from a rainfall event that has the possibility of occurring once every 50 or 15 years.

Rehabilitation

Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally involves repairing the asset to deliver its original level of service (i.e. heavy patching of roads, sliplining of sewer mains, etc) without resorting to significant upgrading or renewal, using available techniques and standards.

Renewal/Replacement

Works to upgrade, refurbish or replace existing facilities with facilities of equivalent capacity or performance capability.

Remaining Economic Life

The time remaining until an asset ceases to provide the required service level or economic usefulness.

Replacement Cost

The cost of replacing an existing asset with a substantially identical new asset.

Residual Value

The net market or recoverable value which would be realised from disposal of an asset or facility at the end of its life.

Risk Management

The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Risk Management Process

The systematic application of management policies, procedures and practices to the tasks of establishing the context, identifying, analysing, evaluating, treating, monitoring and communicating risk.

Routine Corrective Maintenance

Corrective maintenance, excluding emergency corrective and programmed corrective maintenance.

Routine Maintenance

Day to day operational activities to keep the asset operating (replacement of light bulbs, cleaning of drains, repairing of leaks, etc) and which form part of the annual operating budget, including preventive maintenance.

Screenline

Imaginary line across transport corridor.

Sensitivity Analysis

Testing of the variations in the outcome of an evaluation by altering the values of key factors about which there might be uncertainty.

Stakeholders

Those people and organisations who may affect, be affected by, or perceive themselves to be affected by, a decision or activity.

Unplanned Maintenance

Corrective work required in the short-term to restore an asset to working conditions so it can continue to deliver the required service or to maintain its level of security and integrity.

Valuation

Assessed asset value which may depend on the purpose for which the valuation is required i.e. replacement value for determining maintenance levels, market value for lifecycle costing and optimised deprival value for tariff setting.

ABBREVIATIONS

ACC – Accident Compensation Corporation

AIS – Asset Information System

AMP – Asset Management Plan

CAS – Crash Accident Statistics

CCP-NZ – Communities for Climate Protection New Zealand

CDB – Central Business District

CDEM – Civil Defence Emergency Management

CPP – Competitive Pricing Procedures

CPTED – Crime Prevention Through Environmental Design

DRP – District Road Programme

IIM – International Infrastructure Management Manual 2006

LAPP – Local Authority Protection Programme

LGA – Local Government Act

LOS – Levels of Service

LTCCP – Long Term Council Community Plan

NZTA – Land Transport New Zealand

NAASRA – National Association of Australian State Roding Authorities

Nelson RM Plan – Nelson Resource Management Plan

NUGS – Nelson Urban Growth Strategy

NZTA – New Zealand Transport Agency

OFl – Opportunity for Improvement

RAMM – Roading Asset Maintenance Management Software

RLTS – Regional Land Transport Strategy

RPS – Regional Policy Statement

RRPM – Raised Reflectorised Pavement Markers

RSAP – Road Safety Action Plan

RSQIP – Reticulated Stormwater Quality Improvement Plan

RSS – Road Safety Strategy

RTLTC – Regional Land Transport Committee

SCATS – Sydney Co-ordinated Adaptive Traffic System

SLIMMS – Streetlight Maintenance Management System

TAG – Tactical Asset Group

TDC – Tasman District Council

TDM – Travel Demand Management

TMP – Traffic Management Plan

VDA Pro – Vehicle Data Analyser