Appendices

Canterbury Regional Transport Committee

Canterbury Regional Land Transport Strategy

2012 - 2042

Canterbury Regional Land Transport Strategy 2012 - 2042

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Appendix A – Glossary

ACC – Accident Compensation Corporation.

Accessibility – The ability to reach a location or service within an acceptable amount of time, money and effort. Accessibility depends upon a range of factors such as proximity to desired services or locations, travel alternatives available, speed of travel, cost of travel and so on. It does not equate to mobility, which refers to ease of movement.

Active transport modes – Transport modes that rely on human power, primarily walking and cycling.

AM peak – The period between 07.00 and 09.00 on weekdays.

Arterial corridor – A major or main transport corridor that primarily serves through traffic.

Cycle – A human powered vehicle propelled by pedalling.

Canterbury – For the purposes of this strategy the Canterbury region is the administrative area covered by the Canterbury Regional Council excluding the administrative area covered by the Waitaki District Council. The whole of the Waitaki district is covered under the Otago Regional Land Transport Strategy.

Capacity – The theoretical maximum number of vehicles (vehicular capacity) or persons (person capacity) that can pass through a given section of road or an intersection during a given period of time, usually expressed as vehicles per hour or persons per hour.

CO_2 – Carbon dioxide.

Coastal shipping – The carriage of cargo between two New Zealand ports by ship.

Commercial vehicles – A vehicle used for the movement of freight (also known as goods vehicles) or people who pay an unsubsidised fee or fare.

Community severance – Social impacts of transport infrastructure or moving traffic when they create a physical separation between communities.

Community transport – A transport service established and operated by a community for members of that community.

Corridor – A geographical area usually defined by a railway, motorway, roadway, or other physical element and its immediate surrounding area.

Demand management (sometimes referred to as travel demand management or TDM) – A variety of methods that influence whether, when, how and where we travel, with the aim to improve the effectiveness, efficiency and affordability of the transport system as a result of a change in people's travel choices.

Farebox – Funding collected from users of passenger transport services through fares.

Freight hub – Is a physical location where freight vehicles converge on a common user facility for the purpose of transferring goods within or between transport modes.

Greater Christchurch – For the purpose of this strategy Greater Christchurch is the area covered by the Greater Christchurch Urban Development Strategy (UDS). Greater Christchurch comprises the Christchurch City Council area including Lyttelton Harbour but not the remainder of Banks Peninsula, and parts of Waimakariri and Selwyn district councils. For a map of the UDS area, visit www.greaterchristchurch.org.nz.

Greenhouse gas – The collective name for a variety of gases, such as carbon dioxide, methane, water vapour, nitrous oxide, ozone and halocarbons in the atmosphere, that trap heat from the sun and cause warming of the earth.

High occupancy vehicle – A vehicle carrying a high number of occupants, usually a driver with two or more passengers.

Infrastructure – All fixed components of a transportation system including roadways and bridges, railways, ports, park-and-ride sites, bus stops/shelters and other physical elements.

Interchanges – Places where people or goods transfer between vehicles or from one mode to another.

Inter-peak – The period between 09.00 and 16.00 on weekdays.

Land transport – means: (a) transport on land by any means, (b) the infrastructure, goods and services facilitating that transport. The definition also includes coastal shipping.

Land transport system – All infrastructure, services, mechanisms and institutions that contribute to providing for land transport.

Level of service – A qualitative measure that describes the operational conditions of a road or intersection.

Level of service "C" – The Austroads Guide to Traffic Engineering Practice – Part 2 Roadway Capacity describes this level of service as "The zone of stable flow but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level." In the context of this RLTS, the term is used to describe the desired minimum level of service on the regional strategic road network that lies outside of Greater Christchurch.

Local roads – Roads operated by Territorial Local Authorities.

Long term – Years 13 to 30 of the strategy (July 2024 to June 2042).

LTMA – Land Transport Management Act 2003.

Main urban area – Term defined by Statistics New Zealand. "Main urban areas are very large urban areas centred on a city or major urban centre. Main urban areas have a minimum population of 30,000".

Medium term – Years 4 to 12 of the strategy (July 2015 to June 2024).

Minor urban area – Term defined by Statistics New Zealand. "Minor urban areas are urbanised settlements (outside main and secondary urban areas), centred around smaller towns with a population between 1,000 and 9,999. This complies with international definitions of 'urban' population, which include towns with over 1,000 people".

Mixed-use development – This is a term used to describe an area that has a mix of land uses, e.g. a commercial building with offices in the top floors, retail and entertainment on the lower floors or a section of road with a mix of uses, e.g. residential and retail.

Mobility – The ability to move or be moved freely and easily. Mobility is not the same as accessibility, which is about the ease of reaching a specific location or service.

Multi-modal – Used to describe travel or transport of goods involving more than one transport mode.

Mode – A categorisation of transport methods, e.g. private motor vehicle, walking, cycling, rail, public transport etc.

Motor vehicles – A vehicle powered by an engine or motor. Includes cars, vans, trucks, trains and motorbikes.

National Land Transport Fund (NLTF) – The dedicated part of the Crown Bank Account into which land transport revenue, as defined in section 6 of the Land Transport Management Act 2003, is paid.

National Land Transport Programme (NLTP) – The mechanism through which the New Zealand Transport Agency allocates funds for land transport infrastructure and services.

Network – Infrastructure or services that are connected to enable the transition of people and goods from one piece of infrastructure or service to another.

Non-strategic roads – Any roads that do not form part of the strategic road network identified in this strategy.

Objective – Objectives describe what the region will focus on to achieve the vision of the strategy and provide an opportunity to address the key issues and challenges.

Outcome – Outcomes set out how the objectives of the strategy will be delivered.

Package of activities – A group of complementary activities.

Park and ride – A facility where people can park their private vehicles and then travel by public transport to their final destination.

Parking controls – Policies and infrastructure management measures aimed at managing the supply of and/or demand for on-street and/or off-street parking. Can include time limits, pricing, space availability, location of parking or priority treatments for certain users e.g. disabled drivers, taxis or high occupancy vehicles.

Peak period – The time period, usually in the morning and in the afternoon, when the heaviest demand occurs on a transportation facility or corridor.

PM peak – The period between 16.00 and 18.00 on weekdays.

Private motor vehicles – Motor vehicles owned, leased or hired for sole use by an individual, household or organisations.

Public transport – Passenger transportation services available to the public on a regular basis using vehicles, including buses, trains, trams, ferries and taxis, that transport people for payment of a fare, usually but not exclusively over a set route or routes from one fixed point to another.

Public transport priority measures – Measures that give priority to public transport over other road users. Examples include bus lanes or responsive traffic lights.

Real time information system – A system that provides current information on one or more aspects of a changing environment.

Regional GDP – Annual estimates of Regional Gross Domestic Product for the Canterbury region. These estimates are provided by Infometrics.

Rideshare – The act of coordinating the sharing of rides with other people in a private motor vehicle, sometimes referred to as carpooling.

RLTS – Regional Land Transport Strategy.

Road Controlling Authority (RCA) – City councils, district councils and the New Zealand Transport Agency.

Road reserve – All land owned by a Road Controlling Authority associated with a road, including parking, footpaths, drainage areas etc.

Rural area – For the purposes of this strategy the definition used by Statistics New Zealand is applied: “The rural areas of New Zealand are those which are not specifically designated as 'urban'. They include rural centres, and district territories where these are not included in main, secondary or minor urban areas”. (Refer to definitions in this glossary of rural centres, main, secondary and minor urban areas)

Rural centre – Term defined by Statistics New Zealand. “Rural centres were established during the 1989 review of geostatistical boundaries. Rural centres have no administrative or legal status but are statistical units defined by complete area units. They have a population between 300 and 999. These are not termed 'urban' under standard international definitions, but identifying these settlements enables users to distinguish between rural dwellers living in true rural areas and those living in rural settlements or townships”.

Secondary urban area – Term defined by Statistics New Zealand. “Secondary urban areas were established at the 1981 Census of Population and Dwellings. They have a population between 10,000 and 29,999 and are centred on the larger regional centres”.

Short term – The first 3 years of the strategy (July 2012 to June 2015).

Single occupancy vehicle – A vehicle carrying a driver with no passengers.

Small urban areas – For the purpose of this strategy this refers to urban settlements with a population of over 1000 people. This is based on the definitions used by Statistics NZ for main, secondary and minor urban areas. (Refer to definitions in this glossary of main, secondary and minor urban areas).

State Highway – A road managed by the New Zealand Transport Agency and gazetted as State Highway.

Strategic network – A network of routes that has been defined as having strategic significance at a regional level.

Suburban centres – A suburban centre is a location within an urban area but not a city or town centre that provides a range of community and retail activities that serve the surrounding residential areas.

Sustainability - In the transport sector, this is taken to mean finding ways to move people and goods in ways that reduce the impact upon the environment, the economy and society.

Target – Targets sets out specific measurable outcomes that the strategy seeks to achieve.

Territorial local authorities – City councils and district councils.

Total Mobility –A subsidised transport service to increase the mobility of people with serious mobility constraints.

Transport disadvantaged – People who are least able to get to basic community activities and services (for example, work, education, health care, welfare, and food shopping). This definition is provided by the Public Transport Management Act 2008.

Travel – The act of moving from one place to another.

Travel plans – A package of measures, in the form of a plan, designed to reduce travel demand at a specific site, e.g. workplace, school or household. Travel plans are the product of a process where a user, together with an expert professional, works out how to best meet transport needs, manage costs and minimise undesirable impacts.

Volume – The number of vehicles or people on a motorway, roadway or any other transportation facility.

Urban area – Term defined by Statistics New Zealand. "Urban areas are statistically defined areas with no administrative or legal basis. There is a three-part hierarchical subdivision of urban areas into:

- main urban areas
- secondary urban areas
- minor urban areas.

Together, the populations in main, secondary and minor urban areas comprise the statistically defined 'urban' population of New Zealand. The urban area classification is designed to identify concentrated urban or semi-urban settlements without the distortions of administrative boundaries."

Urban centre – An urban centre is a city or town centre that provides a range of employment, social and retail opportunities.

Urban design principles - Design principles that confirm to the best practice outlined in The New Zealand Urban Design Protocol.

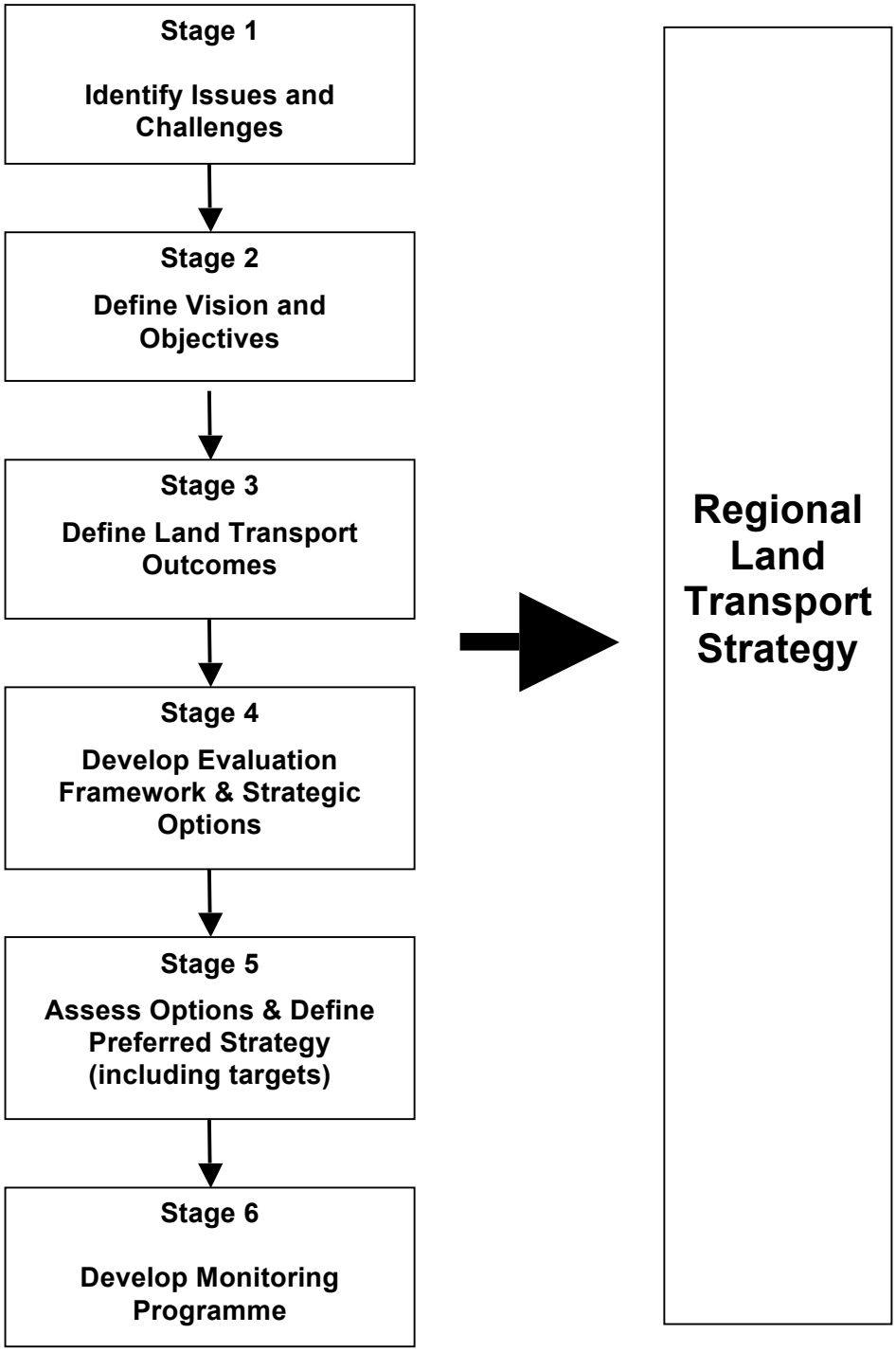
Urban Development Strategy (UDS) - The UDS is a 35-year plan for managing urban growth and land use in Greater Christchurch until 2041. It aims to protect water, enhance open spaces, improve transport links, create more liveable centres and manage where people live and work. (Refer to www.greaterchristchurch.org.nz).

Vehicle occupancy – The number of people in a vehicle.

Vision – An overarching statement of what the strategy is seeking to achieve.

Appendix B – Strategy Development Process

This Regional Land Transport Strategy (RLTS) has been prepared by the Canterbury Regional Transport Committee (RTC). This appendix outlines the process undertaken to develop the RLTS. The process is summarised in the diagram below.



Governance

The Regional Transport Strategy is developed by the Canterbury Regional Transport Committee (RTC). The RTC is a standing committee of the Canterbury Regional Council with membership from all the Region's Councils (except Waitaki District, which has opted to align itself with Otago), the New Zealand Transport Agency and community representatives as required by the LTMA.

In 2009, the RTC established a working group to oversee development of the RLTS at a more detailed governance level in between RTC meetings. The RLTS Working Group comprised of the following members:

- 1 Regional Council member (to be the chair)
- 3 local authority members
- 1 New Zealand Transport Agency member
- 2 community representative members

Identification of Regional Issues and Challenges

An initial phase in the development of the RLTS was the identification of issues and challenges affecting the region's transport system. During subsequent stages of the RLTS's development, the objectives, strategic options and policies were informed by the key issues and challenges.

The key issues and challenges were identified from a series of inputs including:

- Key stakeholder meetings;
- Market research;
- Background research;
- Public consultation.

Key stakeholder meetings
Meetings were held with every local authority in the region as well as the working groups of the RTC including the Active and Public Transport Working Group, Freight and Network Efficiency Working Group and the Public Transport Advisory Group (in both Christchurch and Timaru). The meetings were used to help identify a number of challenges facing the region, including the importance of ensuring that the RLTS reflected the region's diverse transport needs.

Market research
Market research was carried out to help define the key issues underlying development of the RLTS. The research concluded that most people expect their future transport needs will continue to be based around private vehicles and that technology will address many of the challenges facing the region including ensuring that travel remains relatively affordable.

Background research
A desk-top study was carried out of regional demographic, economic and transport trends, including a review of the RLTS monitoring data.

Public consultation
A discussion document, *Transport Challenges for Canterbury*, was approved for consultation by the RTC in October 2009. There were 64 responses. This discussion was sent directly to stakeholders and groups that were known or expected to have an interest in making

comments. This was also promoted through the Regional Council newsletter which is distributed to all households in the region.

The key transport issues and challenges facing the region to be identified by consultation respondents (in order of those raised most often) were:

1. Improving the public transport system.
2. Making better use of rail.
3. Enhancing active transport and the use of more sustainable forms of transport, particularly cycling.
4. Reducing private vehicle dependence.
5. Supporting the efficient movement of freight.
6. Managing traffic congestion and growth.
7. Improving the integration of transport and land use development.
8. Planning for the implications of climate change and peak oil.
9. Funding and affordability.

Additionally, a review was undertaken of submissions on previous consultation processes, including the region's long-term council community plans, regional land transport programme, urban development strategy and the previous RLTS to identify any issues relevant to the development of a new RLTS. Many of these submissions raised issues in common with the consultation process.

Based on the inputs described above, a description of the key issues and challenges affecting the region's transport system was compiled. The RTC then adopted the issues and challenges as the basis for underpinning development of the RLTS:

Establishment of Vision and Objectives

The vision and objectives of the RLTS need to be consistent with the objectives outlined in legislation. The objectives describe what the region will focus on to achieve the vision and provide an opportunity to address the key issues and challenges of the RLTS. As the RLTS was developed, the objectives were used to identify outcomes. These outcomes were then used to assess and refine the strategic options.

As part of the process for developing the vision and objectives for the RLTS 2011 – 2041, the RLTS Working Group referred to the vision and goals of the existing RLTS, the principles of the Land Transport Management Act, the objectives of the New Zealand Transport Strategy and the objectives of regional land transport strategies from other regions. In addition, the key issues and challenges were considered to ensure that they were reflected in the proposed objectives.

The RLTS Working Group initially considered a draft vision and set of objectives. Following scrutiny by the RLTS Working Group, a number of changes were made. The working group then presented their recommended vision and objectives to the RTC who adopted them for the development of the draft RLTS in April 2010.

Transport Outcomes

The LTMA requires an RLTS to include "inter-regional and intra-regional transport outcomes relevant to the region". The outcomes are important because they influence the strategic direction of the region's transport system and are used to evaluate the strategic options in the following phase of strategy development. The RLTS can then outline how the regional outcomes are to be achieved.

The outcomes were developed to align with the agreed objectives. Another key consideration in developing the outcomes was to ensure they were linked to the issues and challenges. In developing the proposed outcomes, officers reviewed Government policy, other regional land transport strategies from throughout the country and the current Canterbury RLTS. a set of draft outcome statements was developed following workshops with the Transport Officers Group, Active and Public Transport Working Group and Freight and Network Efficiency Working Group The RLTS Working Group considered these draft outcomes in May 2010 where it was agreed that they should be discussed further by the full RTC.

One of the key discussion points concerning the outcomes was whether or not modally specific outcomes should be developed, such as for public transport. It was felt that as transport is a means to an end it was not appropriate to identify an outcome relating to a specific mode (unless there are no other modes that can achieve the same outcome).

Following discussion with the RTC, a more detailed discussion document on possible outcomes was prepared for the RLTS Working Group. The Working Group then agreed the outcomes to be used for the evaluation process and to inform the development of performance indicators.

During the subsequent options evaluation process, some minor changes to the outcome statements were agreed by the RLTS Working Group to reflect issues that emerged in this phase of the RLTS development.

Identification and Evaluation of Strategic Options

The LTMA requires a regional land transport strategy to consider strategic options for achieving the outcomes of the Strategy. An evaluation framework was developed to assess the strategic options against the proposed outcomes and objectives of the RLTS. The RLTS evaluation framework was developed following workshops with the Transport Officers Group and was presented to the RTC in June 2010.

The RLTS strategic options were formulated in tandem with the development of the evaluation framework. Initially the options were developed along thematic lines. The following strategic options were developed by officers and approved for evaluation by the RLTS Working Group in August 2010:

A: Do Minimum - to be used as a baseline for assessment.
B: Business as Usual - continue with current practices and investment profile.
C: Economic Growth - continue Government's current short/medium term agenda to increase economic productivity and growth over the long term.
D: Network Optimisation - make best possible use of existing assets to actively reduce need for further investment.
E: Alternative Technology - uptake, and promotion, of new technology with the aim of providing high mobility at low cost with low social/environmental impacts.
F: Prepare for Oil Supply & Price Volatility - proactively respond to the likelihood of significant oil price increases and shortages of supply.
G: Strategic Routes - focus on supporting regional and inter-regional mobility (rather than local accessibility).
H: Local Accessibility & Sustainability - focus on enhancing local accessibility (rather than regional and inter-regional mobility).

Evaluating the Options

A series of workshops on the initial thematic options were held with the Transport Officers Group in August 2010. The results of this initial option evaluation were presented to the RLTS Working Group in September 2010 who refined the initial list to four options:

1 Continuation of current transport system maintenance, improvement and management practices.
2 Maximise use of technological advances to achieve a higher level of mobility than might otherwise be achieved in Option 1.
3 Minimise costs to government agencies through actively managing the transport system.
4 Greater emphasis on energy resilience through promoting sustainable design principles, energy efficiency and local solutions to transport issues.

These were developed by officers into detailed options for a second round of evaluation. The second round options were then evaluated. One evaluation was completed by an expert panel and another with the Transport Officers Group.

The expert panel was selected to broadly represent the RLTS objective areas. The workshop participants were:

• Margot Christeller	Canterbury Development Corporation
• Bob Frame	Landcare Research
• Dr Alistair Humphrey	Canterbury District Health Board
• Brian Waddell	Urbanista
• Dr Glen Koorey	University of Canterbury
• Inspector Al Stewart	New Zealand Police
• Stephen Phillips	Aged Concern

Generally the panel's evaluation supported option 4 as the best means of achieving the RLTS objectives. In addition, the panel made a number of suggestions to help strengthen the option.

The Transport Officers Group evaluation also favoured Option 4 in Greater Christchurch. However, for outside Christchurch, there were mixed results on the most effective means of supporting the RLTS objectives.

The RLTS Working Group considered the results of the evaluation workshops in October 2010 and agreed to recommend to the RTC their preferred option of a transition from Option 1 to Option 4 to form the basis for the RLTS.

Option 1 represented a "business as usual option". This was included to assess how well current practices and investments perform against the outcomes agreed by the RTC. The evaluation concluded that a business as usual approach did not perform very well across the full range of agreed outcomes but that it would support some of them. The strategic direction recommended by the Regional Land Transport Strategy Working Group recognises that, while a change in strategic direction is necessary over the life of the strategy to ensure all outcomes are achieved, there are benefits from delivering the activities that have already been programmed. The working group also recognised that it will take time for existing practices and processes to change in order to better support the other outcomes. For these reasons a "business as usual" approach was considered appropriate over the short term. However, the working group agreed that the strategic direction needed to incorporate the need to plan and prepare in the short term for changes over the medium term to support the

implementation of a different mix of activities in order to support the other regional outcomes to a greater extent over time and that this was best achieved by transitioning to Option 4 over the medium term.

The working group requested that two additional pieces of work be completed to address some of the concerns raised through the evaluation process. The group tasked officers to carefully consider the appropriate rate of transition, the risks involved with changing too rapidly or too slowly and the risk of delivering a change strategy with the parameters that are currently relatively fixed. The working group also requested further information on the potential role of transport in facilitating economic development of the region.

The working group presented their preferred option of transition from Option 1 to Option 4 to the RTC in December 2010 to get feedback from the full committee. Generally the committee was supportive of the proposed direction. In the case of most Council representatives this support was couched as being subject to receiving further information and having the opportunity to discuss the direction with their colleagues to enable them to form a Council position prior to agreeing a preferred strategy at the next meeting. In order to facilitate these discussions the chair of the RTC and officers of the regional council presented the preferred option to all Councils that expressed an interest in having a workshop or meeting to discuss the subject, all councils took up this opportunity except Hurunui District.

The RTC agreed to this approach as the preferred option in February 2011. At this meeting the committee agreed to the preferred option being a transition from Option 1 to Option 4 and provided guidance to the working group on some details they wished to see worked up in greater detail in the strategy, including many that had come from discussions with their own councils following the round of workshops.

Development of Targets and Performance Indicators

Following the RTC meeting in June 2010, the proposed outcomes were accepted as a basis for officers to prepare a set of performance indicators for the RLTS. A set of draft performance indicators were developed through workshops with the Transport Officers Group, Active and Public Transport Working Group and the Freight and Network Efficiency Working Group. The RLTS Working Group considered a report on draft performance indicators in July 2010.

The feedback from the RLTS Working Group was used to develop further thinking on several aspects of target setting and performance monitoring. Specifically:

- Which strategy outcomes are most appropriate to set targets for;
- Which strategy outcomes do not lend themselves to target setting and why;
- For all strategy outcomes, what are appropriate performance indicators and how can these indicators be populated with monitoring data over the life of the strategy, given the finite resources that are available to do this.

The RLTS Working Group then discussed a set of proposed targets in May 2011. The working group provided further feedback on these proposed targets, together with the rationales for not setting targets for other outcomes and proposals for an ongoing strategy monitoring programme. Targets have been developed that are measurable. They have been identified with reference to various other guiding documents such as the NZTA and NZEECS and also to baseline trends in certain performance indicators that are already available in a Canterbury or Greater Christchurch context. The RLTS Working Group agreed to a set of targets to be included in the recommended Draft RLTS in July 2011.

Preparing a Draft Strategy for Consultation

The RLTS Working Group met in April, May and July 2011 to oversee the work to transform the preferred option into the format of a strategy document. The working group provided the governance to guide the drafting of the strategy by Environment Canterbury officers with input from the Transport Officers Group. The Working Group presented their Draft Canterbury Regional Land Transport Strategy 2012-2042 to the RTC on 1st August 2011. The Committee agreed at this meeting to approve the Draft for consultation.

Consultation on Draft Canterbury Regional Land Transport Strategy

The consultation period for the draft strategy ran from Saturday 20th August 2011 to Friday 23rd September 2011. The strategy was notified in all main papers within the region, with hard copies sent to all primary stakeholders on Environment Canterbury's databases, each territorial authority and all members of the Regional Transport Committee. Each territorial authority in the region was asked to place a link to the strategy's website on their own sites and hard copies were placed at key libraries and service centres around the region.

29 submissions were received, with 7 submitters being heard at Hearings held on Wednesday 26th October. The Hearing Panel then held their deliberations on Friday 28th October.

Appendix C – Persons and Organisations Involved in Strategy Implementation

This appendix provides a description of those persons or organisations who should be involved in the further development of strategic options and implementation of this RLTS.

Canterbury Regional Transport Committee (RTC)
The Land Transport Management Act 2003 (LTMA) requires every regional council to establish a Regional Transport Committee. The committee membership is determined by the LTMA.

The key role of the RTC is to prepare the Regional Land Transport Strategy and Programme, as well as to facilitate and monitor their implementation.

Ministry of Transport (MoT)
As the government's principal transport policy adviser the Ministry of Transport both leads and generates policy, including various statutory and non-statutory strategies. MoT is responsible for preparing the Government Policy Statement on Land Transport Funding (GPS) on behalf of the Minister of Transport. The GPS provides the framework under which the allocation of the National Land Transport Fund is determined. As this accounts for a significant portion of the transport funding in the region, alignment is needed between the policy direction of the GPS and the Regional Land Transport Strategy if regional outcomes are to be delivered.

MoT also acts as the Minister of Transport's agent for managing the interface with government transport agencies (e.g. the New Zealand Transport Agency) to give effect to the government's vision for transport.

Road Controlling Authorities (RCAs)
RCAs are responsible for identifying needs and carrying out maintenance and improvement works on their transport assets. There are three groups of RCA in Canterbury:
1. New Zealand Transport Agency (state highways)
2. Territorial Local Authorities (local roads)
3. Department of Conservation (DoC) (public roads on conservation land)

New Zealand Transport Agency (NZTA)
NZTA is the central government agency responsible for safety matters on the land transport system and the allocation of the National Land Transport Fund. NZTA must give effect to the GPS and take into account the RLTS when exercising its powers and performing its functions.

NZTA also owns and operates the state highway network which includes the provision of infrastructure that facilitates walking, cycling and public transport. Their land transport activities in the Regional Land Transport Programme are required to contribute to the RLTS outcomes. They are also responsible for developing Road Safety Action Plans (RSAPs).

Territorial Authorities (TAs)
Territorial authorities (i.e. district and city councils) have a number of infrastructure provision, regulatory, road safety and planning roles. They have significant ownership interests in transport. TAs are responsible for the development of district and city plans under the Resource Management Act 1991. These plans set out policies and rules that influence land use. These documents are central to integration between land use and transport and

influence private transport investment (e.g. access and parking provision) as well as the provision of public infrastructure.

District and city councils own and operate the local road network which includes the provision of infrastructure that facilitates walking, cycling and public transport. Their land transport activities in the Regional Land Transport Programme are required to contribute to the RLTS outcomes. They are also responsible for developing Road Safety Action Plans (RSAPs).

KiwiRail
KiwiRail is the trading name of the New Zealand Railways Corporation. It is responsible for managing and operating the rail network on behalf of the Crown. KiwiRail controls network operations, provides rail operators with access to the tracks, provides advice to the Crown, manages land and leases on the rail corridor, and implements, co-ordinates, and maintains an approved safety system for the rail network. KiwiRail is also the network operator for freight and passenger services in Canterbury and operates the inter-islander ferry services.

Canterbury Regional Council (Environment Canterbury)
The Land Transport Management Act 2003 requires Environment Canterbury to have a key role in planning and monitoring the regional transport network through the RTC (see above). Environment Canterbury also plays a role in the integration of land use and transport infrastructure through the preparation of a Regional Policy Statement under the Resource Management Act 1991.

Environment Canterbury is the key agency for coordinating and implementing public transport activities and is responsible for developing a Regional Public Transport Plan under the Public Transport Management Act 2008.

New Zealand Police
The New Zealand Police are responsible for reducing traffic offending, particularly offences that promote crashes and injuries. Enforcement is the main intervention available to Police to achieve reductions in offending. The Police also have a key role investigating crashes, managing events and attending emergencies on the roads. The Police work in partnership with engineers and educators to make Canterbury's roads safer.

Accident Compensation Corporation (ACC)
ACC aims to reduce road crashes and their resultant injuries by working with key road safety partners. ACC has a lead role in the implementation of the New Zealand Injury Prevention Strategy's implementation plan, of which road safety forms a significant part. ACC also aims to provide effective and timely treatment and rehabilitation when injury occurs.

Private Individuals and Businesses (the public)
Private investment in land transport in Canterbury is far greater than that made by the public sector. Private individuals are responsible for purchasing the transport vehicle fleet (i.e. cars, vans, trucks, cycles and motorcycles). They also purchase the fuel used in the vehicle fleet and take responsibility for the maintenance and insurance of the vehicle fleet.

Private individuals and businesses make decisions around where and how they live, work, shop and recreate. They are a key influencer of land-use patterns and growth through their investment decisions. These decisions are the driving force behind the demands placed on the transport system and directly impact how affordable, integrated, safe, resilient and sustainable the transport system can be. Therefore decisions made by the public have a significant impact on the delivery of the regional outcomes identified in this strategy.

Other Organisations
Numerous other organisations and agencies play a role in facilitating the actions set out within this Strategy (e.g. the Automobile Association plays an important role in relation to driver licensing, Ministry of Education funds school transport services). This appendix has attempted to list the agencies in the region that have been identified as having a primary role in implementing the Strategy. It is the RTCs expectation that these key agencies will collaborate with other organisations, as appropriate, in the course of implementation.

Regional Land Transport System – Funders and Providers/Owners
The following table shows the funders and providers involved in delivering various components of the region's land transport network.

	Component	Provider / Owner	Funders
Road freight	Local roads	TAs	TAs, NZTA
	State highways	NZTA	NZTA
	Vehicles	Private	Private
Rail freight	Track & signals	KiwiRail	Users, Crown
	Rolling stock	KiwiRail	Users, Crown
Coastal shipping freight	Ports	Private	Users
	Ships	Private	Users
Private motor vehicles	Local roads	TAs	TAs, NZTA
	State highways	NZTA	NZTA
	Vehicles	Private	Private
Pedestrians	Local roads (footpaths)	TAs	TAs, NZTA
	State highways (footpaths)	NZTA	NZTA
	Pedestrian network (off road)	TAs, Private	TAs, Private
Cyclists	Local roads & cycle lanes	TAs	TAs, NZTA
	State highways & cycle lanes	NZTA	NZTA
	Cycle ways (off road)	TAs	TAs, NZTA
	Cycles	Private	Private
Public transport - contracted services	Stops, shelters & interchanges	TAs	TA's, NZTA
	Services	Private	Users, Environment Canterbury, NZTA
	Priority measures	TAs, NZTA	TA's, NZTA
	Service information	Environment Canterbury	Environment Canterbury, NZTA
	School services	Private	Ministry of Education
Public transport - commercial services	Stops, shelters	TAs, Kiwirail	TA's, NZTA, Kiwirail
	Vehicles	Private, Kiwirail	Users
	Priority measures	TAs, NZTA	TA's, NZTA
	Service information	Private, Environment Canterbury, Kiwirail	Users, Environment Canterbury
Total mobility	Vehicles & Hoists	Private	Users, Environment Canterbury, NZTA
Road safety	Enforcement	NZ Police, TAs	NZTA, TAs
	Advocacy & promotion	NZ Police, ACC, TAs, Environment Canterbury	NZTA, ACC, TAs, Environment Canterbury
	Safer routes	TAs, NZTA	TAs, NZTA
Behavioural measures	Travel planning	TAs, Private, NZTA, Environment Canterbury	TAs, Private, NZTA, Environment Canterbury

Appendix D – Regional Issues and Challenges

Maintaining and enhancing accessibility

The primary purpose of transport is to provide opportunities for the movement of people and goods. Accessibility refers to the potential to reach destinations and mobility represents the ability to travel freely to and from destinations. Most people living in Canterbury enjoy a high level of accessibility and mobility, which is largely met by high levels of car ownership and use[1]. This mobility provides many social and economic benefits including good access to work, education and recreational opportunities.

Market research confirms that most people living in the region place a high value on their level of mobility and, furthermore, expect their future mobility needs to continue to be largely based around the motor vehicle[2].

Key Challenge

Maintaining current levels of accessibility and mobility for most Cantabrians and enhancing accessibility for those sections of society who are currently disadvantaged because of poor levels of mobility.

Providing transport options

The use of private vehicles is likely to dominate the way that most people meet their transport needs for the next 30 years. For the future well-being of the region, it is important that a range of transport options are available enabling people and businesses to access what they need in the way of goods, services and activities. Targeted initiatives to support improved levels of access by walking, cycling, public transport and private vehicles are essential for ensuring good levels of overall accessibility.

Many regard improving public transport, better utilisation of rail and increased provision of cycling and walking infrastructure as significant issues facing the region[3]. However, for many people, especially those in rural areas including rural towns, these options are not always readily available. Furthermore, some sectors of the community are "transport disadvantaged" in that they are faced with a lack of choices because they have limited access to a car or other transport options.

Access to some goods and services can be enhanced through integrated land use measures, changes to the way services are provided or through the utilisation of communications technology. Such initiatives can play a significant role in determining overall levels of accessibility.

Providing for accessibility is considered more important than providing for mobility.

Key Challenge

Supplying a range of transport and non-transport options to ensure the accessibility needs of all people and businesses can be met.

[1] Environment Canterbury, *Canterbury Regional Profile*, 2010.
[2] Environment Canterbury, *Canterbury Regional Land Transport Strategy 2011 – 2041 Market Research Report*, 2010.
[3] Environment Canterbury, *Transport Challenges for Canterbury – Consultation Report*, 2010.

Supporting freight, tourism and the economy

The efficient movement of goods and people is essential to support the region's economic wellbeing. Although the region's economy is expected to continue to diversify over time, industries such as agriculture and forestry that have significant freight requirements will continue to play major roles[4]. Tourism is also expected to continue to grow, which will have some specific localised requirements and impacts on transport networks.

Over the next 25 years, freight volumes to, through and from Canterbury are expected to double[5]. Much of this increase will come from dairy, forestry and coal. The majority of freight will continue to be moved on the state highway and local roading network. However, over the life of the RLTS freight transport growth will need to be managed in a number of ways via a number of modes including the accommodation of significant increases in the movement of freight by rail and coastal shipping[6].

There is a lack of integration between the road, rail and shipping sectors which can make it difficult to effectively plan for the region's future transport needs, particularly in light of the forecast increase in freight movements.

Key Challenge

Ensuring the region's transport system effectively supports economic development and growth in freight volumes.

Funding and affordability

Financial investment is essential for maintaining existing transport infrastructure and delivering improvements to the region's transport system. The Government has highlighted the need for investment in transport infrastructure as a key area to boost the nation's economic productivity[7]. However, some of the region's transport plans have not been fully realised because of funding constraints. Additionally, some parts of the region have relatively small populations that find it difficult to raise sufficient revenue to afford the levels of transport investment desired by the community.

Market research and discussions with key stakeholders has identified affordability as a key issue facing the region's transport system[8]. Private individuals and businesses have a significant investment in the region's vehicle fleet. The affordability of purchasing and running vehicles is a key consideration when determining how transport outcomes will be delivered. Given that the cost of motoring is expected to increase, this could mean that current levels of mobility become unaffordable for some people[9].

Key Challenge

Delivering high quality transport options that meet the needs of all Cantabrians in an affordable manner within the funding available.

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[4] Dalziel, P & Saunders C, *Canterbury Regional Economic Development Strategy*, 2009.
[5] Ministry of Transport, Ministry of Economic Development & Land Transport New Zealand, *National Freight Demands Study,* 2009.
[6] Environment Canterbury, *Potential for Increased Use of Rail and Coastal Shipping for Freight in Canterbury*, 2009.
[7] New Zealand Treasury, *National Infrastructure Plan*, 2010.
[8] Environment Canterbury, *Canterbury Regional Land Transport Strategy 2011 – 2041 Market Research Report*, 2010.
[9] NZ Transport Agency Research Report, Managing Transport Challenges when Oil Prices Rise, 2008.

Managing private vehicle traffic growth

Projected increases in household numbers[10] coupled with the trend of increased car ownership[11] is contributing to an increase in the demand for travel and the use of private cars, particularly in Greater Christchurch. While traffic congestion can cause delays which impose an economic cost to the region, it can also help manage travel demand by influencing trip timing, land use decisions and encouraging the use of a mix of transport modes such as public transport, car-sharing, cycling and walking.

Key Challenge

Effectively managing traffic growth to ensure that accessibility is maintained and that the region's economic performance is not adversely affected.

Improving road safety for all road users

Approximately 40 people die on Canterbury roads and more than 300 people are seriously injured every year. Although the number of fatalities arising from road crashes has generally decreased since the 1970s, crashes resulting in hospitalisation and injury have increased. These two contrasting trends suggest that whilst improving vehicle technology is reducing fatalities, high numbers of accidents are still occurring, mainly due to poor or inappropriate driver behaviour. These crashes impose a considerable social and economic cost on the region. The current trend of increasing levels of motorbike ownership is also likely to increase overall exposure to risk.

Analysis of road safety data confirms that many of the issues faced in Canterbury reflect national trends. However, the region faces particular issues with high numbers of casualties associated with:
Loss of vehicle control or head on crashes (33% of all fatal and injury crashes);
Intersection crashes (47% of all fatal and injury crashes);
High and growing numbers of cycle crashes, largely caused by vehicle drivers (9% of all fatal and injury crashes)[12].
Motorcycle crashes etc.

Results from some market research carried out as part of the RLTS development process confirm that the community regards improving road safety as a priority[13]. Additionally, public consultation highlighted safety improvements as a significant factor for enhancing cycling and walking[14].

In some cases, measures that have improved safety for motorists have had unintended consequences by reducing the safety of people using other transport options such as walking and cycling. Antisocial use of motor vehicles is also an issue that has received much media attention. This can lead to fear for other road users and act as a barrier to travel at certain places or times of day.

Key Challenge

Improving safety outcomes for all road users.

Managing the negative impacts and supporting the positive impacts of transport on health

[10]Statistics NZ, *Subnational Family and Household Projections 2006 (base) – 2031*, 2009
[11] Environment Canterbury, *Canterbury RLTS Annual Monitoring Report*, 2008.
[12] NZTA, *Crash Analysis System data,* 2004 - 2010
[13] Environment Canterbury, *Canterbury RLTS 2011 – 2041 Market Research Report*, 2010.
[14] Environment Canterbury, *Transport Challenges for Canterbury – Consultation Report*, 2010.

Use of the transport system has implications for the population's health[15]. While high levels of car ownership and mobility provide people with some health benefits, such as access to medical services, motor vehicle dependence has been linked to increased levels of physical inactivity and obesity. Air and noise pollution from vehicles can also have significant health impacts on people that are exposed to them for long periods[16].

Although there are demonstrable health benefits of active modes of transport such as cycling and walking, market research carried out for the RLTS indicates that most people do not see a strong link between transport policies and public health issues[17].

Key Challenge

Ensuring transport makes a positive contribution to the health of Cantabrians.

Managing the environmental impacts of transport

The use of motor vehicles and development of transport infrastructure has significant impacts on the environment including air pollution, dust, greenhouse gas emissions, visual intrusion, polluted storm water run-off, noise and vibration.

Transport is responsible for approximately 20% of New Zealand's greenhouse gas emissions contributing to climate change and is one of the sectors that has seen ongoing growth in emissions over the past 10 years[18]. As a consequence of the close links between population increase, economic growth and transport demand, Canterbury has experienced an increase in transport related carbon dioxide emissions from motorised transport[19].

The Government has committed to reducing the country's greenhouse gas emissions through the New Zealand Emissions Trading Scheme. This scheme is expected to encourage the use of more energy efficient and low-carbon transport modes.

Key Challenge

Maintaining and improving levels of access and mobility in an environmentally sustainable manner.

Network security

The ability of the region to withstand a hazard, such as flooding or a seismic event is an important consideration for maintaining the integrity of the region's transport system. A number of transport links in Canterbury face extremely challenging construction and maintenance issues particularly along the Kaikoura Coast, through the alpine passes and across some of the major rivers. Many of these links provide lifelines to neighbouring regions and are of national social and economic importance.

Canterbury has a high number of ageing bridges which are susceptible to damage and will require upgrades over the next 30 years. Furthermore, the increasing size, and frequency of

[15] Canterbury District Health Board, *Wider Health & Wellbeing Impacts of Transport Planning*, 2010.
[16] Health Research Council of New Zealand, Ministry for the Environment & Ministry of Transport, *Health and Air Pollution in New Zealand,* 2007.
[17] Environment Canterbury, *Canterbury Regional Land Transport Strategy 2011 – 2041 Market Research Report*, 2010.
[18] Ministry for the Environment, *New Zealand's Greenhouse Gas Inventory 1990–2007*, 2009.
[19] Environment Canterbury, *Monitoring Progress Towards the Targets of the RLTS 2008 – 2018*, 2009.

heavy vehicles are exacerbating road maintenance issues on the region's extensive local road network.

Global climate change is expected to have impacts on the region's transport infrastructure, particularly by generating more severe weather events such as flooding[20]. In the long term, sea level rise could impact on land use and transport infrastructure, particularly in low-lying coastal areas.

Key Challenge

Minimising the risk of disruption on key regional and inter-regional transport routes.

Meeting the transport needs of dispersed communities

The type and form of land use development that has taken place in the region has significant impacts on the transport system. Dispersed land use patterns are typically linked with high levels of motor vehicle ownership and use, and in the most extreme cases, motor vehicle dependence. Conversely, concentrated land use is more commonly linked with lower levels of car ownership and use and higher levels of active transport and public transport patronage[21]. The Canterbury region, particularly outside Christchurch, is characterised by a relatively dispersed population with low density communities that are often more reliant on motor vehicles to travel.

Key Challenge

Future land use development occurs in a manner that transport needs can be met most efficiently and affordably.

Oil supply security and fuel price volatility

The transport sector is highly reliant on imported oil supplies. Over the next 30 years it is expected that oil prices will rise as access to relatively cheap oil supplies diminishes[22]. The resulting fuel price increases and volatility are likely to have significant social and economic impacts. Key export generating industries in the New Zealand Economy including tourism and timber, dairy and meat exports are very vulnerable to such impacts[23]. Although an increase in oil prices is expected to accelerate change from petroleum-based vehicles to alternative fuels and engine types, the transition is expected to take decades[24].

Key Challenges

In the short term, ensure the region is resilient to energy supply and fuel price volatility.

Over the longer term, move towards a transportation system that is less reliant on oil.

[20] NZTA, Climate change effects on the land transport network, 2009.
[21] Land Transport New Zealand Research Report, *Integrating Land Use and Transport Planning*, 2007.
[22] International Energy Agency, *World Energy Outlook*, 2009.
[23] New Zealand Parliamentary Service, *Parliamentary Research Paper; The next oil shock?*, 2010
[24] Hirsch R, *Peaking of World Oil Production: Impacts, Mitigation and Risk Management*, 2005

Managing the transport impacts of anticipated population change

By 2041, the region's population is expected to grow from approximately 550,000 to 650,000. Most of this population growth is expected to occur within Greater Christchurch. This growth will create additional demands on the transport system. However, some parts of the region that already have relatively low populations are not experiencing population growth, such as parts of South Canterbury[25].

New Zealand is also experiencing a demographic shift. In Canterbury, the proportion of people aged 65 and over is expected to increase significantly over the next 10 to 30 years[26]. An ageing population is expected to lead to increasing personal mobility issues, demand for public transport services and raises some road safety issues, as older people have a higher risk of being injured in road crashes. Other demographic changes are also likely to occur over the life of the strategy, some of which are likely to have transport related implications.

Key Challenge

Predicting and meeting the transport needs of a changing population.

Uncertainties about international technology trends

Technological innovations have the potential to change transport demand and the way that people travel. Examples that may emerge over the next 30 years include wider availability of electric vehicles, alternative fuels, improvements in vehicle safety, telecommunications and traveller information.

Further development of electric vehicles or alternative fuels could help reduce the country's dependence on imported oil supplies[27]. However, the mass introduction of electric vehicles is dependent upon the global car industry supplying compatible vehicles in sufficient numbers and a change in purchasing habits by New Zealand motorists. Large scale adaption would also require a significant increase in domestic energy production. Such factors present significant social, economic and environmental challenges[28].

Market research carried out as part of the development of the RLTS revealed a high level of public confidence that technological developments such as electric cars, alternative fuels and safety improvements would alleviate some, if not all, of the transport challenges faced by the region[29]. This confidence creates a challenge for transport providers to manage expectations as technological advancements occur and to put in place policies that maximise uptake of opportunities as they arise.

Key Challenge

Positioning the region to take advantage of technological advances.

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[25] Environment Canterbury, *Canterbury Regional Profile*, 2010.
[26] Ibid
[27] Energy Efficiency and Conservation Authority, *New Zealand Energy Efficiency and Conservation Strategy*, 2007.
[28] Electricity Commission, Impact of Plug-in Hybrid Vehicles on the NZ Electric Grid, 2008.
[29] Environment Canterbury, *Canterbury Regional Land Transport Strategy 2011 – 2041 Market Research Report*, 2010.

Earthquake recovery

Earthquake damage suffered in the ongoing seismic events following 4th September 2010 present an additional challenge for the region. They have caused significant damage to parts of the transport network and have changed travel patterns, particularly within Greater Christchurch. This means that the focus in the short term in the major urban area of the region is likely to focus on earthquake recovery. It also means there needs to be flexibility as there has been a highly unusual rate of people and business relocation and associated changes in travel patterns. Whilst there is much work to be done to repair the damage the rebuild programme may also present some opportunities to improve the transport network within the region and assist in meeting some of the objectives of this strategy.

Key Challenge

In the short term, realising opportunities presented by earthquake recovery.

Over the longer term, ensuring that earthquake recovery decisions do not put additional costs and inefficiencies on transport network providers or users.

Appendix E – Relevant Regional Economic and Land-use Considerations

Within Canterbury the most significant planned urban development is focused within the greater Christchurch area. The urban development boundaries for land use development are detailed in the Regional Policy Statement (RPS) – a statutory planning document which gives effect to the non-statutory Greater Christchurch Urban Development Strategy. Other areas of significant urban development in the region are primarily in Ashburton and Timaru.

Within the greater Christchurch area it is envisaged that 60% of all future growth would be accommodated in intensified development within existing urban areas, with the remaining 40% in greenfield areas. The majority of intensified development is to be consolidated along regional and local arterial corridors as well as around urban and sub-urban centres.

A number of area studies have been completed that identify the urban land transport infrastructure investment necessary to address likely land-use development. These studies ensure that investment plans support the signal in the Government Policy Statement on Land Transport Funding that there should be particular emphasis on strategies and packages that focus on integrated planning. As well as identifying the transport demand associated with planned growth, such studies also inform the level of investment required in future years.

Of particular regional economic significance are the Christchurch motorway projects that have been identified as Roads of National Significance (RoNS). These projects are linked closely with planned growth within the region and as they have been given RoNS status, have a very high chance of being funded from the National Land Transport Fund (NLTF). These planned State highway improvements are supported by a range of transport projects and activities proposed by approved organisations within Canterbury and NZTA.

Other developments of relative economic significance are consented proposals to accommodate commercial growth in the form of a 85 hectare business estate located on the northern side of Ashburton which includes the relocation of the rail sidings (for freight use) from the existing town centre location to the business estate, and the consented development of business activities within Timaru.

Intensification of land use in rural Canterbury is also increasing transport demand due to an increase in primary production inputs and outputs moving throughout the region. The level and location of intensification activities will depend to a large extent on the development of irrigation schemes within the region. This will impact on routes across the regional network. The strategy reflects this by recognising that maintenance and renewal of existing networks is a high regional priority.

The main sources of funding associated with economic and land-use changes are the National Land Transport Fund (NLTF) and/or local government funding which is typically derived through rates. For intensified development along existing corridors, an additional source of funding for necessary transport infrastructure is derived from development contributions. These are collected in line with the policies set out in local government Long-Term Plans.

Appendix F – Regional Outcomes

Reduced greenhouse gas emissions from the use of the domestic transport system

Description
New Zealand's transport system relies primarily on oil which results in significant transport related greenhouse gas emissions. More efficient and greater use of technologies such as electric vehicles and alternative transport fuels have a valuable role to play in reducing transport related greenhouse gas emissions.

Rationale
This outcome is carried forward from the current RLTS 2008 -2018. The proposed focus is to continue to use CO_2 as a proxy for other greenhouse gases as it can be readily estimated from petrol and diesel sales. As a signatory to the Kyoto Protocol, New Zealand has an international obligation to reduce its CO_2 emissions and domestic transport has an important role to play to achieve this goal. New Zealand is actively working to secure an internationally binding agreement to supersede the Kyoto Protocol post 2012. The New Zealand Emissions Trading Scheme is aimed at internalising a carbon cost to the price of transport fuels, but this, on its own is unlikely to have a significant impact upon the CO_2 that is produced by domestic transport. The experience of Canterbury in this regard over the past decade has not been positive. CO_2 produced by domestic transport has grown consistently on the back of economic and population growth. If the region's population continues to grow as is predicted, then there needs to be a decoupling of the strong linkages between CO_2 emissions from transport sources and economic growth. Increased transport sector efficiency and increased use of renewable energy provide an opportunity to reduce transport related greenhouse gas emissions. The direct use of sustainably produced biofuels, for example, has a role to play and these have available in some parts of New Zealand since 2007. In addition, electric vehicles have an important role to play in the future given the high and increasing percentage of New Zealand's electricity generated from renewable sources. Around 70% of New Zealand's electricity is generated from renewable resources and the Government's target is that 90% of electricity will be generated from renewable energy by 2025.

Improved resilience of the transport network to infrastructure damage or emergencies

Description
This outcome seeks to make the strategic network of the region, as defined in the strategy, more resilient to disruptions caused by emergency events or infrastructure damage caused by natural hazards or the actions of people. When such disruptions cannot be avoided it is important that the transport network can recover quickly from natural disaster events, accidents and other disruptions to ensure a continuity of access throughout the region.

Rationale
Network resilience is important for the region and in particular links to remote areas and surrounding regions. There are limited options for inter-regional travel and any disruption to these links means that a considerable additional distance needs to be traveled or an alternative mode used or journeys postponed or cancelled. The transport network, within the region and linking to other regions, is of fundamental importance for the region's economic and social wellbeing. It is therefore essential that measures are established to enable the network to recover rapidly from unforeseen events such as natural hazards.

Improved resilience of the transport system to external changes

Description
The transport system needs to be able to adapt to external change. Such changes include demographic trends such as population levels increasing or decreasing in different parts of the region, smaller or larger households or changes to the age profile of the population. For example, it is predicted that the average age of the population will increase during the period of the strategy. This means that is likely there will be less demand for travel to workplaces or schools and greater demand for access to medical and recreational facilities.

Shifting demands brought about by economic change can also lead to changes in transport demand. Such changes might include variations in economic production to different products or services, or adjustments by business sectors to service new international markets.

The region's transport system is heavily reliant on imported petroleum products. By diversifying the region's transport energy sources and reducing the region's reliance on overseas supply of fossil fuels, through increasing the availability and use of renewable energy, Canterbury will be more resilient to changes in the availability and cost of energy over the period of the strategy. By using sustainably produced biofuels and electric vehicles to run our transport fleets we can - improve security of supply and lessen our reliance on imported oil. Electric vehicles have an important role to play given the high percentage of New Zealand's electricity generated from renewable resources.

Rationale
These different aspects of resilience are important for the region over the next 30 years. The transport network is of fundamental importance for the region's economic and social wellbeing. It is therefore essential that the infrastructure and services that are provided to meet the communities travel needs are able to adapt to such changes.

One of the themes to emerge from the consultation process on the key issues for the RLTS was the community expectation that new technology and alternatives to oil reduce exposure to the effects of future increases in petroleum prices. Therefore, there is a need to also provide for a level of energy resilience so that the region can continue to prosper.

Improved land use and transport integration

Description
The type and form of land use development that takes place in the region impacts on the way the transport system develops and is used. The Canterbury region, particularly outside Christchurch, is characterised by a relatively dispersed population with low density communities that are reliant on motor vehicles to travel. This places additional costs (both monetary and time) on the community in order to access opportunities to work, do business, deliver products to markets, learn, recreate and socialise. Whilst transport networks and services are designed to serve the public by providing connections between different land uses, the provision of transport infrastructure can also have a negative impact on the community through for example severance, noise and pollution. By considering land use and transport in an integrated way these issues can be addressed more effectively.

Rationale
By influencing the pattern of development and mix of land uses, planning can help to achieve a more efficient transport system. Integrating land use and transport is one of the tenets of the Canterbury Regional Policy Statement, the region's District Plans, and the Greater Christchurch Urban Development Strategy. Improving land use and transport integration can help achieve a range of benefits by increasing transport choice, improving access, enhancing energy efficiency and reducing community severance.

Reduction in fatal and serious injuries for all modes

Description
This outcome aims to reduce the numbers of deaths and serious injuries on the region's transport system. The reductions sought are across all modes of transport including private vehicles, commercial vehicles, pedestrians and cycles. By focusing on modes individually, it allows policy to be developed to target specific modal safety issues.

Rationale
While there has been a general downward trend in road deaths in the region over the past decade, serious injuries are increasing. This trend suggests that vehicle technology is reducing the numbers killed, but driver behaviour is not improving enough to reduce the overall accident rate. Therefore, one of the issues going forward is to focus on reducing the number of serious injuries. This potentially places more focus on the behavioral aspects of road safety, rather than potentially expensive engineering solutions relating to infrastructure and the vehicle fleet.

The previous RLTS target in this area focused on the headline road crash statistics, which tended to focus policy upon road conditions and car drivers. By adopting a broader mode focused outcome, the intention is to develop policy responses aimed at different user groups in a more targeted manner.

Improved personal safety and reduced security risks to all transport users

Description
Personal safety and security relate to the risk of an individual being subject to harm whilst undertaking an activity at a given time and place. The level of personal safety and security affects the decisions people make about when, where and how to travel. Perceptions of levels of risk can be influenced by many factors e.g. a bad experience or information from personal contacts or mass media. The perception of safety levels is in many ways more important than the actual safety of a particular activity in terms of influencing decision making. However, reducing the actual risk means that the community is safer and should lead to lead to a lower level of negative feelings and improved perceptions of level of safety over time.

Rationale
Feelings about personal safety and security are an important factor influencing travel decisions or whether people travel at all. Fear of traveling by certain means, in certain places or at certain times of day can lead to transport disadvantage and reduced levels of access, as the choices that people are willing to make become limited. Improving levels of personal safety and security can open up new transport opportunities with positive effects on community wellbeing and overall levels of social and economic interaction.

Improved health from increase in time spent travelling by active means.

Description
This outcome is focused on the level of physical activity needed to achieve health benefits through transport policy. The aim is to develop policy responses that will increase the average amount of time that a resident spends either walking or cycling.

Rationale
The amount of time spent walking or cycling is a strong indicator of whether people are getting sufficient exercise to receive health benefits.

Increased proportion of the population travelling by active means

Description
Increasingly sedentary lifestyles and car dependence have reduced the amount of physical activity in both children and adults in New Zealand. This has contributed to poor health outcomes such as increasing rates of obesity, diabetes and cardiovascular disease. As well as encouraging people living in the region to walk and/or cycle for longer, there is also a need to encourage a greater proportion of the population to walk/cycle.

Rationale
Increased physical activity through walking and cycling has been shown to deliver a range of health benefits, particularly for those sections of the community that have inadequate physical activity. For many short trips which are often carried out in private vehicles, it is often appropriate to walk or cycle.

Reduced community exposure to vehicle pollutants, noise and vibration

Description
High levels of pollution, noise or vibration can have significant effects on the health of individuals and communities. Negative health effects are generally associated with exposure to high levels of pollution, noise or vibration and/or exposure long periods of time. Therefore these issues tend to be localised in nature.

The health effects are varied and include physical ill health such as respiratory disorders from breathing traffic fumes to mental disorders and stress from disrupted sleep. Health effects from transport activities can be either temporary (for example dust and noise associated with road works) or permanent.

Rationale
Transport activities, particularly the use of heavy vehicles, can have significant negative effects on the heath of individuals or communities. These health effects need to be taken into consideration when making decisions on how transport networks and services are provided so that effects can be avoided or mitigated as far as possible.

Improved journey time reliability on the strategic transport network

Description
Most journeys within the region do not suffer from severe congestion. As such, journey times are generally consistent and predictable. This outcome aims to preserve that reliability into the future.

Rationale
This outcome recognises that Canterbury is unlikely to suffer from severe and persistent congestion issues on the scale that is seen in some other metropolitan areas. However, targeted investments in the transport network may still be needed to address congestion trouble spots as they emerge. Therefore, the outcome seeks to maintain journey time reliability, rather than simply make journeys faster, as speeds are already consistently high in the region. Additionally projects to deliver relatively small journey time savings potentially raise affordability and safety issues. According to a report released by the International Transport Forum of the OECD, transport reliability needs greater policy prominence. Findings by the Forum conclude that variations in travel time reduce the efficiency of transport systems to an extent that rivals the costs generated by congestion. This is because leaving earlier to ensure on-time arrival consumes time that would otherwise be available for other economically productive activities.

Increased energy efficiency per trip

Description
This outcome relates to a number of aspects of transport choice by users and suppliers of the transport system, as well as supporting greater integration of land use. Efficiency gains can be made by encouraging better driver behaviour, encouraging trips to be taken by more energy efficient modes and technologies and encouraging shorter trips through location choices and service provision as well as influencing the composition of the region's vehicle fleet.

Rationale
Over time, average speed and affordability of travel have increased, which has led to people traveling increased distances. In addition, the average engine size of the vehicle fleet has increased as the affordability of vehicles has improved. The regulatory and taxation framework for vehicle licensing in New Zealand does little to discourage the purchase of vehicles with large engines. This contributes to fuel consumption growth and increases the region's exposure to rising and increasingly volatile fuel and vehicle prices.

If the region's transport system is to become more energy efficient and resilient to external factors that impact upon transport affordability and resilience, there is a need to drive more efficiently, make better use of low energy modes and vehicle technologies, ensure development is undertaken and technology used in such a way that the need to travel is reduced and the overall energy efficiency of the region's vehicle fleet is improved. By encouraging a more energy efficient fleet and more energy efficient trip choices, economic development is assisted by reducing the financial burden on households and businesses to expend on transport and fuel costs which increases the capital available for more productive purposes.

Regional and inter-regional journey time reliability on key freight routes is maintained

Description
This outcome focuses on the reliability of key freight routes within the region as well as between Canterbury and other regions in New Zealand. The outcome is broader than just the road network and will encompass travel time reliability on rail and coastal shipping, where appropriate, and where adequate data can be sourced.

Rationale
The export driven primary sector is fundamental to the region's economy. Furthermore, the region is an important trans-shipment location for coal from the West Coast and also acts as a key component in national distribution operations for many major New Zealand companies. Whilst travel times on many New Zealand transport links are unlikely to be high-speed by international standards, an important criterion for business is that the links that do exist are reliable and predictable in terms of journey times.

Freight hubs are protected and maintained

Description
This outcome focuses on key aspects of freight transport, as currently defined in the Canterbury Freight Action Plan, and aims to put in place measures that protect the functionality and viability of current and future freight hubs.

Rationale
Freight transport is essential for the region's economy, particularly for the primary sector upon which much of the region's economy depends. To be able to serve the sectors that rely upon it, freight hubs need to be protected from incompatible land uses which may impinge

upon their efficient operation. Similarly, there is a need for transport policy to address the transport links that join hubs to the strategic transport network, including road, rail and sea, in a manner that maximises the efficiency of their operations.

Connectedness is enhanced

Description
This outcome seeks to promote policies that will improve the "walkability" of urban centres and local neighbourhoods within Canterbury. To improve "walkability" new subdivisions need to have short distance walking access to key activity centres and urban centres will need to take steps to reduce walking distances and times between key locations.

Rationale
This outcome recognises that nearly everyone walks at some point as part of their journey. Community connectedness is a useful means of assessing whether local destinations can be accessed quickly and efficiently, without the need to utilise a motor vehicle for a short trip.

Increased travel choices for households to access urban and suburban centres

Description
This outcome acknowledges that most Cantabrians can access the places to which they want to go by private motor vehicle. For those that do not have access to a private motor vehicle, suitable and affordable alternatives are required and, for those that do, having alternative choices reduces their reliance on the private motor vehicle.

Rationale
A key aspect of increasing accessibility is the provision of transport choice. This outcome seeks to promote travel choices, including for those that already have access to a private motor vehicle, with a view to reducing car dependence.

Improved mobility for the transport-disadvantaged

Description
Transport-disadvantaged people are those members of the community who have the lowest levels of accessibility. The Public Transport Management Act 2008 defines transport disadvantage as people whom the regional council has reasonable grounds to believe are the least able to get to basic community activities and services (for example, work, education, health care, welfare, and food shopping).

Transport disadvantage can arise from a range of factors which can be temporary or permanent, including:

- a lack of access to private transport;
- transport services not being available;
- transport services not being physically accessible by people with disabilities and people with mobility difficulties;
- transport services not being affordable;
- a lack of appropriate information about services; and
- geographical barriers.

Rationale
The LTMA requires the consideration of the needs of the transport-disadvantaged when planning and funding the transport system. By having an outcome to improve mobility for the transport disadvantaged, the RLTS can help increase levels of involvement for the whole community, which provides a variety of social and economic benefits.

Appendix G – Implementation Interventions

Greater Christchurch

Intervention type	Short term (Years 1-3)	Medium term (Years 4-12)	Long term (Years 13-30)
Infrastructure measures	State Highway capacity improvements (Christchurch Motorways RONS projects). Local road improvements focused on earthquake rebuild and road safety improvements. Location of transport interchange sites is reviewed and interchange projects initiated. Investigation and design of park and ride facilities are initiated to support public transport network. Investment in quality pedestrian facilities within the central city and around suburban centres and schools. Investment in quality cycling facilities and cycle parking to encourage local trip making within the central city and around – priority suburban centres and	Existing traffic signals progressively replaced with intelligent signals that give greater priority to pedestrian and cycle traffic, focusing on access to central city and urban centres. Public transport infrastructure enhanced with high quality interchanges and shelters developed in line with the Canterbury Regional Public Transport Plan. Park and ride sites provided at urban edge with services to key destinations delivered through the Canterbury Regional Public Transport Plan. State Highway capacity improvements (Christchurch Motorways RONS projects). Intersection improvements (including connections to RoNs) and greater investment in targeted road safety improvements on local roads. Private motor vehicle long-stay parking is reduced over time and redeveloped / reprioritised where possible to increase urban density and productivity within the central city and around urban centres.	Existing traffic signals replaced with intelligent signals that give greater priority to pedestrian and cycle traffic. Private motor vehicle parking is reduced over time and redeveloped / refocused to highest priority uses where possible to increase urban density and productivity within the city. Continued investment in quality pedestrian facilities within urban areas. Continued investment in quality cycling facilities and cycle parking to encourage local trip making within urban areas. Public transport infrastructure enhanced with high quality interchanges and shelters developed in line with the Canterbury Regional Public Transport Plan. Freight interchanges continually enhanced for distribution of long distance freight by rail or coastal shipping. Rail network developed to maximise freight transport opportunities. New urban development designed to promote

	national energy security through investment in local energy supplies and increased renewable electricity generation. Planning for signed freight routes undertaken, together with analysis of supporting measures – traffic calming on non-signed route, traffic management issues to ensure signed route is fastest route. Some investment in off-road rapid cycle network and local cycle links. Increased consistent use of quality tactile path markings to assist pedestrian movement for transport disadvantaged.	central city and around Key Activity Centres and schools. Freight interchanges and the rail network are continually enhanced for distribution of long distance freight by rail or coastal shipping. Support the development of a ferry terminal at Clifford Bay, Marlborough as a key investment supporting efficient movement of freight for Canterbury's productive sectors to North Island, particularly Auckland. Lobby for increased national energy security through investment in local energy supplies and increased renewable electricity generation. Intensified investment in off-road rapid cycle network, that provide for cyclists, pedestrians and mobility scooters where widths allow, and local cycle links, particularly in areas where heavy vehicles and cyclists mix, creating safety issues. Increased consistent use of quality tactile path markings to assist pedestrian movement for transport disadvantaged. Investment (private and public) in infrastructure to support uptake of alternative fuelled vehicles e.g. install electric vehicle charge points in public car parks and park and ride sites (depends on nature, timing, availability and affordability of technology developments).	Support increased national energy security through investment in local energy supplies and increased renewable electricity generation. Greater investment in targeted road safety improvements. Complete investment in off-road rapid cycle network. Continued investment in local cycle improvements. Increased consistent use of quality tactile path markings to assist pedestrian movement for transport disadvantaged. Investment (private and public) in infrastructure to support uptake of alternative fuelled vehicles e.g. install electric vehicle charge points in public car parks and park and ride sites (depends on nature, timing, availability and affordability of technology developments).
Infrastructure management measures	Repair, recovery and betterment of assets on local roads and state highway in line with earthquake recovery plans. Traffic control systems and parking controls reviewed to support strategic direction.	Maintenance and renewals of assets to deliver levels of service identified in Council long term plans and the state highway plan. Function and context sensitive road classification system is adopted and increasingly applied to manage available road space and parking with following priority order: pedestrians; cyclists;	Maintenance and renewals of assets to deliver levels of service identified in Council long term plans and the state highway plan. Function and context sensitive road classification system is applied to manage available road space and parking with following priority order: pedestrians; cyclists; public

	Public transport stops, disability parking and cycle parking are given priority over private motor vehicle parking when being located. Cycle lanes and priority measures are provided on the road network. Some traffic calming in residential streets as part of renewal programme. Public transport priority developed on rapid public transport network in line with Canterbury Regional Public Transport Plan. Speed limits reduced on local roads which are reconstructed with designs that calm traffic and promote mixed use and safe walking and cycling.	public transport / freight; high occupancy motor vehicles; single occupancy motor vehicles. Speed reduced on local roads with designs that calm traffic and promote mixed use and safe walking and cycling. Pedestrian crossing facilities at priority locations provided to enhance accessibility on foot. Comprehensive network of rapid cycle lanes, priority measures and local links are provided on the road network. Public transport and/or High occupancy vehicle priority measures developed on rapid public transport network and other key routes in line with the Canterbury Regional Public Transport Plan. Freight fleet and product management systems are promoted to support efficient goods transport. Port operations increasingly support increased coastal shipping activity. Public transport stops, disability parking and cycle parking are given priority over private motor vehicle parking when being located to provide the most attractive transfer locations. Motor vehicle parking areas are redesigned to facilitate high quality pedestrian access to urban centres. Traffic control systems used to maintain high levels of safety and efficiency on the strategic network. Traffic control signals on non-strategic roads increasingly used to maintain safety and support high levels of multimodal use and amenity, with less emphasis on efficiency for motor vehicle	transport / freight; high occupancy motor vehicles; single occupancy motor vehicles. Speed reduced on local roads with designs that calm traffic and promote mixed use and safe walking and cycling. Pedestrian crossing facilities provided to enhance accessibility on foot. Comprehensive network of cycle lanes and priority measures are provided. Public transport and/or High occupancy vehicle priority measures on all core routes in line with the Canterbury Regional Public Transport Plan. Freight fleet and product management systems to support efficient goods transport. Port operations support increased coastal shipping activity. Public transport stops, disability parking and cycle parking are given priority over private motor vehicle parking when being located to provide the most attractive transfer locations. Motor vehicle parking is redesigned to facilitate high quality pedestrian access. Traffic control systems used to maintain high levels of safety and efficiency on the strategic network. Traffic control signals on non-strategic roads increasingly used to maintain safety and support high levels of multimodal use and amenity, with less emphasis on efficiency for motor vehicle users. Transport network operators support rapid rollout of broadband / telecommunications infrastructure as an integral function of transport

		users. Transport network operators support rapid rollout of broadband / telecommunications infrastructure as an integral function of transport corridors.	corridors.
Service provision	Reorganisation of scheduled bus public transport services in Christchurch to provide quality service on high demand routes supported by feeder services through the Canterbury Regional Public Transport Plan. Freight and postal services continue to be offered on a commercial basis. Commercial intercity public transport services. Taxi services available as currently. Widespread availability of high speed broadband services. Tele-work services investigated to establish best way to support working from home and minimise need for business travel. Vehicle hire services are provided commercially. Total mobility services provided as currently. Provision of rideshare support services.	Increasingly high quality, frequent public transport services provided on high demand corridors in Christchurch. Investigate feasibility and trial car co-operatives to enable access to a motor vehicle without burden of ownership costs and seek private sector partnership opportunities. Widespread availability of high speed broadband services. Tele-work services are assessed for appropriateness and promoted to support working from home and to minimise the need for business travel. Freight and postal services continue to be offered on a commercial basis. Taxi and vehicle hire services provided commercially. Commercial intercity public transport services. Mobility services provided, using innovative approaches as necessary, to reduce social exclusion and transport disadvantage. Supporting public transport or community transport services to reduce social isolation and transport disadvantage are investigated. Provision of rideshare support services.	High quality, frequent and rapid public transport services provided within and between large urban areas where there are high travel demands. Mobility services provided, using innovative approaches as necessary, to reduce social isolation and transport disadvantage. Car co-operatives are supported to make them widely available to enable households and businesses access to motor vehicles for occasional use without full financial burden of associated ownership and running costs and to reduce the requirements for parking infrastructure. Broadband services widely available. Tele-work services are assessed for appropriateness and promoted to support working from home and to minimise the need for business travel. Freight and postal services continue to be offered on a commercial basis. Taxi and vehicle hire services provided commercially. Provision of rideshare support services.
Land use	Regional Policy Statement (RPS) Plan change 1 sets out growth	Regional Policy Statement (RPS) Plan change 1 sets out growth patterns & urban limits in	Regional Policy Statement (RPS) Plan change 1 sets out growth patterns & urban limits in

measures	patterns & urban limits in Christchurch. Rules around parking provision in city and district plans are reviewed with a view to removing parking minima and managing private parking provision requirements more cost effectively. Function and context sensitive road classification system developed to assist in achieving land use and transport integration. Crime Prevention Through Environmental Design principles start to be applied.	Christchurch. Function and context sensitive road classification system imbedded in district plans, recovery plans and transport policies to enable investments that achieve greater land use and transport integration. District plan amendments promote mixed use development and support local trip making. Local provision of community and commercial services is encouraged through City and District Plan rules. Parking provision rules in city and district plans are amended to manage private parking provision requirements more cost effectively. Parking and infrastructure standards are set to support use of a variety of modes where options can be made available. Land use controls are reviewed and amended as necessary to provide for and protect efficient freight practices. Road controlling authorities establish pro-active policies supporting provision of broadband/ telecommunications infrastructure in the road reserve. District plans amended to ensure new urban development is designed to promote local trip making with high quality provision for walking and cycling, routes and facilities for public transport and lower levels of space allocated to private motor vehicle parking. Crime Prevention Through Environmental Design principles continue to be applied.	Christchurch. Function and context sensitive road classification system applied to achieve land use and transport integration. Land use controls promote mixed use development and support local trip making. Local provision of community and commercial services is encouraged through City and District Plan rules. Parking and infrastructure standards support lower levels of car ownership. Land use controls provide for and protect efficient freight practices. Crime Prevention Through Environmental Design principles continue to be applied.
Pricing	The extent of parking charges	Region lobbies for tax structures that promote	Parking charges at Key Activity Centres to better

measures	remains limited to a small proportion of spaces in the central city and some local centres and charges remain low. Public transport fares set to balance high fare recovery rate and mode attractiveness as outlined in the Canterbury Regional Public Transport Plan. Nationally levied taxes on same principles as today. Region establishes a position to lobby for tax structures that promote investment in efficient and alternative fuelled vehicles, public transport, car co-operatives and discourage high levels of motor vehicle ownership and use.	investment in efficient and alternative fuelled vehicles, public transport, car co-operatives and discourage high levels of motor vehicle ownership and use. Parking charge policies reviewed and amended for urban centres to better reflect the true cost of providing land and the forgone productive potential of that land. Public transport fares set to balance high fare recovery rate and mode attractiveness as outlined in the Canterbury Regional Public Transport Plan.	reflect the true cost of providing land and the forgone productive potential of that land. Public transport fares set to balance high fare recovery rate and mode attractiveness as outlined in the Canterbury Regional Public Transport Plan.
Information provision	Road signs repaired. Maps and increasing use of GPS navigation. Real time public transport information repaired and provided as currently. Multi-modal online journey planner is developed and promoted. Public transport timetables and service information as today. Internet, yellow pages and library services provided as at present.	High quality direction & RTI signs installed at key locations on strategic network. Real time public transport information is improved and made widely available through signs at stops and vehicles and mobile communication channels. Multi-modal online journey planner is maintained, improved and promoted. Road, public transport, cycle and pedestrian route maps and GPS navigation devices become more widely available. Public transport timetable information more widely available over time. Internet, yellow pages and library services provided as at present.	High quality direction & RTI signs provided. Real time public transport information is improved and made widely available through signs at stops and vehicles and mobile communication channels. Multi-modal online journey planner is maintained, improved and promoted. Road, public transport, cycle and pedestrian route maps and GPS navigation devices widely available. Public transport timetables widely available. Internet, yellow pages and library services provided as at present. Road signs used as at present.

		Road signs used as at present.	
Attitudinal and behavioural measures	Laws and rules similar to today, some changes to support safer journeys. Small scale education programmes on transport safety, choice and impacts. Limited support for school travel plans. Workplace travel plan programme established.	Social marketing programmes are initiated to acknowledge the health benefits of active transport and promote behaviour change by normalising use of active modes, public transport, rideshare, etc. Region lobbies for laws and rules to be amended to support walking, cycling, public transport and high occupancy vehicle use. School travel plan programme underway to capture all schools. Workplace travel plan programme implemented. Community travel plan programme established targeted at people at changing life stages (moving house, starting family etc.)	Large scale social marketing programme to acknowledge the health benefits of active transport and promote behaviour change by normalising use of active modes, public transport rideshare etc. Region lobbies for laws and rules to be amended to support walking, cycling, public transport and high occupancy vehicle use. Travel plans maintained at all schools. Workplace travel plan programme expanded and implemented. Community travel plans targeted at people at changing life stages (moving house, starting family etc.)
Enforcement measures	Road policing and penalties for offences as at present. Parking enforcement as at present. Some speed and monitoring cameras. Region establishes a position on penalties and fines for motoring offences to enable effective lobbying.	Level of parking enforcement e.g. tickets, clamping & towing increased over time. Use of electronic capture technologies increased over time to manage speed and improve safety and personal security. Policing increasingly focuses on speed and unsafe/threatening driving behaviour to support broader safety outcomes for all road users. (focus subject to input from road safety workshops) Region lobbies for appropriate penalties and fines for motoring offences to support road safety goals. Partnership developed with police to develop enforcement programmes to support regional as well as national objectives.	High level of parking enforcement e.g. tickets, clamping & towing. Use of electronic capture technologies increased over time to manage speed and improve safety and personal security. Policing increasingly focuses on speed and unsafe/threatening driving behaviour to support broader safety outcomes for all road users. (focus subject to input from road safety workshops) Region lobbies for appropriate penalties and fines for motoring offences to support road safety goals.

Small urban areas

Intervention type	Short term (Years 1-3)	Medium term (Years 4-12)	Long term (Years 13-30)
Infrastructure measures	Safety improvements are implemented. Investment in broadband infrastructure over time. Some investment in quality pedestrian and cycling parking facilities developed to encourage local trip making. Undertake transport specific research and start to lobby central government and commercial energy suppliers for increased national energy security through investment in local energy supplies and increased renewable electricity generation. Increased consistent use of quality tactile path markings to assist pedestrian movement for transport-disadvantaged people.	High quality pedestrian and cycling facilities are developed throughout existing urban areas and new subdivisions to encourage active local trip making. Parking provision for cyclists is increased at all public and private destinations especially where car parking is currently provided. New urban development designed to promote local trip making with high quality provision for walking and cycling and limited motor vehicle parking. Lobby for increased national energy security through investment in local energy supplies and increased renewable electricity generation. Rail network developed to maximise freight opportunities – intermodal terminals. Significant increase in safety improvements implemented. Increased consistent use of quality tactile path markings to assist pedestrian movement for transport disadvantaged. Investment (public and private) in infrastructure to support uptake of alternative fuelled vehicles e.g. install electric vehicle charge points in public car parks and park and ride sites (depends on nature, timing, take up and affordability of technology developments).	High quality pedestrian and cycling facilities are developed throughout existing urban areas and new subdivisions to encourage active local trip making. Parking provision for cyclists is increased significantly at all public and private destinations especially where car parking is currently provided. Support increased national energy security through investment in local energy supplies and increased renewable electricity generation. Rail network developed to maximise freight opportunities. Increased level of safety improvements implemented. Increased consistent use of quality tactile path markings to assist pedestrian movement for transport disadvantaged. Investment (public and private) in infrastructure to support uptake of alternative fuelled vehicles e.g. install electric vehicle charge points in public car parks and park and ride sites (depends on nature, timing, take up and affordability of technology developments). New urban development designed to promote local trip making with high quality provision for walking and cycling and limited motor vehicle parking.

Infrastructure management measures	Maintenance and renewals of assets to deliver levels of service identified in Council long-term plans and the state highway plan.	Maintenance and renewals of assets to deliver levels of service identified in Council long-term plans and the state highway plan. Function and context sensitive road classification system is adopted and increasingly applied to manage available road space with following priority order: pedestrians; cyclists; public transport / freight; high occupancy motor vehicles; single occupancy motor vehicles. Speed reduced on local roads with designs that calm traffic and promote mixed use and safe walking and cycling. Pedestrian crossing facilities provided to enhance accessibility on foot. Freight fleet and product management systems are promoted to support efficient goods transport. Motor vehicle parking is redesigned to facilitate high quality pedestrian access. Port operations (Timaru) increasingly support increased coastal shipping activity. Transport network operators support rapid rollout of broadband / telecommunications infrastructure as an integral function of transport corridors.	Maintenance and renewals of assets to deliver levels of service identified in Council long term plans and the state highway plan. Function and context sensitive road classification system is applied within the available road space with following priority order: pedestrians; cyclists; freight; high occupancy motor vehicles; single occupancy motor vehicles. Speed reduced on local roads with designs that calm traffic and promote mixed use and safe walking and cycling. Pedestrian crossing facilities provided to enhance accessibility on foot. Freight fleet and product management systems to support efficient goods transport. Motor vehicle parking is redesigned to facilitate high quality pedestrian access. Port operations (Timaru) increasingly support increased coastal shipping activity. Transport network operators support rapid rollout of broadband / telecommunications infrastructure as an integral function of transport corridors.
Service provision	Scheduled bus public transport services are provided in Timaru. Freight and postal services continue to be offered on a commercial basis. Commercial intercity public transport services.	Investigate feasibility and trial car co-operatives and rideshare support services to enable access to a motor vehicle without burden of ownership costs and seek private sector partnership opportunities. Scheduled bus public transport services are provided in Timaru. Community transport services available in small	Car co-operatives developed to enable access to a motor vehicle without burden of ownership costs. Scheduled bus public transport services are provided in Timaru and considered for Ashburton depending on extent of urban growth, cost of private travel and levels of transport

	Some limited taxi services available. Community transport services available in small number of small urban settlements.	number of small urban settlements. Freight and postal services continue to be offered on a commercial basis. Intercity public transport services and taxi services provided commercially.	disadvantage. Broadband services widely available. Tele-work services are assessed for appropriateness and promoted to support working from home and to minimise the need for business travel. Increased provision of community transport services provided for those in small urban settlements. Freight and postal services continue to be offered on a commercial basis. Intercity public transport services and taxi services provided commercially. Ride-share is facilitated for travel to larger urban centres.
Land use measures	Planning controls the same as at present. Crime Prevention Through Environmental Design principles start to be applied.	Function and context sensitive road classification system developed and built into district plan and transport policy to assist in achieving land use and transport integration. Land use controls promote mixed use development and support local trip making. Local provision of community and commercial services is encouraged through District Plan rules. Parking and infrastructure standards support lower levels of car use where good alternatives are available. Land use controls are reviewed and amended as necessary to provide for and protect efficient freight practices and avoid incompatible land uses around freight hubs and networks. Road controlling authorities establish pro-active policies supporting provision of broadband/telecommunications infrastructure in the	Function and context sensitive road classification system is applied to achieve land use and transport integration. Land use controls promote mixed use development and support local trip making. Local provision of community and commercial services is encouraged through District Plan rules. Parking and infrastructure standards support lower levels of car ownership. Land use controls provide for and protect efficient freight practices. Crime Prevention Through Environmental Design principles continue to be applied.

		road reserve. District plans amended to ensure new urban development is designed to promote local trip making with high quality provision for walking and cycling, high quality routes and facilities for public transport and lower levels of space allocated to private motor vehicle parking. Crime Prevention Through Environmental Design principles continue to be applied.	
Pricing measures	Nationally levied taxes on same principles as today. Public transport fares in Timaru heavily subsidised. Region establishes a position to lobby for tax structures that promote investment in efficient and alternative fuelled vehicles, public transport, car co-operatives and discourage high levels of motor vehicle ownership and use.	Region lobbies for tax structures that promote investment in efficient and alternative fuelled vehicles, community services, car co-operatives and discourage high levels of motor vehicle ownership and use. Parking charge policies reviewed and amended for Urban Centres to better reflect the true cost of providing land and the forgone productive potential of that land. Public transport and community service fares set to balance farebox recovery and public affordability. Potential for non-conventional public transport solutions investigated and implemented to address social needs.	Parking charges at Urban centres to better reflect the true cost of providing land and the forgone productive potential of that land. Public transport and community service fares set to balance farebox recovery and public affordability. Potential for non-conventional public transport solutions investigated and implemented to address social needs.
Information provision	Road signs used as at present. Maps and increasing use of GPS navigation. Internet, yellow pages and library services provided as at present.	High quality direction & RTI signs established specifically for pedestrians and cyclists as infrastructure improvements are made. Multi-modal online journey planner is developed and promoted. Road, cycle and pedestrian route maps and GPS navigation devices become widely available. Public transport maps and timetables available where services are provided. Internet, yellow pages and library services provided	High quality direction & RTI signs established specifically for pedestrians and cyclists. Multi-modal online journey planner is maintained and promoted. Road, cycle and pedestrian route maps widely available. Public transport maps and timetables available where services are provided. Internet, yellow pages and library services

		as at present. Road signs used as at present.	provided as at present. Road signs used as at present.
Attitudinal and behavioural measures	Laws and rules similar to today, some changes to support safer journeys. Small-scale education programmes on road safety and transport choice. Limited number of school travel plans.	Social marketing programmes are initiated to acknowledge the health benefits of active transport and promote behaviour change by normalising use of active modes, public transport, rideshare, etc. Region lobbies for laws and rules to be amended to support walking, cycling, public transport and high occupancy vehicle use. School travel plan programme underway to capture all schools. Workplace travel plan programme established. Community travel plan programme established targeted at people at changing life stages (moving house, starting family etc.)	Large scale social marketing programme to acknowledge the health benefits of active transport and normalise, active modes, public transport and rideshare etc. Region lobbies for laws and rules to be amended to support walking, cycling, public transport and high occupancy vehicle use. Travel plans developed and maintained at all schools. Workplace travel plan programme implemented. Community travel plans targeted at people at changing life stages (moving house, starting family etc.)
Enforcement measures	Road policing and penalties for offences as at present. Region establishes a position on penalties and fines for motoring offences to enable effective lobbying.	Policing and parking enforcement. Region lobbies for appropriate penalties and fines for motoring offences to support road safety outcomes. Partnership developed with police to develop enforcement programmes to support regional as well as national objectives.	Policing increasingly focuses on speed and unsafe/threatening driving behaviour to support broader safety outcomes for all road users. (focus subject to input from road safety workshops) Parking enforcement. Region lobbies for appropriate penalties and fines for motoring offences to support road safety outcomes.

Rural areas

Intervention type	Short term (Years 1-3)	Medium term (Years 4-12)	Long term (Years 13-30)
Infrastructure measures	Some investment in state Highway passing lanes and bridge replacements. Safety improvements are implemented. Rail network developed to minimise delays and encourage growth in freight activity. Undertake transport specific research and start to lobby central government and commercial energy suppliers for increased national energy security through investment in local energy supplies and increased renewable electricity generation.	Rail network developed to minimise delays and encourage growth in freight activity. Freight interchanges enhanced for distribution of long distance freight by rail or coastal shipping. Cycle routes developed between rural towns and communities especially where this supports cycle tourism activity. Shoulders and bridges widened as part of renewal projects where possible. Significant increase in safety improvements implemented. Some investment in state Highway passing lanes, bridge replacements and bridge upgrades. Lobby for increased national energy security through investment in local energy supplies and increased renewable electricity generation.	Freight interchanges enhanced for distribution of long distance freight by rail or coastal shipping. Support increased national energy security through investment in local energy supplies and increased renewable electricity generation. Cycle routes developed between rural towns and communities especially where this supports cycle tourism activity. Shoulders and bridges widened as part of renewal projects where possible. Increased level of safety improvements implemented. Ongoing investment in State Highway bridge replacements and safety measures.
Infrastructure management measures	Maintenance and renewals of assets to deliver levels of service identified in Council long-term plans and the state highway plan.	Maintenance and renewals of assets to deliver levels of service identified in Council long-term plans and the state highway plan. Function and context sensitive road classification system applied with energy efficient travel given highest priority. Freight fleet and product management systems are promoted to support efficient goods transport.	Maintenance and renewals of assets to deliver levels of service identified in Council long term plans and the state highway plan. Function and context sensitive road classification system applied with most energy efficient travel given highest priority. Freight fleet and product management systems to support efficient goods transport.

Service provision	Freight and postal services continue to be offered on a commercial basis. Commercial intercity public transport services. School buses and limited number of community transport services provided.	Rural community ride-share is facilitated. Community transport services provided where feasible to reduce social isolation and transport disadvantage. Freight and postal services continue to be offered on a commercial basis. Commercial intercity public transport services. School bus service provision is maintained or enhanced to ensure access to school for rural communities.	Rural community ride-share is facilitated. Community led transport services provided where feasible to reduce social isolation and transport disadvantage. Freight and postal services continue to be offered on a commercial basis. Commercial intercity public transport services. School bus service provision is maintained or enhanced to ensure access to school for rural communities.
Land use measures	Planning controls the same as at present.	Function and context sensitive road classification system developed and built into district plan and transport policy to assist in achieving land use and transport integration. Production of local energy supplies for transport is supported through District Plan rules. Land use controls reviewed and amended to avoid incompatible land uses around freight hubs and networks. Councils establish pro-active policies for rollout of broadband and mobile communication networks to support alternatives to travel.	Function and context sensitive road classification system applied to achieve land use and transport integration. Production of local energy supplies for transport is supported through District Plan rules. Land use controls avoid incompatible land uses around freight hubs and networks.
Pricing measures	Nationally levied taxes on same principles as today. Region establishes a position to lobby for tax structures that promote investment in efficient and alternative fuelled vehicles, public transport, car co-operatives and discourage high levels of motor vehicle ownership and use.	Region lobbies for tax structures that promote investment in efficient and alternative fuelled vehicles and local fuel production. Region lobbies for appropriate rebates / exemptions to offset tax structures that discourage car ownership and use in urban areas, appropriately recognising lack of choice for rural dwellers. Community and school bus service fares set to	Community and school bus service fares set to balance farebox recovery and affordability.

		balance farebox recovery and affordability.	
Information provision	Road signs used as at present. Maps and increasing use of GPS navigation. Internet, yellow pages and library services provided as at present.	Road signs used as at present. Maps and GPS navigation. Multi-modal online journey planner is developed and promoted. Internet, yellow pages and library services provided as at present.	Road signs used as at present. Maps and GPS navigation. Multi-modal online journey planner is maintained and promoted for ride-sharing and community travel schemes. Internet, yellow pages and library services provided as at present.
Attitudinal and behavioural measures	Laws and rules similar to today, some changes to support safer journeys. Small-scale education programmes on road safety.	Education and social marketing campaigns initiated to promote efficient and low energy travel options. School travel plan programme underway to capture all schools. Workplace travel plan programme established. Community travel plan programme established targeted at people at changing life stages (moving house, starting family etc.)	Education and social marketing campaigns to promote efficient and low energy travel options. Travel plans developed and maintained at all schools. Workplace travel plan programme implemented. Community travel plans targeted at people at changing life stages (moving house, starting family etc.)
Enforcement measures	Road policing and penalties for offences as at present. Region establishes a position on penalties and fines for motoring offences to enable effective lobbying.	Policing. Region lobbies for appropriate penalties and fines for motoring offences to support road safety outcomes. Partnership developed with police to develop enforcement programmes to support regional as well as national objectives.	Policing. Region lobbies for appropriate penalties and fines for motoring offences to support road safety outcomes.

Appendix H – Demand Management Strategy

Demand Management is a term used for interventions that influence travel ch to make travel easier and more affordable for the community and increase th the transport network. Managing the demand for travel is recognised as playin part in meeting the desired outcomes of this strategy. Interventions that ca manage demand include road network management tools, land-use pol policies, behaviour change programmes, pricing measures and the use of ne that reduces the need to travel.

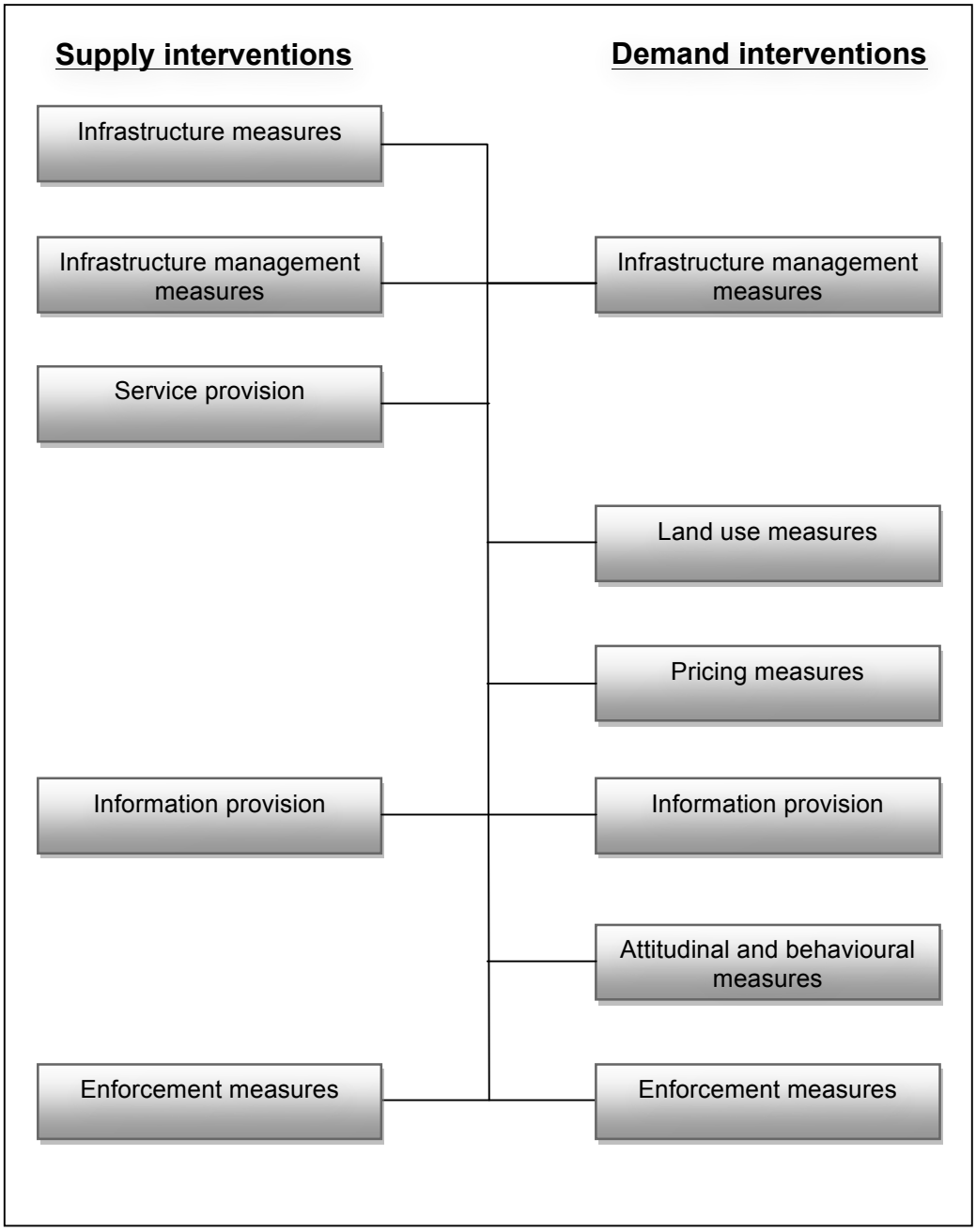
Demand management interventions have wide-ranging potential benefit efficiency, environmental sustainability, reduced traffic congestion, netw economic development, affordability, public health, and safety. By optimising existing network, demand management interventions can also defer or remov expensive new capacity improvement interventions.

The strategy seeks to manage the demand for travel to improve network encourage the use of appropriate modes and uptake of new technology by:

- Encouraging appropriately located land development.
- Ensuring land development is integrated with transport infrastructure an
- Encouraging travel patterns that spread demand away from the busies day to better use network capacity.
- Supporting rail and coastal shipping freight initiatives that can provide r choice and assist with managing demand on the road network.
- Locating and pricing parking to optimise use of facilities throughout the v
- Controlling parking to encourage efficient use of high value land a economic and social activity.
- Supporting reduced reliance on private motor vehicles in urban area single-occupancy vehicles, by providing for and encouraging walking, transport and ridesharing.
- Providing reliable and real-time information on the transport system ar available.
- Supporting the development of travel plans.
- Advocating for government policy to enable efficient pricing and taxatio can be used to manage demand as well as collect revenue.
- Advocating for government policy to facilitate the uptake of new technol

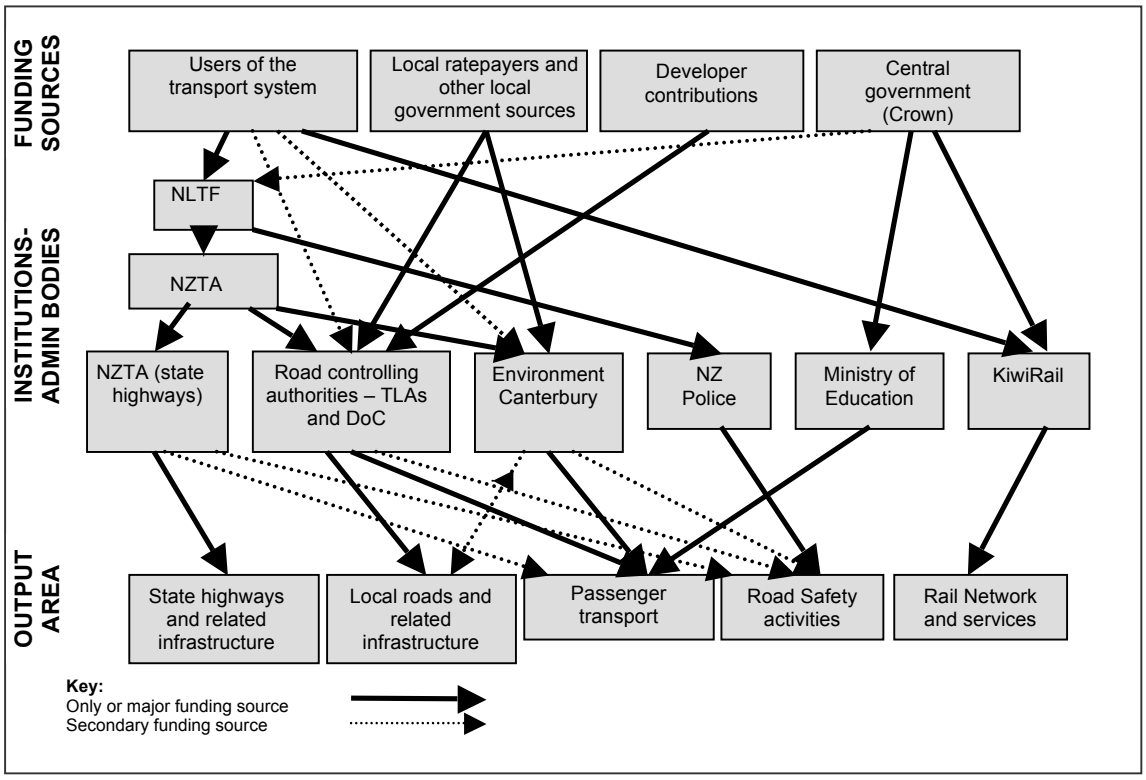
The strategy supports full and early consideration of demand management alongside supply side interventions. Where it is more cost effective to do management measures should be considered ahead of the provision of additio the transport system. The priority implied by this statement is not intended to The strategy includes actions across a range of supply and demand initiatives are important synergies between demand and supply interventions. To be demand management initiatives often require supporting supply side improve because for demand side measures to be successful, travel choices must be av

The strategic direction is to improve mode choice, enable choice around destination of travel and provide for alternatives to travel such as tele-working. implementation of this strategy relies on an integrated implementation improvements to the strategic network, investment to enable walking, cycli transport as well as interventions that manage demand. This approach of an of supply and demand interventions is outlined in the diagram below.


Supply interventions
Demand interventions
Infrastructure measures
Infrastructure management measures
Service provision
Information provision
Enforcement measures
Infrastructure management measures
Land use measures
Pricing measures
Information provision
Attitudinal and behavioural measures
Enforcement measures

Appendix I –Funding Structures

The diagram below identifies the institutional arrangements for land transport funding. There are four main funding sources, with funding channelled through numerous administrative and operational institutions into five main output areas.



Appendix J – Measurement of Targets and Monitoring Indicators

Outcome	Performance Indicator	2024 Targets	2042 Targets	Monitoring Responsibilities	Notes
Reduce greenhouse gas emissions from the use of the domestic transport system	Tonnes of CO_2 from domestic land transport per capita	Return to 1998 levels – 1.45M tonnes per annum	Halve by 2040 from 2007 levels - 0.95M tonnes per annum	Regional Council, with fuel sales data supplied quarterly by Christchurch City Council, Waimakariri District Council and Timaru District Council	CO_2 is taken as a proxy for the wider group of greenhouse gases that the transport sector contributes to. This target is in line with the New Zealand Transport Strategy (NZTS) and is far more aggressive than the current RLTS 2008-18 target of "not more than 10% above 2001 levels". Important to note that this strategy on its own cannot deliver the target reductions - will require strong central government support on alternative vehicle technologies.
Improved resilience of the transport network to infrastructure damage or emergencies	Projects completed per annum in Canterbury RLTP that increases network resilience in the region	No	No	Kiwirail, NZTA and all TA's to report annually on projects that have delivered network resilience benefits	Textual commentary in monitoring reports that describe what has been done in three year RLTP periods to increase this aspect of network resilience.
Improved resilience of the transport system to external changes	Regional private vehicle fleet mix	No	No	Regional Council - from NZTA vehicle registration records	No target envisaged, only a tracking indicator - not something the RLTS can directly influence, but a changing fleet mix will support other targets.
Improved resilience of the transport system to external	% of Greater Christchurch population who can reach work or education by	No	No	Regional Council - Resident Survey	A target would be desirable, but baseline data on current percentages is not currently collected. The indicator will be added to the monitoring programme, with a view to develop a target for the next RLTS iteration

Improved resilience of the transport system to external changes	% of population in small urban areas who can reach key services by active modes	No	No	Regional Council - Resident Survey (in longer term)	Targets less feasible in smaller centres, as monitoring data not available or likely to be financed in short term. Options for developing an ongoing data series for this indicator will be explored as part of the monitoring programme.
Improved land use & transport integration	Average trip length for all trips - Canterbury Region	No	No	Regional Council - via analysis of MoT Household Travel Survey (HTS) data	Shorter trips can be driven by many things, but better location of work, live & play destinations is a key one. Analysis of available data indicates that a longer data series is required before a target can be set.
Reduction in fatal and serious injuries for all modes	Deaths per annum on regions' roads	Not more than 30 per annum	Not more than 25 per annum	NZTA - to supply Regional Council with annual data	New target moves away from "per 100,000" target in old RLTS, as absolute number in line with NZTS. Safer Journeys 2020 does not set explicit targets. 25 is a stronger target than 6 per 100,000 in the 2008-18 strategy. 2023 target represents modest improvement on the best two annual results during the period 2000 to 2010 - which was 32 in 2000 and 2009.
Reduction in fatal and serious injuries for all modes	Serious injuries per annum on regions' roads	Not more than 250 per annum	Not more than 200 per annum	NZTA - to supply Regional Council with annual data	As above. Rationale for 200 is that it is roughly a halving of the rate seen over the past 20 years - consistently in the upper 300's. 2023 target is just below 'best' years during 2000-2010.
Reduction in fatal and serious injuries for all modes	Casualties per annum - deaths plus serious injuries - car, truck, bus	No	No	NZTA - to supply Regional Council with annual data	Whilst targets only set for total regional figures, intention is to track and report modal breakdown, to advise policy responses.
Reduction in fatal and serious injuries for all modes	Casualties per annum - deaths plus serious injuries - cycle	No	No	NZTA - to supply Regional Council with annual data	Whilst targets only set for total regional figures, intention is to track and report modal breakdown, to advise policy responses.
Reduction in fatal and serious injuries for all modes	Casualties per annum - deaths plus serious injuries - motorcycle	No	No	NZTA - to supply Regional Council with annual data	Whilst targets only set for total regional figures, intention is to track and report modal breakdown, to advise policy responses.

Reduction in fatal and serious injuries for all modes	Casualties per annum - deaths plus serious injuries - pedestrian	No	No	NZTA - to supply Regional Council with annual data	Whilst targets only set for total regional figures, intention is to track and report modal breakdown, to advise policy responses.
Improve personal safety and reduce security risks to all transport users	How safe do you feel people are when driving a car in Canterbury	No	No	Regional Council - via Resident Survey	No target as baseline data series does not exists. Intent is to implement monitoring via perceptions survey - scale = "Always safe", "Mostly safe, but not always", "Quite often safe but quite often unsafe", "Mostly unsafe, but not always", "Always unsafe". This approach is similar to other major regions.
Improve personal safety and reduce security risks to all transport users	How safe do you feel people are when travelling on public transport in Canterbury	No	No	Regional Council - via Resident Survey	No target as baseline data series does not exists. Intent is to implement monitoring via perceptions survey - scale = "Always safe", "Mostly safe, but not always", "Quite often safe but quite often unsafe", "Mostly unsafe, but not always", "Always unsafe". This approach is similar to other major regions.
Improve personal safety and reduce security risks to all transport users	How safe do you feel people are when walking in Canterbury	No	No	Regional Council - via Resident Survey	No target as baseline data series does not exists. Intent is to implement monitoring via perceptions survey - scale = "Always safe", "Mostly safe, but not always", "Quite often safe but quite often unsafe", "Mostly unsafe, but not always", "Always unsafe". This approach is similar to other major regions.
Improve personal safety and reduce security risks to all transport users	How safe do you feel people are when travelling by cycle in Canterbury	No	No	Regional Council - via Resident Survey	No target as baseline data series does not exists. Intent is to implement monitoring via perceptions survey - scale = "Always safe", "Mostly safe, but not always", "Quite often safe but quite often unsafe", "Mostly unsafe, but not always", "Always unsafe". This approach is similar to other major regions.
Improve personal safety and reduce security risks to all transport users	How safe do you feel people are when travelling by motorcycle in Canterbury	No	No	Regional Council - via Resident Survey	No target as baseline data series does not exists. Intent is to implement monitoring via perceptions survey - scale = "Always safe", "Mostly safe, but not always", "Quite often safe but quite often unsafe", "Mostly unsafe, but not always", "Always unsafe". This approach is similar to other major regions.

Increased time spend travelling actively	Time spent walking & cycling - hours per capita per annum - Christchurch City	Increase to 100	Increase to 150	Regional Council - via analysis of MoT HTS data	Baseline data suggests current level of activity is around 70 hrs per annum, just over 10 minute per day on average. (60 hrs walking and 10 hrs cycling). 30 minutes exercise a day = 182 hrs per annum. Targets reflect that exercise is not just a transport related activity.
Increased time spend travelling actively	Time spent walking & cycling per capita per day - small urban areas	No	No	Regional Council - via analysis of MoT HTS data / other travel diary data	This indicator will take longer to develop, as HTS style travel diary surveys will need to be commissioned in urban areas outside Greater Christchurch. Viability and options for doing this will be explored as an action within the monitoring programme.
Increased proportion of the population regularly travelling by active means	Number of residents who walk/cycle for 30 minutes or more each day - Christchurch City	No	No	Regional Council - via analysis of MoT HTS data	This indicator is similar to "time spent walking / cycling per capita", so no target recommended to preserve balance across all targets. It is deemed important to track as an indicator, however, as there is a need to get MORE people active, rather than just the already active becoming even more active.
Increased proportion of the population regularly travelling by active means	Number of residents who walk/cycle for 30 minutes or more each day - small urban areas	No	No	Regional Council - via analysis of MoT HTS data / other travel diary data	This indicator will take longer to develop, as HTS style travel diary surveys will need to be commissioned in urban areas outside Greater Christchurch. Viability and options for doing this will be explored as an action within the monitoring programme. Other comments, as for Greater Christchurch.
Improved journey time reliability on the strategic transport network	Travel time variability on strategic road network within Greater Christchurch - AM peak	Less than 15% variability by 2023	Less than 15% variability by 2042	NZTA / Environment Canterbury / Christchurch City Council - Christchurch Travel Time Surveys	Between 2006 and 2010, variability has fluctuated between 14% and 20%, with no consistent downward trend evident. Variability will always be present due to traffic management systems, so no difference envisaged between interim and end-state targets.
Improved journey time reliability on the strategic transport network	Travel time variability on strategic road network within Greater Christchurch - PM peak	Less than 15% variability by 2023	Less than 15% variability by 2042	NZTA / Environment Canterbury / Christchurch City Council - Christchurch Travel Time Surveys	Between 2006 and 2010, variability has fluctuated between 14% and 20%, with no consistent downward trend evident. Variability will always be present due to traffic management systems, so no difference envisaged between interim and end-state targets. Separate target for PM peak, as drivers of congestion in Christchurch differ between peak periods.

Improved journey time reliability on the strategic transport network	Travel time variability on strategic road network within Greater Christchurch - inter-peak	Less than 10% variability by 2023	Less than 10% variability by 2042	NZTA / Environment Canterbury / Christchurch City Council - Christchurch Travel Time Surveys	Variability has decreased from above 15% in 2006 to around 10% by 2010. Target is more aggressive than AM/PM peak - reflects fact that system should not be designed to cope seamlessly with peak period loadings.
Improved journey time reliability on the strategic transport network	Level of service on regional strategic network outside Greater Christchurch	Level of Service C or better is maintained over life of strategy	Level of Service C or better is maintained over life of strategy	NZTA / RCAs via Annual Survey conducted by Environment Canterbury	Measured through annual survey of TAs and NZTA. Level of Service 'C' in the Highway Capacity Manual is defined as stable flow, but volumes are such that comfort and convenience is starting to decrease at certain times, particularly during peak periods.
Increased energy efficiency per trip	Total petrol sales per capita	Less than 600 / litres per capita by 2023	Less than 500 litres / capita by 2042	Regional Council, with fuel sales data supplied quarterly by Christchurch City Council, Waimakariri District Council and Timaru District Council	Current baseline is just below 700. 500 represents a 30% reduction in petrol purchase per person by 2042.
Increased energy efficiency per trip	Total diesel sales / Regional GDP	Reduce to 22 litres / $1000 GDP	Reduce to 20 litres / $1000 GDP	Environment Canterbury - via Infometrics Regional GDP data and TA fuel sales data	Stable relationship between 2000 and 2008 - 24 - 25.5 over period, with modest improvement in 2009 = 23.6. 22 and then 20 litres / $1000 GDP will represent a significant decoupling of the stable linkage seen through 2000's.
Increased energy efficiency per trip	Number of alternative fuel supply sites in the region (e.g. retail sites offering low biofuel blends or wholesale sites with high biofuel blends) Number of vehicles which can use high	No	No	Regional Council using data supplied by EECA	Public Transport MJ/pax. km - National baseline 2009: Car = 2.01, bus = 0.86, rail = 0.85. Freight Transport MJ/tonne km - National baseline 2009: Road freight = 3.6, Rail freight = 0.56. Monitoring indicator only, no targets envisaged. Data for indicators dependent upon successful development and ongoing supply from EECA.

	biofuel blends Number of electric vehicles				
Increased energy efficiency per trip	PT mode share for all trip legs - Greater Christchurch	No	No	Regional Council - via analysis of MoT HTS data	Monitoring indicator only, no target envisaged. Progress measured by progress towards other targets - e.g. Reduced single occupancy vehicle numbers will likely increase public transport mode share.
Increased energy efficiency per trip	Cycle mode share for all trip legs - Greater Christchurch	No	No	Regional Council - via analysis of MoT HTS data	Monitoring indicator only, no target envisaged. Progress measured by progress towards other targets - e.g. Reduced single occupancy vehicle numbers will likely increase cycle mode share.
Increased energy efficiency per trip	Percentage of single occupancy vehicle trips in Greater Christchurch	Reduce to 40% of all trip legs by 2023	Reduce to 30% of all trip legs by 2042	Regional Council - via analysis of MoT HTS data	In 2009/10, the share was 48%. NZTS target was 10% reduction by 2015 on 2007 base in Greater Christchurch context. Long term target of reduction to 30% of all trips deemed reasonable long term target, with interim target at mid-point. Measurement unit is 'trip legs' - as this is measureable from HTS, whereas trip kms require further manipulation.
Regional and inter-regional journey time reliability on key freight routes	Travel time variability on key intra-regional and inter-regional freight routes	No	No	Regional Council - via extension of NZTA Travel Time Survey methodology	A plan to assemble a baseline data set for this indicator will be incorporated into the monitoring programme.
Connectedness is enhanced	Percentage of households in Greater Christchurch within 10 minutes walk of a Key Activity Centre	No	No	Regional Council via accessibility modelling that is updated biannually to reflect walking network changes	A plan to assemble a baseline data set for this indicator will be incorporated into the monitoring programme.
Connectedness is enhanced	Percentage of households in Small Urban Areas within 10 minutes walk of a	No	No	Regional Council via accessibility modelling that is updated biannually to reflect walking	A plan to assemble a baseline data set for this indicator will be incorporated into the monitoring programme. Also need to define exactly what key activity centres should be in SUAs, as part of this analysis process.

	key activity centre			network changes	
Increased travel choices for households to access Key Activity Centres - Greater Christchurch	Percentage of households in Greater Christchurch within 30 min public transport trip or 10 min walk/cycle trip of a Key Activity Centre	No	No	Regional Council via accessibility modelling that is updated biannually to reflect PT, cycle and walking network changes	A plan to assemble a baseline data set for this indicator will be incorporated into the monitoring programme.
Increased travel choices for households to access Key Activity Centres - Small Urban Areas	Percentage of households in Small Urban Areas within 10 min walk/cycle of a key activity centre	No	No	Regional Council via accessibility modelling that is updated biannually to reflect PT, cycle and walking network changes	A plan to assemble a baseline data set for this indicator will be incorporated into the monitoring programme. Also need to define exactly what key activity centres should be in SUAs, as part of this analysis process.
Improved mobility for the transport disadvantaged	Number of Cantabrians reporting that they experienced transport disadvantage due to disability	No	No	Regional Council via residents survey	A plan to assemble a baseline data set for this indicator will be incorporated into the monitoring programme.
Improved mobility for the transport disadvantaged	Number of Cantabrians who do not have access to at least one mode of transport on a regular basis	No	No	Regional Council via residents survey	A plan to assemble a baseline data set for this indicator will be incorporated into the monitoring programme.

Appendix K – Significance Policy

Purpose

This policy is defined in order that the Canterbury Regional Land Transport St
2012 - 2042 complies with Section 106(2) of the Land Transport Managem
(LTMA). It determines how the Canterbury Regional Transport Committee (
whether any changes to the RLTS that are made during its lifetime have a sig
upon the strategy.

Determination of significance

The RTC will have sole discretion to decide whether a change to the RLTS is
nature.

Matters that will be considered in making an assessment of significance will inc

(a) Cost. The magnitude of the decision in terms of its net cost to the regio

(b) Outcomes. The extent to which the decision will have an adverse effec
outcomes being sought by the RLTS. A decision that will hinder the ac
outcomes will be more significant than one that that assists in achieving

(c) Community View. The extent to which the community's views on t
already known. If the community has already shown a clear pre
particular option then the decision to proceed with this option is less sig
decision to proceed with an option that is clearly not favoured by the
when the community's views are unknown.

(d) Practicality. The Regional Transport Committee aims to make policy
behalf of its communities in a well-informed, efficient and effective ma
not be achieved if the decision-making process is either unreasona
unreasonably slow. The RTC will therefore take into consideration the
magnitude of the decision when determining its significance.

(e) Precautionary Principle. Where the significance of a matter being co
decision being made is unclear or the matter is controversial then the R
the side of treating the issue as of more rather than less significance.

Appendix L – Legislative Context

This appendix describes the legislative requirements to which this Regional Land Transport Strategy (RLTS) must adhere. It also contains the larger context of strategies and other policy documents that the RLTS development has taken into account.

All regional councils are required by the Land Transport Management Act (LTMA) 2003[30] to produce a Regional Land Transport Strategy.

Under section 75 of the LTMA '*a regional transport committee must, when preparing a regional land transport strategy on behalf of a regional council,-*

(a) ensure that the regional land transport strategy-
- *(i) contributes to the aim of achieving an affordable, integrated, safe, responsive, and sustainable land transport system; and*
- *(ii) contributes to each of the following:*
  - *(A) assisting economic development:*
  - *(B) assisting safety and personal security:*
  - *(C) improving access and mobility:*
  - *(D) protecting and promoting public health:*
  - *(E) ensuring environmental sustainability; and*
- *(iii) is consistent with any—*
  - *(A) national land transport strategy; and*
  - *(B) relevant national policy statement or any relevant regional policy statement or regional plan that is for the time being in force under the Resource Management Act 1991; and*
- *(iv) avoids, to the extent reasonable in the circumstances, adverse effects on the environment; and*

(b) take into account—
- *(i) the relevant GPS; and*
- *(ii) any national energy efficiency and conservation strategy; and*
- *(iii) any relevant district plans.'*

Under section 76 of the LTMA *'when preparing a regional land transport strategy on behalf of a regional council, a regional transport committee must also take into account —*

(a) any guidelines issued by the Minister for regional land transport strategies; and
(b) take into account the land transport funding likely to be available within the region during the period covered by the strategy; and
(c) the views of affected communities; and
(d) the views of land transport network providers in the region; and
(e) the need to give early and full consideration to land transport options and alternatives in a way that contributes to the matters referred to in section 75(a)(iv), and paragraph (c); and
(f) the need to provide early and full opportunities for persons and organisations listed in section 78(1) to contribute to the development of those regional land transport strategies; and
(g) the need to take account of the relevant regional council's function under section 30(1)(gb) of the Resource Management Act 1991 to consider the strategic integration of transport infrastructure with land use through objectives, policies, and methods.'

Under section 77 of the LTMA *'a regional land transport strategy must contain the following matters:*

(a) inter-regional and intra-regional transport outcomes relevant to the region; and
(b) the strategic options for achieving those outcomes; and

[30] As amended by the Land Transport Management Amendment Act 2008.

(c) an assessment as to how the regional land transport strategy complies with sections 75 and 76; and
(d) a statement of any relevant regional economic or land-use considerations, and the likely funding of any land transport infrastructure associated with those considerations; and
(e) a demand management strategy; and
(f) an assessment of the appropriate role for each land transport mode in the region; and
(g) an assessment of the role of education and enforcement in contributing to the land transport outcomes; and
(h) [Repealed]
(i) a statement that identifies any strategic option for which co-operation is required with other regions; and
(j) a statement that identifies persons or organisations who should be involved in the further development of strategic options; and
(k) measurable targets to be achieved to meet the outcomes of the regional land transport strategy; and
(l) a statement provided by an independent auditor of how the process followed by the regional transport committee complied with the requirements of this Act; and
(m) a summary of the policy relating to significance adopted by the regional transport committee under section 106.'

The RLTS must be renewed at least once every six financial years, and cover a period of at least 30 financial years (section 74(a) of the LTMA 2003).

The requirement to include a regional passenger transport plan in the RLTS (LTMA section 77(h)) was repealed with the Public Transport Management Act 2008 (PTMA section 63(2)).

Government Policy Statement
The LTMA requires the Minister of Transport to issue a Government Policy Statement on land transport funding (GPS) every three years. A GPS will include the Government's overall short to medium-term impacts that the Crown wants to achieve, funding targets for the first 3 years, funding ranges for the first six years, and funding range forecasts for the following four years (for a total of 10 years).

The LTMA describes how the GPS relates to land transport planning and funding processes. The government's main priority in the 2009 GPS is to support national economic growth and productivity. It will do this by ensuring that national land transport funding is invested into infrastructure projects and transport services. Particularly by:
- investing in the State Highway network to move freight and people more efficiently
- generating better value for money from investment across all land transport activities
- enhancing the economic efficiency of individual projects.

The 2009 GPS places priority on investment impacts that contribute to economic growth and productivity, which are:
- improvements in the provision of infrastructure and services that enhance transport efficiency and lower the cost of transportation through:
  - improvements in journey time reliability
  - easing of severe congestion
  - more efficient freight supply chains
  - better use of existing transport capacity
- better access to markets, employment and areas that contribute to economic growth
- a secure and resilient transport network.

Other impacts included in the 2009 GPS are:

- reductions in deaths and serious injuries as a result of road crashes
- more transport choices, particularly for those with limited access to a car, where appropriate
- reduction in adverse environmental effects from land transport
- contributions to positive health outcomes.

The NZ Transport Agency must give effect to the GPS in developing the National Land Transport Programme and take account of the GPS when approving funding for activities. Regional land transport strategies must also take account of the GPS (LTMA section 75(b)(i)).

The 2009 GPS also identified seven roads of national significance throughout New Zealand that the government signalled will be the focus for investment in order to achieve economic growth and productivity over the next 10 years. One of these is the Christchurch motorways project.

Regional Policy Statement (RPS)
The Resource Management Act (RMA) 1991 requires every regional council to prepare a regional policy statement designed to promote sustainable management of natural and physical resources. A regional policy statement provides an overview of the resource management issues for the region and outlines the policies and methods required to achieve the integrated management of the region's natural and physical resources.

Section 75(a)(iii)(B) of the LTMA requires consistency between the RLTS and the relevant policies and methods set out in the RPS.

A number of regional plans have been developed under the strategic framework of the RPS. These plans contain objectives, policies and methods (including regional rules) that are consistent with the RPS. It should be noted that the detailed issues covered by the rules in these plans are likely to apply to land transport projects during the resource consent process.

Other relevant policy documents
The following section describes a number of other important policy documents which inform the development of the RLTS.

<u>New Zealand Transport Strategy (NZTS)</u>
The LTMA 2003 requires that every RLTS be consistent with any national land transport strategy (section 75(a)(iii)(A)).

Whilst there is no current national land transport strategy, the NZTS was released in 2008. The NZTS states that transport is a service, not an end in itself, which supports the community's access to the services they need. The vision of the NZTS is to ensure that "people and freight in New Zealand have access to an affordable, integrated, safe, responsive and sustainable transport system". The five objectives of the NZTS have become a legislative requirement for the RLTS through their inclusion in the LTMA.

<u>New Zealand Energy Efficiency and Conservation Strategy (NZEECS)</u>
The LTMA 2003 requires that every RLTS take into account any national energy efficiency and conservation strategy (section 75(b)(ii)).

The New Zealand Energy Efficiency and Conservation Strategy 2011-2016 (NZEECS) sets the Government's strategic direction for energy efficiency and renewable energy across all sectors. For the transport sector, the NZEECS sets the objectives for a more energy efficient transport system, with greater diversity of fuels and alternative vehicle technologies.

Greater Christchurch Urban Development Strategy (UDS)

The UDS is a non-statutory joint strategy adopted by Christchurch City Council, Selwyn District Council, Waimakariri District Council, the Canterbury Regional Council and the New Zealand Transport Agency. The UDS provides a common platform for growth in the Greater Christchurch area. It is a land use strategy with an outlook to 2041.

KiwiRail Turnaround Plan

In May 2010 the Minister of Transport announced the KiwiRail Turnaround Plan. It aims to ensure KiwiRail becomes a business capable of standing on its own feet financially. Implementing the plan involves five key areas of investment and work to increase rail traffic volumes and revenue, increased productivity, modernise assets and separate out the commercial elements of the business from the non-commercial.

A number of other policy documents provide relevant references for the development of a RLTS. These include, but are not limited to:

- New Zealand Transport Agency guidelines and planning documents
- Safer Journeys (2010) (Ministry of Transport)
- Getting there – on foot, by cycle (2005) (Ministry of Transport)
- Sea Change (2008) (Ministry of Transport)
- National Infrastructure Plan (2011) (Treasury National Infrastructure Unit)
- Long Term Council Community Plans for Councils within the region

Appendix M – Assessment of Land Transport Management Act Clauses 75, 76 and 77

Clause 75: Core requirements for Regional Land Transport Strategies		
	Requirement	**Assessment of strategy response**
75 3(a)(i)	The Regional Transport Committee (RTC) must ensure that the Regional Land Transport Strategy (RLTS) contributes to the aim of achieving an affordable, integrated, safe, responsive, and sustainable land transport system	The criteria used in assessing the strategic options reflected these criteria to ensure the contribution of the strategic direction was optimised. The Funding and Affordability chapter considers the delivery of an affordable system. The Strategic Direction chapter describes how the strategy considers integration between modes and integration with land-use. The implementation and funding chapters describe how the strategy will provide for safety improvements. By signalling investment that facilitates choice the transport system will be more responsive and sustainable.
75 (a)(ii)	The RTC must ensure that the RLTS contributes to each of the following: (a) assisting economic development: (b) assisting safety and personal security: (c) improving access and mobility: (d) protecting and promoting public health: (e) ensuring environmental sustainability.	The objectives and outcomes of the strategy very closely reflect these factors. The criteria used in assessing the strategic options were based on the outcomes. Therefore the assessment process ensured the contribution to these in the strategy was maximised.
75 3(a)(iii)(A)	The RTC must ensure that the RLTS is consistent with any national land transport strategy.	There is currently no national land transport strategy.
75 3(a)(iii)(B)	The RTC must ensure that the RLTS is consistent with any relevant national policy statement or any relevant regional policy statement or regional plan that is for the time being in force under the Resource Management Act 1991.	The New Zealand Coastal Policy Statement and the National Policy Statement on Electricity Transmission have been reviewed and are not considered to contain any matters with which the RLTS is inconsistent. The Canterbury Regional Policy Statement 1998 has been taken into account throughout the development of this strategy. The Proposed Canterbury Regional Policy Statement 2011 has also been reviewed. The RLTS is consistent with the current and proposed Regional Policy Statement. The focus of other regional plans is on the management of the natural environment with limited relevance to the RLTS.

75 3(a)(iv)	The RTC must ensure that the RLTS avoids, to the extent reasonable in the circumstances, adverse effects on the environment.	Ensuring an environmentally sustainable transport system is an objective of the strategy. Environmental effects were considered in the options analysis process to ensure the avoidance of adverse effects on the environment were given due consideration in the development of the strategic direction for the region.
75 3(b)(i)	The RTC must take into account the relevant GPS.	The GPS is taken into account throughout the Implementation and Funding and Affordability chapters and in Appendix L – Legislative Context.
75 3(b)(ii)	The RTC must take into account any national energy efficiency and conservation strategy.	There is currently no national energy efficiency and conservation strategy, however, the New Zealand Energy and Efficiency Strategy 2007 was taken into account.
75 3(b)(iii)	The RTC must take into account any relevant district plans.	District plans have been taken into account through involvement of district councillors on RTC and officers on the Transport Officers Group. A parallel independent review of the regions district plans was also undertaken to identify aspects that needed to be taken into account.
Clause 76: Other matters that must be taken into account		
	Matter	**Assessment of strategy response**
76 4(a)	When preparing the RLTS, the RTC must take into account any guidelines issued by the Minister for Regional Land Transport Strategies.	No guidelines have been issued by the Minister for Regional Land Transport Strategies.
76 4(b)	The RTC must take into account the land transport funding likely to be available within the region for implementing the strategy during the period covered by the strategy.	The Funding and Affordability chapter takes into account the land transport funding likely to be available in the period covered by the strategy.
76 4(c)	The RTC must take into account the views of affected communities.	A consultation process was completed in the issues identification stage. This is outlined in Appendix B – Strategy Development Process. The Regional Transport Officers Group has been involved throughout the process and was largely responsible for the analysis of strategic options. Other working groups and stakeholders representing affected communities have provided input at key stages. This draft strategy will be released for public comment applying the Local Government Act special consultative procedure, which will take into account the views of anyone that wishes to make a

		submission.
76 4(d)	The RTC must take into account the views of land transport network providers in the region.	The views of land transport network providers have been considered throughout the process at a governance level through the Regional Transport Committee and the Regional Land Transport Strategy Working Group and through a round of discussions with Councils in the issues identification stage and following the analysis of strategic options. Engagement with KiwiRail has occurred at an officer level.
76 4(e)	The RTC must take into account the need to give early and full consideration to land transport options and alternatives in a way that contributes to the avoidance of adverse effects on the environment, and the views of affected communities.	This was managed through a formalised strategic options analysis process. This process is described in Appendix B – Strategy Development Process.
76 4(f)	The RTC must take into account the need to provide early and full opportunities for persons and organisations listed in section 78(1) to contribute to the development of the RLTS.	The persons and organisations listed were involved in the early consultation on regional transport issues. Many have been involved at various other stages of the strategies development. They will all be contacted directly seeking comment on this draft strategy when it is released for consultation using the Local Government Act special consultative procedure.
76 4(g)	The RTC must take into account the need to take account of the relevant regional council's function under section 30(1)(gb) of the Resource Management Act 1991 to consider the strategic integration of transport infrastructure with land use through objectives, policies and methods.	The Strategic Direction chapter and Appendix E – Relevant Regional Economic and Land-use Considerations take into account the integration of transport and land use.
Clause 77: Contents of regional land transport strategies		
	Content item	**Assessment of strategy response**
77 (a)	The RLTS must contain inter-regional and intra-regional transport outcomes relevant to the region.	Outcomes are stated in the Outcomes chapter and described in detail in Appendix F – Regional Outcomes.
77 (b)	The RLTS must contain the strategic options for achieving those outcomes.	The strategic options tested in the strategy development process are outlined in Appendix B – Strategy Development Process.
77 (c)	The RLTS must contain an assessment as to how the RLTS complies with sections 75 and 76.	An assessment is included in this Appendix.
77 (d)	The RLTS must contain a statement of any relevant regional economic or land-use considerations, and the	Statement included in Appendix E – Relevant Regional Economic and Land-use Considerations.

	likely funding of any land transport infrastructure associated with those considerations.	
77 (e)	The RLTS must contain a demand management strategy.	A demand management strategy is included in Appendix H – Demand Management Strategy.
77 (f)	The RLTS must contain an assessment of the appropriate role for each land transport mode in the region.	The appropriate role for each mode is described in the Strategic Direction chapter.
77 (g)	The RLTS must contain an assessment of the role of education and enforcement in contributing to the land transport outcomes.	The role of education and enforcement is described in the Strategic Direction chapter.
77 (h)	Repealed	
77 (i)	The RLTS must contain a statement that identifies any strategic option for which co-operation is required with other regions.	Refer Appendix B – Strategy Development Process
77 (j)	The RLTS must contain a statement that identifies persons or organisations who should be involved in the further development of strategic options.	The Implementation chapter and Appendix G – Implementation Interventions set out the interventions that will give effect to the strategic option that forms the basis of the strategy. Appendix C – Persons and Organisations Involved in Strategy Implementation identifies those persons and organisations that should be involved in the delivery the strategy.
77 (k)	The RLTS must contain measurable targets to be achieved to meet the outcomes of the regional land transport strategy.	The Targets chapter contains the regional targets to be achieved to meet the outcomes of the strategy. Appendix J – Measurement of Targets and Monitoring Indicators describes how the targets are measurable.
77 (l)	The RLTS must contain a statement provided by an independent auditor of how the process followed by the RTC complied with the requirements of the Land Transport Management Act 2003.	This is contained in Appendix N – Statement from Process Auditor.
77 (m)	The RLTS must contain a summary of the policy relating to significance adopted by the regional transport committee under section 106.	This is contained in Appendix K – Significance Policy

Appendix N – Statement from Process Auditor

Report to the readers of the Canterbury Regional Land Transport Strategy 2012 – 2042

The Regional Transport Committee of the Canterbury Regional Council is required by the Land Transport Management Act 2003 (the Act), to prepare a regional land transport strategy. Section 77(l) of the Act requires that the strategy contain a statement from an independent auditor of how the process followed by the Committee complied with the requirements of the Act.

Opinion

In our opinion, the Regional Transport Committee has complied with the requirements of the Land Transport Management Act 2003 by:

- Appointing an independent process auditor;
- Receiving progress reports from Council staff and advisors on the development of the strategy, policy issues and legislative compliance;
- Considering policy options and issues with an open mind, in a structured and integrated way;
- Engaging with key stakeholders in the development of the strategy;
- Satisfying itself that that the strategy addresses, contains and complies with all matters required by the Act; and
- Carrying out consultation in accordance with the consultation principles and the special consultative procedure set out in the Local Government Act 2002.

Independence
Other than this engagement as process auditor, Participate Ltd has no relationship with or interest in the Canterbury Regional Council or the Regional Transport Committee.

Peter Winefield

Participate Ltd November 2011