

Annual Monitoring Report for 2003/04

Canterbury Regional Land Transport Strategy 2002 - 2007

Prepared under the Land Transport Act 1998

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Report No. U04/96





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58 Kilmore Street
PO Box 345
Christchurch
Phone (03) 365 3828
Fax (03) 365 3194

75 Church Street
PO Box 550
Timaru
Phone (03) 688 9069
Fax (03) 688 9067

Customer Services
Telephone 0800 EC INFO (0800 324 636)
Website: www.ecan.govt.nz

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1. Key Points for 2003/2004

Strategy Implementation: Key Points for 2003/2004

Transport planning and investment

The Canterbury Regional Land Transport Strategy was reviewed as required for its statutory renewal every three years. On June 9, the Regional Land Transport Committee adopted the Draft Canterbury Regional Land Transport Strategy 2005 – 2015 for public consultation. The revised draft strategy included the Draft Freight Action Plan and Draft Cycling in Canterbury: Strategy for the development of a regional network of cycle routes.

The Glasnevin (State Highway 1, Waipara) weigh bridge, vehicle compliance station and stock truck effluent disposal facility was completed and opened in June 2004. The Tinwald (Ashburton) stock truck effluent disposal facility was also constructed and is now operating.

Work progressed on the Normanby realignment project, south of Timaru. In Christchurch, Fendalton Road upgrade was completed and the Christchurch Main North Road four-laning (Stage 2) project started. This includes work on a new bridge west of, and alongside, the existing rail over bridge.

Christchurch City Council and Environment Canterbury started the second community travel behaviour change project. Two hundred and ninety two Avondale households were recruited and surveyed, with feedback information provided to participants in November 2004.

Christchurch City Council adopted the Metropolitan Christchurch Transport Statement. Waimakariri District Council prepared a draft pedestrian/cycling strategy and Timaru District Council progressed work on their Active Transport Strategy.

Passenger transport

Work towards developing a public transport strategy was undertaken for Timaru. For Christchurch, an integrated ticketing system (Metrocard) was introduced for public transport users. At the end of June 2004, approximately sixty thousand Metro Cards have been issued.

Road safety

The Canterbury region road safety report shows the total number of injury crashes increased slightly from last year. The total number of casualties also increased. There were 46 fatal crashes resulting in 54 deaths, with 1587 reported serious and minor casualties resulted from road crashes in the Canterbury region.

Christchurch City Council updated their Road Safety Strategy. The regional road safety forum on driver fatigue was convened by Environment Canterbury and attended by almost seventy participants.

Social cost of crashes in the Canterbury Region in 2003 was \$438 million (based on June 2002 crash costs).

2. Indicators Summary

Indicator	Trend from base year	Base year	Latest year
		1996	2001
(1) <i>Alternative Mode Share</i>	Down ¹ (-7%)	15%	14%
		2003	2004
(2) <i>Total Length of Bus Lanes</i>	No change	0.4 Km	0.4 Km
(3) <i>Total Length of Cycle Lanes</i>	Up (+5%)	198 Km	208 Km
(4) <i>Expenditure on Alternative Modes</i>	Up (+24%)	\$19 M	\$23.7M
(5) <i>Population Coverage by Bus Route</i>	No change	95%	95%
		2002	2004
(6) <i>Urban Public Passenger Transport Trips</i>	Up (+13%)	12.9 M	14.85 M
(7) <i>Public Passenger Service Quality</i>	Up (+3%)	79%	81%
(8) <i>Estimated Registered Vehicles in Region</i>	Up (+8%)	345,256	373,988
(16) <i>Perception of How Safe Are NZ Roads</i>	No change	79%	79%
(17) <i>Investment in Canterbury Roads</i>	Up (+31%)	\$87 M	\$114 million
		2002	Dec 2003²
(9) <i>Average Daily Traffic on Strategic Routes</i>	Up (+5%)	57,647	60,673
(10) <i>Heavy Vehicle Traffic on Strategic Routes</i>	Down (-10%)	4903	4394
(11) <i>Annual Per Capita Fuel Use (Petrol)</i>	Up (+2%)	727 l/person	743 l/person
(12) <i>Annual Per Capita Fuel Use (Diesel)</i>	Down (-1%)	631 l/person	626 l/person
(13) <i>Estimated Carbon Dioxide Emissions</i>	Up (+1%)	3.38 t/person	3.40 t/person
(14) <i>Road Deaths Per 100 000 People</i>	Up (+22%)	9	11
(15) <i>Road Injuries Per 100 000 People</i>	No change	310	310
		2003	2004
(18) <i>TDM Number of Participating Households</i>	Up (+132%)	194	452
(19) <i>TDM Number of Participating Business</i>	Up (+25%)	4	5
(20) <i>Number of Registered Goods Vehicles</i>	Up (+7%)	45,909	48,960
(21) <i>Total goods vehicle RUC tonne kms</i>	Up (+2%)	6,141 M	6,235 M
		2002	2003
(22) <i>Regional Ports Activity - Gross Weight</i>	Up (+7%)	4.64 M tonnes	4.95 M tonnes
(23) <i>Regional Ports Activity - Cargo Value</i>	Down (-5%)	\$7,407 M	\$7,052 M ³
(24) <i>Total Rail Freight Tonnes moved</i>	Up (+5%)	3.99 M tonnes	4.3 M tonnes

¹ For this indicator, the national census year of 1996 is the base year. The census work trip mode share indicator shows change to 2001. This indicator will be updated in 2007 following the 2006 national census.

² Data on traffic counts, fuel consumption, carbon dioxide and road crash statistics are only available for the calendar year to December 2003.

³ This value is provisional and may change when Statistics New Zealand publish final statistics.

3. Overview

Legal Requirements

Section 182 of the Land Transport Act 1998 requires regional councils that prepare a regional land transport strategy to prepare an annual report outlining the progress in implementing its strategy. This report must be submitted to the following parties by 30 September each year:

- The Land Transport Safety Authority
- The Transfund Board
- Transit New Zealand
- The Commissioner of Police
- The Secretary of Transport

This monitoring report covers the implementation of Canterbury Regional Land Transport Strategy 2002 – 2007 (RLTS) to 30 June 2004.

The information presented in this report is based largely on input from stakeholders throughout the region. This includes Territorial Local Authorities, Transit New Zealand, Rail operators, Transfund New Zealand, Land Transport Safety Authority, Road Safety Co-ordinators, as well as Environment Canterbury.

Canterbury Regional Land Transport Strategy 2002 – 2007

The strategy was adopted in March 2002 and sets the long-term land transport policy direction for the region. This policy framework is articulated in a vision and set of values specified in eight goal areas.

The strategy vision is to have and enjoy the best possible quality of life. Our quality of life is supported by a land transport system that:

- provides **equitable access** for all sectors of the community
- supports a thriving **economy**
- promotes a **social** environment which is safe and supportive
- is consistent with a healthy, pleasant and pollution free **environment**
- is **safe** to use
- involves community **participation** in land transport decision making
- is part of an **integrated** planning framework
- is **innovative** and responsive to change

The strategy takes this policy direction and provides an integrated package of transport measures based upon the five Key Result Areas.

Reporting Land Transport Monitoring Data

The suite of indicators developed to assess the implementation of the Strategy's policies, methods and activities have been updated for 2003/04.

These indicators monitor the Strategy's Key Result Areas and quantify change in key variables for each area (see Appendix A for a full description of each indicator). Over time, a better understanding of how each Key Result Area has contributed to achieving the Strategy's Vision will emerge through the monitoring programme. In this way, the

effectiveness of the Strategy can be monitored and new directions established as necessary. This approach recognises the Strategy as a "living document" that enables the enhancement of our quality of life by evolving over time.

It must be noted that some data sets apply to the July to June 2004 financial year, while others, such as Land Transport Safety Authority crash data, applies to the calendar year up to December 2003.

Why use indicators?

Indicators are pieces of information that reveal and specify the current status of different parts of a system. For example, the infant mortality rate is a commonly used indicator to monitor the health of a community. An infant mortality rate that is decreasing over time would reflect a community improving its general health and well-being. This one indicator, however, does not shed any light on what is causing this change. It would be difficult to attribute this change to improved health services without indicators providing supporting evidence. Therefore, indicators such as per capita dollars spent on infant paediatric care or the number of new community-based health programmes can be used to gather the necessary information on the key policy and project inputs to the system. It is important to remember that indicators only give partial knowledge of the causal factors driving change so it is desirable to use a number of indicators. The use of a suite of indicators monitoring both policy and project inputs and key system changes allows a more accurate understanding of how and why the system is changing. As this example illustrates, careful selection of the key indicators is crucial to help understand changes in the land transport system.

Further analysis of additional monitoring data, including breakdowns by territorial authority boundaries and the base data to produce this annual monitoring report's regional indicators, will be presented in a supporting technical report. This technical report will be available from Environment Canterbury at the end of the financial year.

Annual Monitoring Report Improvements

Environment Canterbury is striving to improve the monitoring work it undertakes as part of its requirements under the Land Transport Act and as set out in the Regional Land Transport Strategy.

Improvements to the 2003/04 Annual Monitoring Report include:

- Interim comments on progress towards 2011 Strategy targets
- Summary indicator table
- Report widened to include annual reporting on transport expenditure
- A robust monitoring survey has been developed to gather data on public agency transport expenditure and collection of revenue

4. Canterbury Regional Activity Profile

The Canterbury Regional Land Transport Strategy (RLTS) aims to identify the land transport needs of the Canterbury community and how those needs are to be met by the use of roads, rail, public transport, freight transport, cycling and walking. The overall demand for land transport is a function of the households and industries that exist within and beyond the Canterbury region.

In terms of personal travel it is the *household* that generates the demand for transport. The more households, the more travel demand generated. Similarly, the more people within a household, the more travel that is likely to be generated. The choice of mode for that travel is then dependant upon the availability of various travel modes, such as access to public transport, cycle ownership or more significantly in recent times, the availability of a motor vehicle. As vehicle availability has increased, so too has the use of the private motor vehicle as a means of transport. The result of increased motor vehicle use can be seen in increasing traffic volumes, fuel use and vehicle emissions. These vehicle usage indicators are reported in Section 7.

The other generator of travel demand is that required to support business within the region. The level of employment in the region and the amount produced give an indication of what the resultant demand might be. While Canterbury is a key agricultural producing region of New Zealand, it also supports a significant manufacturing sector and other supporting services. Tourist attractions, such as Aoraki (Mt Cook), Lake Tekapo, Hanmer Springs and Banks Peninsula, also generate significant levels of activity within Canterbury.

The combination of personal and business activity creates the day-to-day need for transport within Canterbury. The following demographic profile of Canterbury therefore sets the scene for the land transport indicators reported later.

Census statistics on various population and demographic trends

Canterbury Totals*	1991	1996	2001	Trend from 1996
Total occupied dwellings	162,045	176,256	187,584	Up
Usually resident population (URP)	437,664	468,429	480,963	Up
URP aged 15yrs+	347,742	372,909	383,874	Up
URP aged 15yrs+ gainfully employed	184,293	219,564	234,216	Up
Persons per household	2.70	2.66	2.56	Down
Employees per household	1.14	1.25	1.25	No change
% Households with access to motor vehicle	88.5%	88.9%	90.5%	Up
Est. Vehicles per household [^]	1.45	1.51	1.58	Up
Est. Vehicles per 1000 Population [^]	537	570	615	Up
Workplace Activity				
Workplace Jobs (ex JTW)			191,952	

Tourist Activity				
% Overseas visitors on Census Night			2.8%	
* Includes only the Waitaki District area within the Canterbury region				
^ Assumes 3.1 vehicles for households with 3+ and applies the average vehicles/HH to those not specified				

Additional data sets

Other indicators	2001	2002	2003
Canterbury Estimated Residential Population ⁴	496,700	503,600	512,600
Canterbury economic activity index ⁵	155.4	164.4	169.8
New Zealand economic activity index ⁵	145.9	153	157.1
Ports Activity (gross weight in tonnes) ⁶	4.10 million t	4.64 million t	4.95 million t
Ports Activity (cargo by value in NZ dollars) ⁷	\$7,345 million	\$7,407 million	\$7,052 million
Price of regular fuel (cents/litre) ⁸	115.1 cents/l	107.6 cents/l	98.6 cents/l

⁴ Estimated residential population figures are sourced from Statistics New Zealand. These estimated residential population figures includes adjustments for net census undercount and New Zealand residents temporarily overseas on census night. It is also updated for population changes due to births, deaths and net migration.

⁵ This is a measure of economic activity including business and consumer confidence, retail sales, new motor vehicle registrations, regional exports, registered unemployment, building permits, real estate turnover, job adverts and results from Statistics New Zealand's accommodation and household labour surveys. The index is adjusted for inflation and set to base year = 1987. Source: National Bank NZ.

⁶ Overseas cargo statistics record the gross weight of all goods loaded or unloaded at Prime Port and Lyttelton seaports and Christchurch International Airport. Source: Statistics New Zealand – data from customs entries.

⁷ Overseas cargo statistics record the value of all goods loaded and unloaded at Prime Port and Lyttelton seaports and Christchurch International Airport. Exports are valued as free on board and shown in New Zealand dollars. Imports are valued at cost including insurance and freight and shown in New Zealand dollars. Note the 2003 value is provisional subject to confirmation by Statistics New Zealand – data from customs entries.

⁸ Retail price (Real) for regular unleaded petrol adjusted using CPI inflation figures (for March year 2003 prices), price figure taken at June for each year. Source: New Zealand Energy Data file, Ministry of Economic Development, January 2004.

5. Region’s land transport expenditure

A total of \$187M public expenditure on land transport has been identified for 2002/03⁹. As presented in Figure 1, over \$120M was spent on roads and the provision of road services, with the balance comprising expenditure on public transport, road safety, pedestrian facilities, parking, technical services associated with transport, and cycling. Canterbury’s transport revenue sources are presented in Figure 2. This shows about \$80M was raised through local rates, with the remainder provided by central government and other sources.

Figure 1: Canterbury region land transport expenditure by category

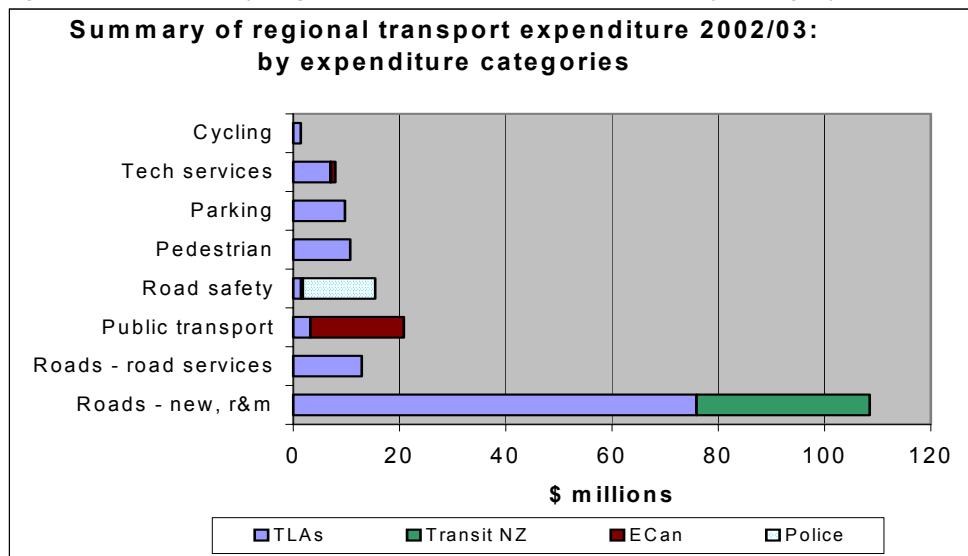
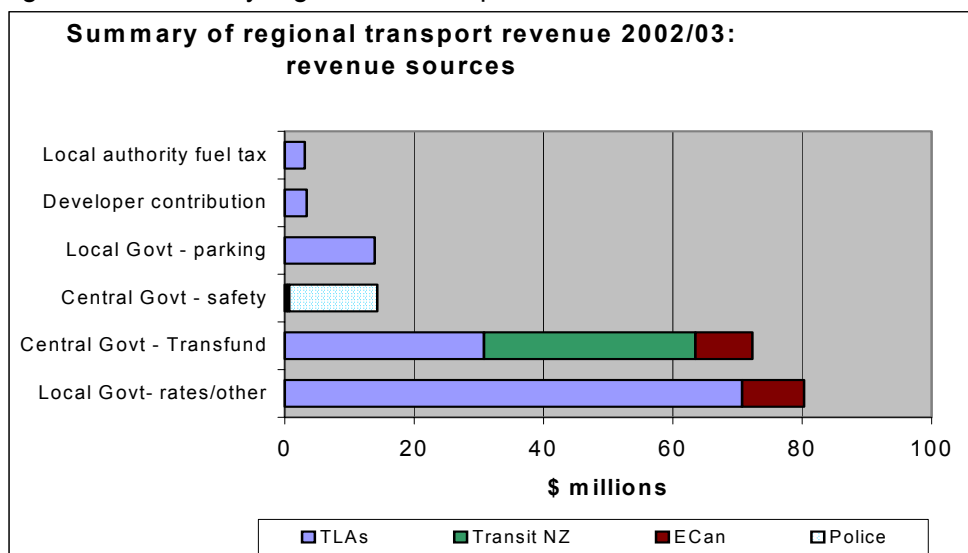


Figure 2: Canterbury region land transport revenue sources



⁹ Source: Unpublished Regional Land Transport Expenditure Study, Ian McChesney, June 2004.

6. Achieving the Vision - progress towards targets

The Canterbury Regional Land Transport Strategy aims to achieve the best possible quality of life through a transport system that makes Canterbury a great place to live, work, play, visit and invest in. The RLTS identifies a number of targets that the organisations collectively responsible for land transport provision strive towards. These were set during the visioning and development stages of the RLTS to monitor progress towards the strategy goals. Some of the targets set are based upon the analytical tools used to evaluate the strategy as opposed to measurable data available on an annual basis. These tools are typically updated following the collection of extensive data that coincides with each Census. For this reason, it is not possible to formally report on many targets until around the 2006/07 annual monitoring report.

In the meantime, an indication of trends in the key target areas is provided below. These trends must be considered for the years since the current Strategy was adopted in 2002.

6.1 Key Result Area: Alternative Modes

Alternative modes

An accurate assessment of mode share of all trips requires a statistical sample of household travel patterns. In 1991 a household travel survey was undertaken for the Christchurch Transport Study and in 1997/98 the Land Transport Safety Authority (LTSA) completed a similar survey. The LTSA have recently instigated a rolling household travel survey programme that will yield sufficient data on Canterbury travel patterns after about 3 years. A further comprehensive household survey is planned to be undertaken in 2006 for the Christchurch transport model update. These surveys will provide data to monitor progress against the above targets.

Therefore, no formal progress towards these targets is reported, however the following trends are offered. Other indicators that reflect progress in the policy area that support alternative modes are reported in the indicators section.

Christchurch Targets for 2011	Trend
12 percent of all trips (excluding walking trips) made by cycle. (In 1996, 6 percent of total trips by car, cycle and public passenger transport were made by cycle.)	<i>2001 Census journey to work shows no gain towards this target</i>
6 percent of all trips (excluding walking trips) made by public passenger transport. (In 1996, 3 percent of all trips made by car, cycle and public passenger transport were by public passenger transport.)	<i>Passenger growth numbers indicate that gains are being made towards this target.</i>

Discussion

The utilisation of cycling and public transport requires that the provision of facilities and services for these modes needs to be of a high standard before significant increases in numbers will be seen. Christchurch City Council is actively implementing their Cycling Strategy but there is still some way to go before a complete cycling network is in place to a standard that will encourage the gains aimed for. Like a water or electricity network, the flow cannot occur until the last link is in place.

The growth in public transport usage is a direct result from the concerted efforts of Environment Canterbury, Christchurch City Council and bus operators to improve not only the service provision but the whole image of public transport. There is a substantial network in place and the introduction of the Metrocard (smartcard) makes passenger transfers from one service to another both quick and seamless. The overall system provides access to within 500m of over 95% of households within the Christchurch area.

6.2 Key Result Area: Roads: Infrastructure, Safety and Environment

Traffic Congestion

Region Target for 2011	Trend from 2002
No congestion outside Christchurch City.	<i>Traffic continues to increase but congestion is not considered an issue</i>

The RLTS recommends that the minimum level of service outside of Christchurch City should be “C” during peak periods but states that this will depend upon the social, environmental, safety and economic factors appropriate to each location. The traffic indicators around the region show that traffic volumes are continuing to increase. At a few locations some council’s are indicating that these traffic volumes are leading to higher levels of congestion but these are not yet considered a significant issue.

Christchurch Targets for 2011	Trend from 2002
Contain the amount of congested road within Christchurch City during peak periods to 40 lane kilometres or less. <i>(Based on CTS transport model analysis)</i>	<i>Traffic continues to increase and congestion is considered to be worsening</i>
No congestion within Christchurch City outside peak periods (7-9am and 4-6pm).	<i>Traffic continues to increase but congestion is not considered an issue</i>

Discussion

The methodology used to set these targets is based upon the CTS transport model of the metropolitan Christchurch area. This model is developed from the 5 yearly Census night information so cannot measure changes on a year-by-year basis. Given that traffic congestion is related to the level of traffic on the road network and the resultant travel speeds there are a couple of indicators that can show whether traffic congestion is likely to be worsening or not.

Traffic flows at selected Christchurch sites (NEW INDICATOR)

A selection of seven Transit New Zealand control traffic count sites within the metropolitan Christchurch area gives an indication of how traffic flows are changing over time. This does not give the total picture but does give an indication of resultant traffic levels. At these same sites the original CTS model analysis showed that without the implementation of the RLTS (i.e. Business as Usual), traffic would grow at around 2.8% per annum between 1996 and 2011. With this level of traffic growth the model analysis

indicated that traffic congestion would rise from 28 lane kilometres in 1996 to around 78 lane kilometres in 2011. The target set in the RLTS for the year 2011 is 40 lane kilometres and is to be achieved through a combination of targeted infrastructure investment, demand management and personal travel behaviour change initiatives to encourage more efficient vehicle use and a higher utilisation of walking, cycling and public transport. These latter initiatives imply that traffic growth would need to be considerably less than the 2.8% per annum to meet the identified target.

The observed traffic flows at the seven Transit sites in 1996 summed to 136,100. At 2003 the observed traffic flows have risen to 159,213 equating to around 2.4% per annum growth. It is likely, therefore, that the RLTS is not yet making much progress towards the desired targets. This is not surprising given the early stages of the strategy implementation. The traffic flows since 1996 and the corresponding indicator from 2002 are shown in the figures below.

Figure 3: Annual average daily traffic volumes at Christchurch control sites since 1996

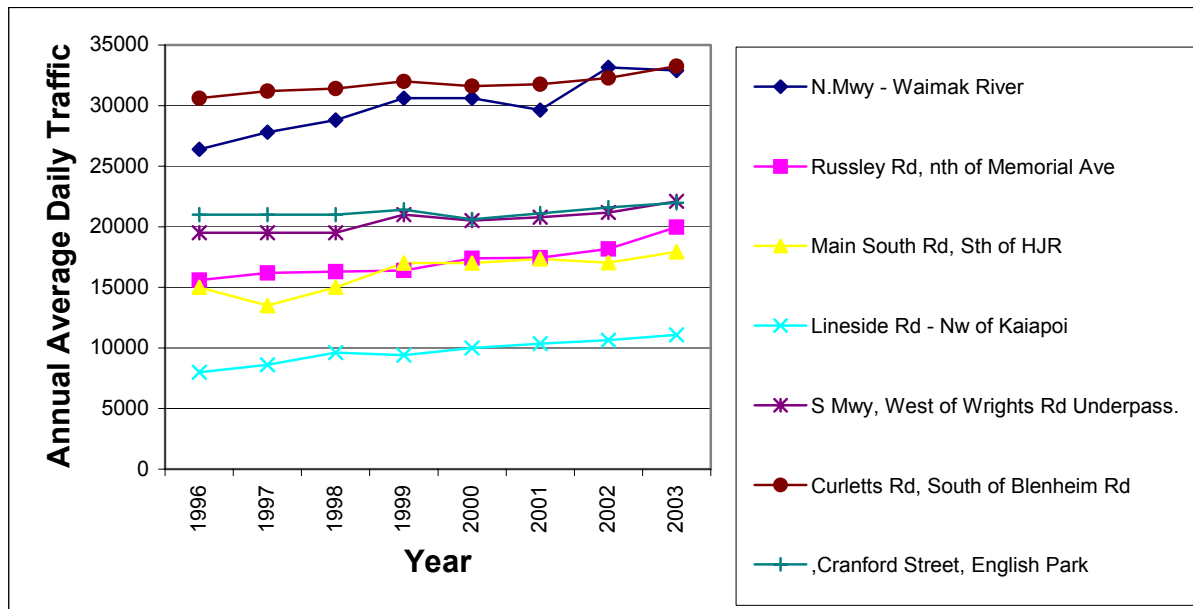
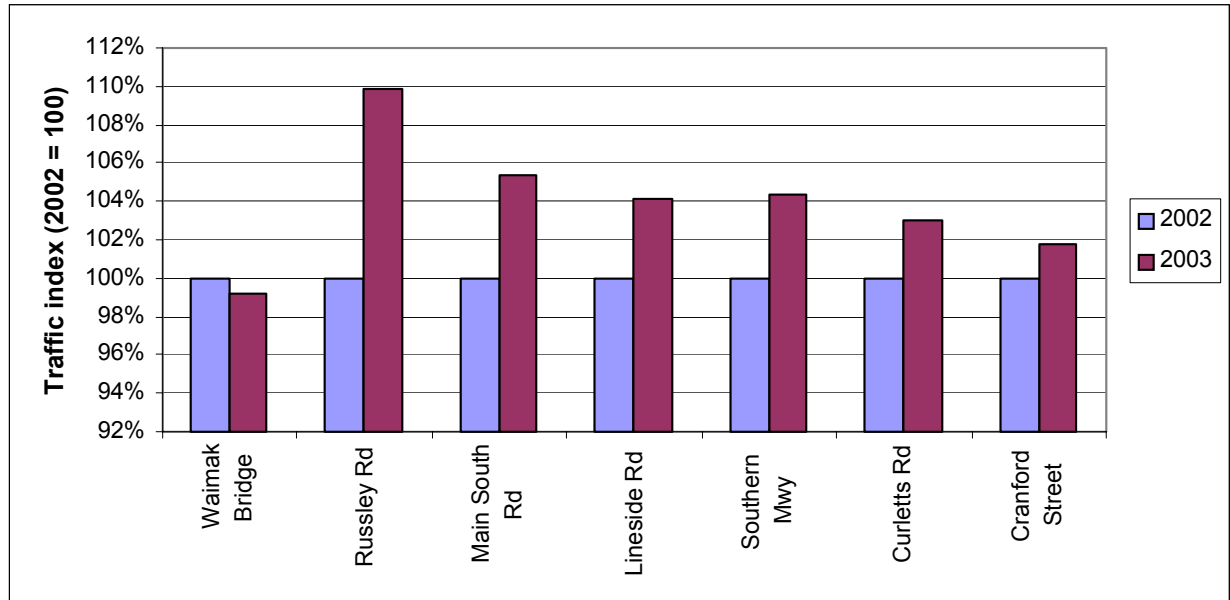


Figure 4: Traffic count indices for selected Christchurch State Highways (base 2002 = 100)



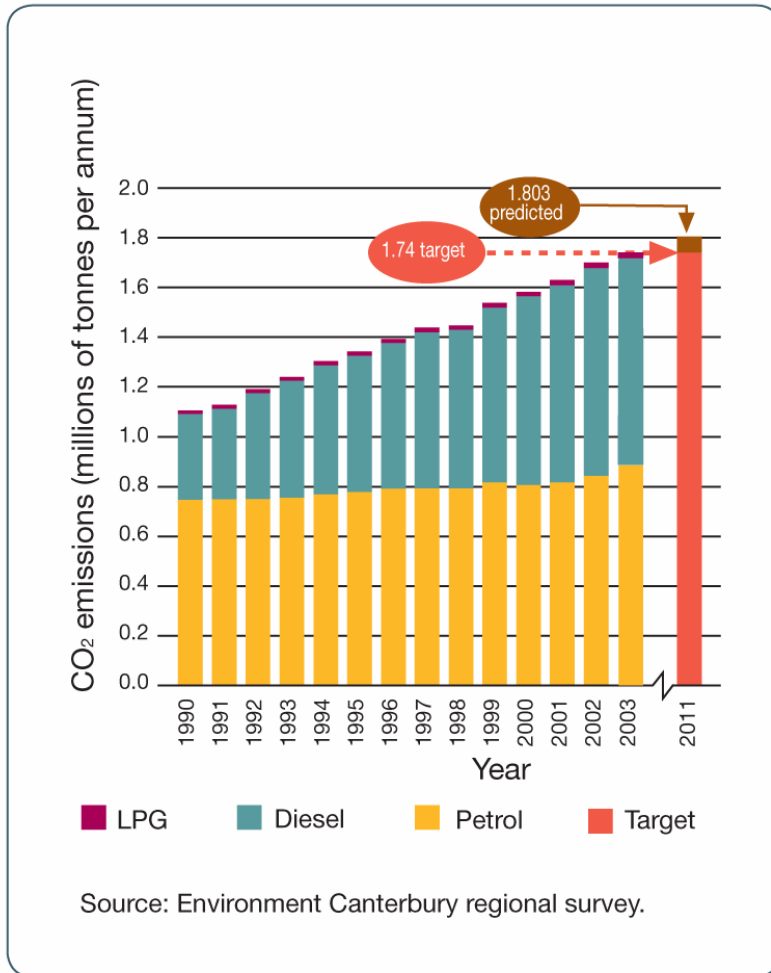
Environment

Region Target for 2011	Trend from 2001
<i>Carbon dioxide emissions are contained to within 10 percent of 2001 levels at 2011 (predicted growth to 2011 = 30 percent).</i>	<i>Carbon dioxide emissions are increasing</i>
Maintain or improve local air quality with respect to motor vehicle emissions.	<i>No local air quality testing available at this stage</i>

Discussion

The indicator monitoring programme identifies the amount of fossil fuel being sold within the Canterbury region. From this, the level of carbon dioxide emissions is calculated. The calculation for 2003/04 shows that the amount of carbon dioxide produced from land transport has reached the target level expected at 2011. As the population and economy of Canterbury continues to grow, so to does the demand for travel. When this travel is made by motorised vehicles the fuel use and carbon dioxide emissions will naturally increase. The RLTS aims to reduce the growth in motor vehicle travel in the long term and the introduction of more efficient motor vehicles will reduce the growth in the amount of carbon dioxide emitted. In the meantime, carbon dioxide emissions are exceeding the targeted levels.

Figure 5: Carbon dioxide emissions from land transport



Safety

Region Target for 2011	Trend from 2002
Reduce deaths from road crashes to 6 per 100,000 people or better.	Slight increase
Reduce serious injuries from road crashes to 125 per 100,000 people or better	No change

Discussion

Since the 1990's deaths and injuries from road crashes have been steadily declining. In fact, during 2000 deaths from road crashes met the 2011 target of six per 100,000 people. Since then the number of deaths and injuries in any particular year have been fluctuating. It is evident that for injuries, in particular, there is still a lot to be done if we are to meet the targets aimed for.

Figure 6: Road crash deaths in Canterbury

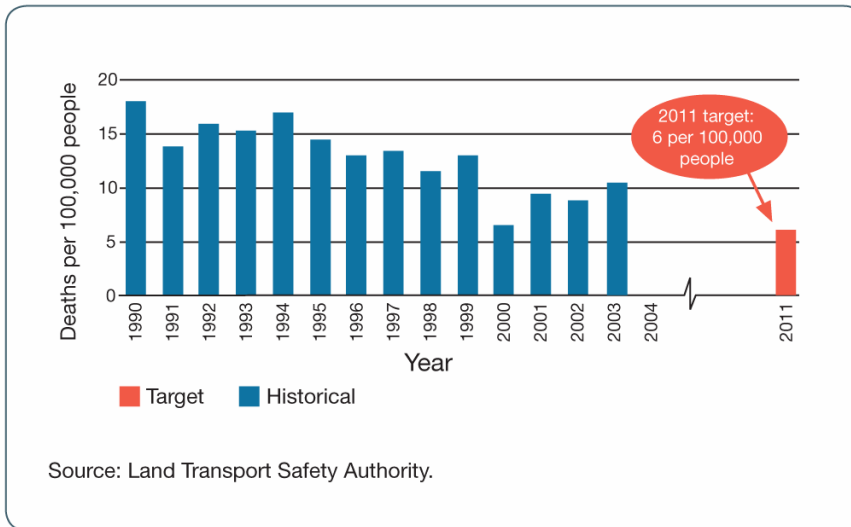
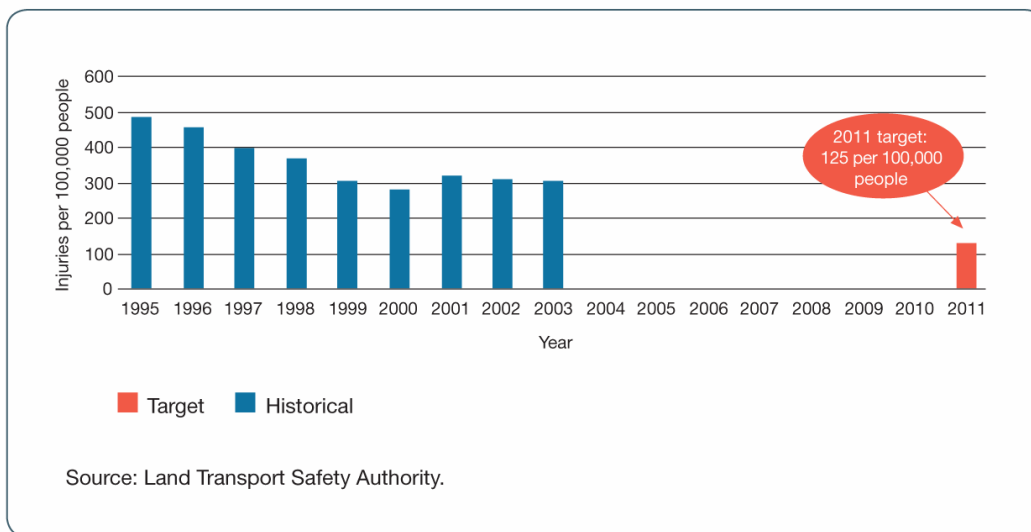


Figure 7: Road crash injuries in Canterbury



6.3 Key Result Area: Demand Management

Travel behaviour change

Target	Trend from 2001
Reduce motor vehicle travel by an average of 10% in organisations or households where demand management programmes are applied.	<i>Average over 10% reduction in Business Travel Plan Trials 7% reduction in Household trials</i>

Discussion

Demand management is intended to make more efficient use of the existing land transport infrastructure. The RLTS proposes two approaches to this, firstly to promote personal travel behaviour change, and secondly to introduce restraints through parking management and pricing mechanisms. To date, only the first approach has been trailed at a few locations around Christchurch.

Business travel plans work with the employees of those businesses to encourage greater use of walking, cycling, public transport and more efficient motor vehicle use through measures like ride sharing or tele-working. Trial projects have been undertaken at Environment Canterbury, Christchurch City Council, Christchurch Polytechnic Institute of Technology and consultancy firm MWH. The results have shown that motor vehicle use has been reduced by around 10%. This is a particularly encouraging result given that this travel tends to occur during the peak traffic periods of the day. In addition to these trials plans, the University of Canterbury is also undertaking a business travel plan.

Household travel plans have been trailed through the Go Smarter Community Project in East Papanui and a second project underway in Avondale. The results of the East Papanui project indicated around a 7% reduction in motor vehicle trips amongst the participants. This reduction tended to be more widespread than the peak period reductions seen with the business travel plans.

Mode Split/Vehicle Occupancy

Region Target	Trend from 2001
Reduce the number of single occupant vehicles during peak times.	<i>No significant change</i>
Christchurch Target	Trend from 2001
Reduce the mode share proportion of private motor vehicles travelling during peak periods in greater Christchurch.	<i>No significant change</i>

Discussion

The RLTS aims to achieve more efficient motor vehicle use by encouraging greater vehicle occupancy. While the target to reduce the number of single occupant vehicles during peak times is indicated as being regional, it is most applicable within the larger urban centres, particularly within and around Christchurch city.

The measure of vehicle occupancy involves manual surveys at selected sites where both the type of vehicle and the number of occupants within those vehicles, or on foot/cycle, are recorded. In their most rigorous form, these surveys must capture all roads that cross a particular screenline, say the four avenues into the Christchurch CBD. Alternatively they can capture the crossings of a particular geographic feature, such as a river or a railway line. Within Christchurch, there are no easy screenlines to measure and hence the task is extensive and costly. As a result these surveys have only been undertaken to coincide with major transportation studies, such as for the development of the CTS transport model in the early 1990's.

A selection of sites surveyed for the CTS transport study have, as an interim measure to assess possible changes, been resurveyed in the city bound direction of the morning peak period. When comparing these to the 1991 values there appears to be little change.

A full screenline survey is anticipated with the CTS model update coinciding with the 2006 census survey. A comprehensive Household Interview Survey will also be undertaken that will give further evidence of the mode share of all trips undertaken by the surveyed households. This will supplement the information being collected through the Land Transport Safety Authority's household travel survey.

7. Transport indicators

The following sections report progress on implementing the Strategy based upon its Key Result Areas. Appendix A includes a detailed description of each indicator.

71. Alternative Modes

The following indicators reflect progress in the policy area that support alternative modes and represents the intent and direction of the Regional Land Transport Strategy.

Indicator	Base	Latest value	Trend
	1996	2001	from 1996
(1) <i>Alternative Mode Share – Census Work Trips</i>	15%	14%	Down ¹⁰ (-7%)
	2003	2004	from 2003
(2) <i>Total Length of Bus Lanes</i>	0.4 Km	0.4 Km	No change
(3) <i>Total Length of Cycle Lanes</i>	198 Km	208 Km	Up (+5%)
(4) <i>Estimated Expenditure on Alternative Modes</i>	\$19 M	\$23.7 M	Up (+24%)
(5) <i>Population Coverage by Bus Route</i>	95%	95%	No change
	2002	2004	from 2002
(6) <i>Urban Public Passenger Transport Trips</i>	12.9 M	14.85 M	Up (+13%)
(7) <i>Perception of Public Passenger Service Quality</i>	79%	81%	Up (+3%)

Discussion

Alternative Mode Share shows for the journey to work census mode-share split that 14% of people choose walking, cycling and public transport. This is down from 15% for 1996. To reach the targets for alternative modes, agencies involved in providing services and infrastructure in support of walking, cycling and public transport have a challenge ahead of them.

An idea of the level of infrastructure allocated for cycle and bus modes is provided with the reporting of infrastructure provision indicators (208 km for cycle lanes and 0.4 km for bus lanes). It is hoped recording change in *Cycle/Bus Lane Length* over time may give an indication of relative investment in alternative mode infrastructure. However, it is important to note that while extra infrastructure will be useful, this infrastructure must be of good quality to be most effective.

The *Estimated Expenditure* indicator reports on the relative amount of financial support for alternative modes (figures were unavailable or difficult to calculate for walking and rail, hence these two modes are excluded). For the fiscal year to 2004, an estimated \$23.7 million was invested in specific infrastructure and service provision to support cycling and public passenger transport in Canterbury.

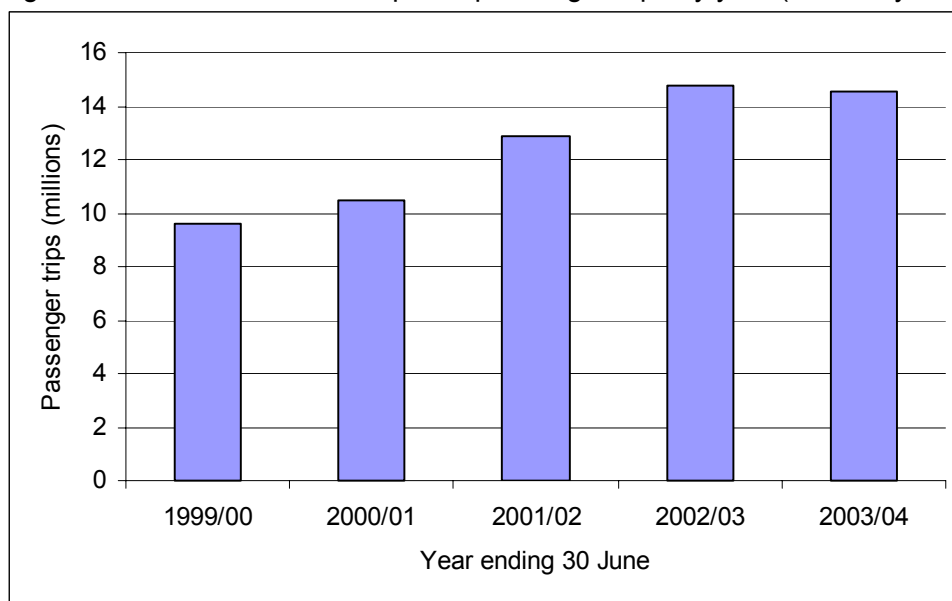
The next indicator offers a guide to Christchurch City population's physical distance from bus routes, thus providing an indication of the relative ease (in terms of distance) to

¹⁰ For this indicator, the national census year of 1996 is the base year. The census work trip mode share indicator shows change to 2001. This indicator will be updated in 2007 following the 2006 national census.

access a bus service. For 2004, the *Population Coverage by Christchurch Bus Routes* indicates that 95% of residents are within 500 metres of a route – no change from last year. This is in line with the service standards set in the Regional Passenger Transport Plan.

The total number of *Urban Public Passengers Trips* is an indicator of the use of public passenger transport (see Figure 8 for a graph of public passenger transport patronage changes over the last five years). The total number of passenger trips taken on the Canterbury public passenger transport system (including school services) was 14.85 million for the year ended June 2004.

Figure 8: Greater Christchurch public passenger trips by year (last five years)



An understanding of public transport user experience provides an indicator that is a direct account of user satisfaction. For 2004, the user *Perception of Passenger Service Quality* indicator remained at 81%, reflecting high user satisfaction with the bus service provision in Christchurch.

7.2 Roads: Infrastructure, Safety and Environment

The following indicators reflect progress in the policy area that support roads, safety and environment and reflects the intent and direction of the Regional Land Transport Strategy.

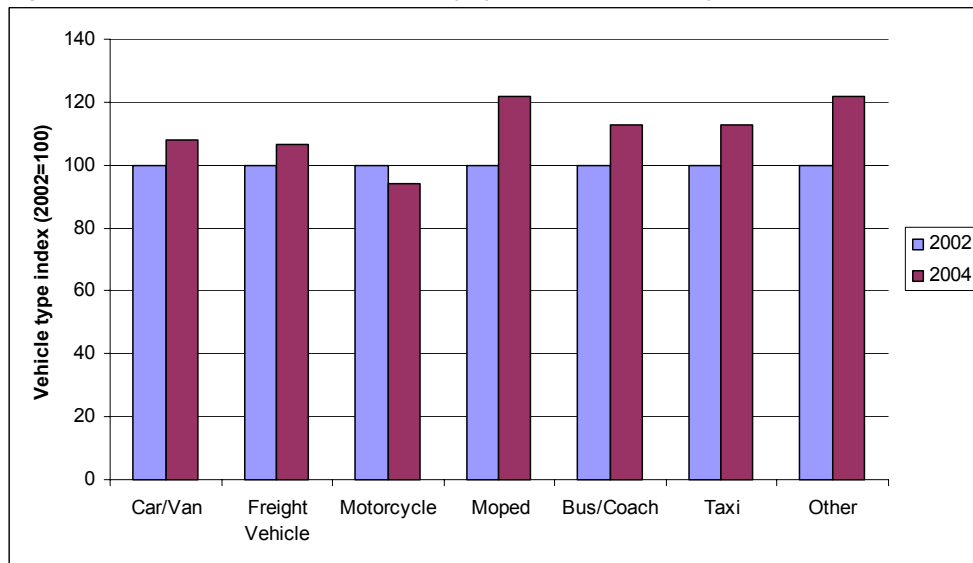
Indicator	Base	Latest value	Trend
	2002	2004	from 2002
(8) <i>Estimated Registered Vehicles in Region</i>	345,256	373,988	Up (+8%)
(16) <i>Perception of How Safe Are NZ Roads</i>	79%	79%	No change ¹³
(17) <i>Investment in Canterbury Roads</i>	\$87 M	\$114 million	Up (+31%)
(Indicators using calendar year data)	Dec 2002	Dec 2003¹¹	
(9) <i>Average Daily Traffic on Strategic Routes</i>	57,647	60,673	Up (+5%)
(10) <i>Heavy Vehicle Traffic on Strategic Routes</i>	4903	4394	Down (-10%)
(11) <i>Annual Per Capita Fuel Use (Petrol)</i>	727 l/person	743 l/person	Up (+2%)
(12) <i>Annual Per Capita Fuel Use (Diesel)</i>	631 l/person	626 l/person	Down (-1%)
(13) <i>Estimated Carbon Dioxide Emissions</i>	3.38 t/person	3.40 t/person	Up (+1%)
(14) <i>Road Deaths Per 100 000 People</i>	9	11	Up (+22%)
(15) <i>Road Injuries Per 100 000 People</i>	310	310	No change

Discussion

The indicator programme for the key result area Roads: Infrastructure, Safety and Environment sets out a series of indicators that encompass key motor vehicle based statistics and extends to reporting vehicular effects on the community and environment. The first indicator *Estimated Registered Vehicles* draws on an annual measure of change in Canterbury's vehicle fleet composition. This is a coarse indicator that presents gross changes in total vehicle availability. A more in-depth analysis of the raw data is graphed in Figure 9. This shows a proportional change by each vehicle type indexed to 2002. It should be noted that the car/van category is by far the largest group covering 80% of all registered vehicles, with freight/goods vehicles at 13% being the next biggest.

¹¹Data on traffic counts, fuel consumption and road crashes is only available for the calendar year to December 2003.

Figure 9: Licensed vehicle indices by type for Canterbury (base 2002 = 100)



While the first indicator (*Estimated Registered Vehicles*) shows change in vehicle availability, the next two indicators shed light on actual vehicle use. The *Average Daily Traffic on Strategic Routes* indicator gives a measure of growth in vehicle numbers on different parts of the road network. It is reported as an average change in a base year volume set at 2002 to reflect traffic growth over the life of the Strategy. The seven locations are the same roads shown on Figure 10.

Figure 10: Annual average daily traffic volumes over the last 10 years

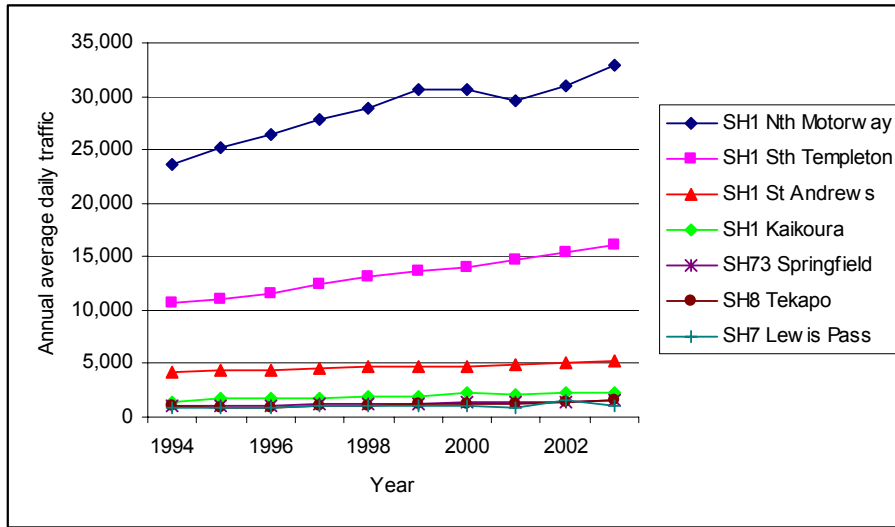
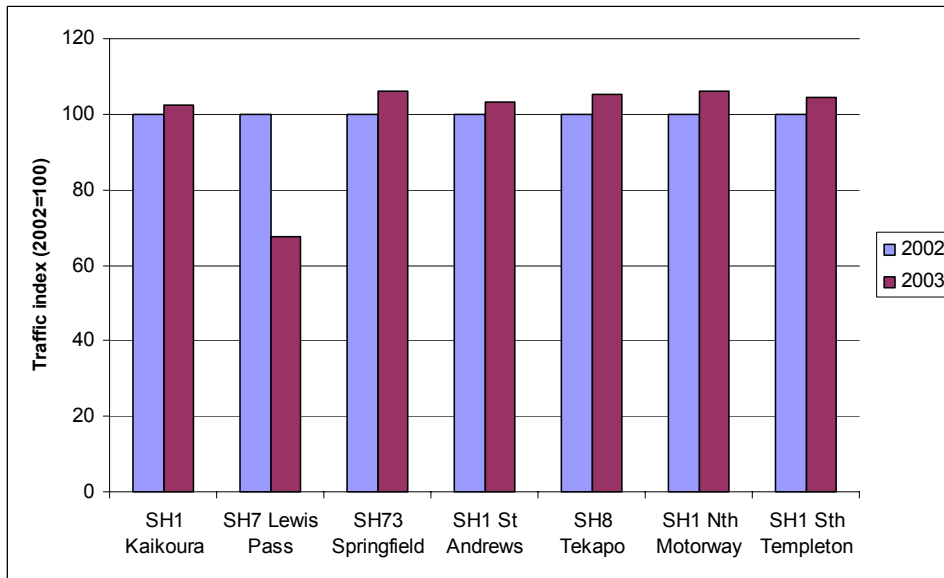


Figure 11 presents traffic volume changes per road indexed to 2002 traffic volumes. This shows fairly uniform traffic growth across the seven key sites, with the exception of the SH7 Lewis Pass route. This route had an unusually high 2002 base traffic volume compared to earlier years.

Figure 11: Traffic count indices for selected Canterbury State Highways (base 2002 = 100)¹²



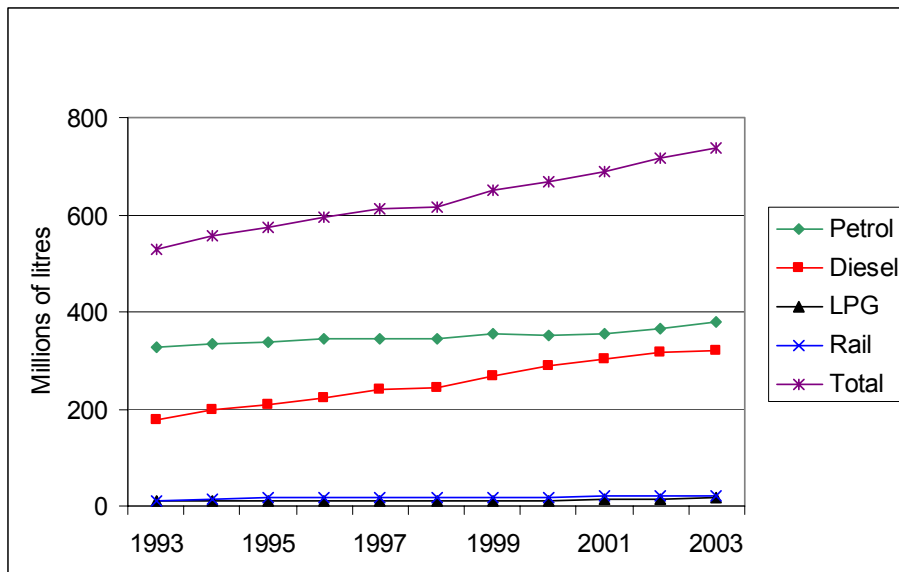
The changing mix of the region’s vehicle fleet type reflects both personal choices in vehicles and levels of economic/business activity. The *Heavy Vehicle Traffic* indicator

¹² The State Highway 7 Lewis Pass annual average daily traffic volume was unusually high in 2002 due to road closures on State Highway 73 and additional heavy traffic movements; therefore, the indexed 2003 volume appears low in comparison. The 2003 volume is consistent with historical growth for this road.

shows average change in a base year volume set at 2002 for the same State Highway traffic locations as reported above. This indicator shows a somewhat surprising decline in heavy traffic volumes. More detailed monitoring work to be undertaken for the Freight Action Plan will look to shed light on this result.

Fuel consumption is a good indication of changing demand for transport. Previous annual monitoring reports have reported fuel consumption as shown in Figure 12, updated with 2003 figures.

Figure 12: Canterbury land transport fuel consumption for the last 10 years



The *Annual Per Capita Fuel Use* indicator provides an indication of average fuel resource use per person. In 2003, it is estimated that 743 litres of petrol and 626 litres of diesel were consumed for every person in Canterbury. The decrease for the diesel indicator is attributable to reduced consumption in Central Canterbury where sales declined from almost 168.9 million litres in 2002 to 166.4 million litres in 2003, a decrease of just under 1.5%. There is no obvious cause for this drop; diesel consumption increased in both north and south Canterbury over the same period.

An understanding of the pressures on the environment resulting from the transport system can be gained from monitoring key indicators. One of these indicators is total *Vehicle Emissions of Carbon Dioxide*. This indicator quantifies the contribution land transport has to the production of greenhouse gas. In 2003, it is estimated that about 3.4 tonnes of Carbon Dioxide was produced as vehicle emissions for every person in Canterbury.

Road crashes and associated costs is another area of significant effects resulting from the transport system. The Strategy has two targets that quantify progress towards reducing the costs (both human/social and economic) of road crashes (see section 6: Progress towards targets). The indicator values for *Road Crash Deaths and Injuries* for 2003 were almost 11 deaths and slightly under 310 injuries per 100,000 people in Canterbury. Both of these indicators/targets are tracking higher than that required to

meet the Strategy target of 6 deaths and 125 injuries per 100,000 people by 2011. It is anticipated that additional effort will be required in this area.

The first two road safety indicators report outcomes. The third road safety indicator gives insight on how road users perceive the *Level of Road Safety*. This indicator is a direct gauge of the road user experience and is reported at the national level. Based on the question: “How safe or unsafe are New Zealand roads to travel on?” 79% of survey respondents agreed New Zealand roads were safe or very safe¹³.

The cost to society of regional road crashes was estimated by the Land Transport Safety Authority to be \$438 million in 2003. This is an increase from the 2002 figure of \$406 million. When looking at the rural-urban split for 2003, crashes on rural roads had a social cost of \$233 million and urban roads a social cost of \$205 million.

The public investment in transport infrastructure and passenger transport services is vital to support an efficient and sustainable transport system. *Investment in Canterbury Roads* is reported as an indicator of historical trends in public investment in roads through the Transfund National Land Transport Programme (NLTP). (The figures in Table 2 include local rates for road projects but do not include any unsubsidised work that local authorities undertook using their own funds – also see Section 5). Total public expenditure on roads through the NLTP has risen to \$114 million for 2003/04.

Table 2: Public investment in roads for Canterbury for the last 5 years

<i>Public Investment in Roads in \$ Millions (not adjusted)</i>			
Year	Local roads	State Highways	Total
1999/00	51	30	80
2000/01	56	42	98
2001/02	61	26	87
2002/03	64	32	96
2003/04	69	45	114

¹³ This is drawn from a national survey of 1640 people, including 135 Canterbury residents undertaken in 2004. Of the Canterbury respondents, 81% (slightly higher than the New Zealand average of 79%) agreed that New Zealand roads are safe / very safe. It is important to note the survey question refers to all New Zealand roads. However, it is likely most answers by the Canterbury respondents would reflect experience on Canterbury roads. Due to this sample survey approach, and associated sample error, it is considered no statistically significant change from the previous and base year is observable for the survey. The magnitude of the indicator is the key feature, showing a very high proportion of survey respondents agree New Zealand's roads are safe or very safe.

7.3 Demand Management

The following indicators reflect progress in the demand management policy area that reflects the intent and direction of the Regional Land Transport Strategy.

Indicator	Base	Latest value	Trend
	2003	2004	from 2003
<i>(18) Number of Participating Households</i>	194	452	Up (+132%)
<i>(19) Number of Participating Business</i>	4	5	Up (+25%)

Discussion

The indicator programme for the key result area Travel Demand Management directly reflects the work undertaken as identified in the Strategy major project area. Both indicators are simple descriptive records of individual or organisation participation in travel demand management (TDM) programmes.

The number of households participating in TDM in the last year is an indicator of participation rates in community based travel behaviour change programmes. This indicator is collected for the second time in 2004 and includes participants in the second Go Smarter travel behaviour change pilot in Avondale, Christchurch.

The second indicator for this section focuses on a business travel plan programmes. This indicator records 5 organisations implementing business travel plan measures¹⁴.

¹⁴ It is likely that other organisations are also implementing business travel plan like measures that are not reported here.

7.4 Land Use

The land use section in the RLTS is intended to provide better integration between land use planning and transport planning. While transport planning is currently based upon a given pattern of land use it is hoped that, over time, measures will be introduced to plan land use to make better use of the existing transport system. This process will take time to evolve and at present there are no indicators offered to monitor this section.

Indicators and measures will be developed in future updates of the Canterbury Regional Land Transport Strategy.

7.5 Freight

The following indicators reflect progress in the policy area that supports the key result area of freight movement.

Indicator	Base	Latest value	Trend
	2002	2004	from 2002
(20) Number of Registered Goods Vehicles	45,909	48,960	Up (+7%)
(21) Total goods vehicle RUC tonne kms	6,141 M	6,235 M	Up (+2%)
Indicator	2002	2003	
(22) Regional Ports Activity - Gross Weight	4.64 M tonnes	4.95 M tonnes	Up (+7%)
(23) Regional Ports Activity - Cargo Value	\$7,407 M	\$7,052 M ¹⁵	Down (-5%)
(Indicator using calendar year data)	2002	2003	
(24) Total Rail Freight Tonnes moved	3.99 M tonnes	4.3 M tonnes	Up (+7%)

Discussion

The indicator programme for the key result area of freight is based around five indicators that reflect movement of goods in and out of the region (specifically import and export) and the physical transportation and therefore distribution of goods throughout the region. A key component of this is the distribution of goods via the Region's export ports.

A base indicator for goods/freight vehicle activity can be based upon the availability of these vehicles. An indication of changing numbers is derived from Land Transport Safety Authority records. At June 2004, for Canterbury (the Christchurch and Timaru postal districts) there was 48,960 *Registered Goods Vehicles*.

The flow of import and export goods through the two seaports and Canterbury's international airport also provides an indication of regional economic activity. This *regional ports activity*, specified in terms of gross weight of 4.95 million tonnes and cargo by value of 7.05 thousand million dollars, has been identified for 2003 using the latest available figures from Statistics New Zealand. Figures 13 and 14 show the last five years trends for this indicator.

¹⁵ This value is provisional and may change when Statistics New Zealand publish final statistics.

Figure 13: Cargo by gross weight imported/exported through Canterbury’s export ports

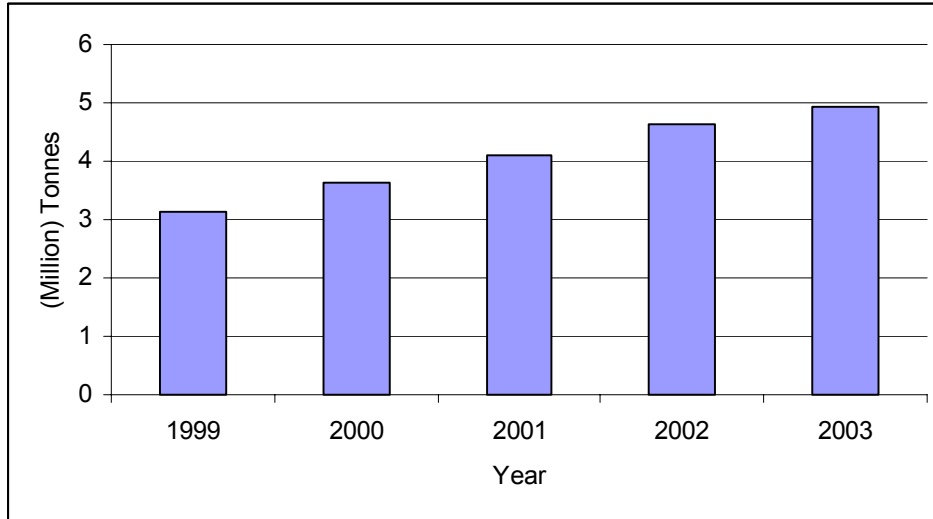
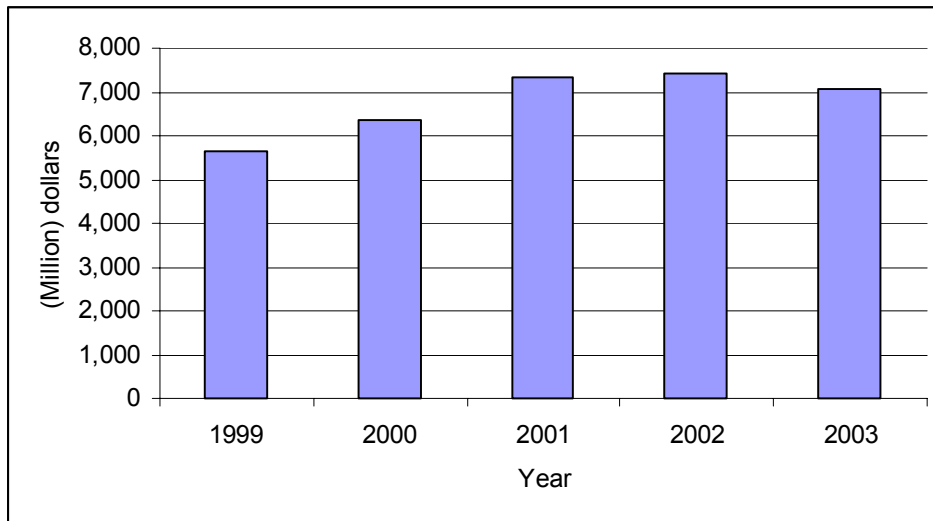


Figure 14: Cargo by value imported/exported through Canterbury’s export ports



An indication of freight movement can be gathered from the tonne kilometres purchased by diesel powered goods vehicles for their *road user charges* (RUC). The total tonne kilometres purchased in Canterbury during 2004 was 6,235 million, an increase of 2% from 2002.

The final freight indicator looks to track the amount in tonnes of goods transported in the region by rail. For 2003, there was 4.3 million tonnes of freight moved either through or within Canterbury. Of this, approximately 2.3 million tonnes was coal transported from the West Coast to Lyttelton Port.

8. Implementation of Regional Land Transport Strategy Major Projects

A core function of this annual monitoring report is to record progress on implementing the Strategy. Although this section does not identify any quantitative measures for this, a descriptive record of progress towards achieving the Strategy’s major projects is provided in the form of reports against each project.

The following section provides brief updates on the major projects as stated in the policy sections of the RLTS. These projects are a mix of investigations, construction projects and general on going activities.

The comments on projects in this section are taken directly from a self-completion survey of each organisation identified as having responsibility to implement parts of the Strategy. Their comments are reported largely unedited.

8.1 RLTS Section 4.1 Alternative Modes

Major Walking Projects Work for 2003 - 2004

Policy 4.1.1: Support greater use of walking	Progress to June 2004
Develop strategic principles for pedestrian strategies.	Developed and included in the Draft Canterbury Regional Land Transport Strategy 2005 – 2015.
Implement Christchurch City Council pedestrian strategy including safe routes to schools and pedestrian crossing facilities and signals.	Christchurch City Council - implementation of Pedestrian Strategy is on going through including pedestrian facilities as part of strategic traffic management, particularly on arterial roads, school road safety projects and reconstruction works.

<p>Promote the development and implementation of pedestrian strategies.</p>	<p>Transit New Zealand - the consideration of safe pedestrian accommodation is mandatory on all Transit projects. Urban improvement projects which proceeded to construction in the last year all include footpaths e.g. Dyers / Linwood intersection, Buchanans Intersection, Main North Road Four Laning.</p> <p>Being a predominantly rural local authority, Selwyn District Council advises there is no need for a formal pedestrian strategy. The required Level of Service for footpaths is outlined in Council's agreed Asset Management Plan. Where possible new or enhanced pedestrian and cycle opportunities are maximised in conjunction with new subdivisions and similar urban development.</p> <p>Banks Peninsula District Council - work undertaken in this area - a project to enhance signage for walking using walkways and town map in Lyttelton.</p> <p>Waimakariri District Council prepared a draft pedestrian/cycling strategy.</p> <p>Christchurch City Council to review their strategy next financial year.</p> <p>Timaru District Council prepared a draft Active Transport Strategy.</p>
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Major Cycling Projects Work for 2003 - 2004

<p>Policy 4.1.2: Support greater use of cycling</p>	<p>Progress to June 2004</p>
<p>Develop strategic principles for cycling strategies.</p>	<p>Developed and included in the Draft Canterbury Regional Land Transport Strategy 2005 – 2015.</p>
<p>Promote the development and implementation of cycling strategies.</p>	<p>Transit New Zealand - the requirements of cyclists are considered on all improvement projects in urban areas. In addition, a separate project to identify cycling needs in Christchurch and various other areas has progressed to the detailed design phase.</p> <p>Work is underway in drafting a Memorandum of Understanding between the Christchurch to Little River Rail Trust and Selwyn District Council. In addition, Selwyn District Council is providing steering advice on how the project can be implemented and issues associated with this.</p> <p>Banks Peninsula District Council involved with investigation and assisted in funding application for the Little River – Motukarara cycle trial.</p> <p>Waimakariri District Council prepared a draft pedestrian/cycling strategy.</p>

	Christchurch City Council - implementation is on going. Timaru District Council prepared a draft Active Transport Strategy.
Plan a regional network of cycle routes to link districts and provide connections with surrounding regions.	Draft Cycling in Canterbury: Strategy for the development of a regional network of cycle routes adopted by RLTC for consultation as a component of the Draft RLTS 2005-2015
Commence construction of regional network of cycle routes.	No construction commenced to date.
Implement Christchurch City Council Cycle Strategy including construction of on-road cycle facilities and off-road cycleways.	Christchurch City Council - implementation is on going.

Major Public Transport Projects Work for 2003 - 2004

Policy 4.1.3: Support greater use of public transport.	Progress to June 2004
Implement Christchurch Passenger Transport Strategy including construction of bus priority street works and bus stop/shelter installation and upgrades.	Christchurch City Council has installed 332 shelters. Contract being developed for 130 new shelters by June 2006. On going with adshel installation of shelters. 161 super low floor buses. Banks Peninsula District Council has undertaken improvements to Diamond Harbour Wharf – maintenance mainly.
Development of the Christchurch Real Time Information system.	210 bus finder units installed in Christchurch City 8 variable message signs (2 Riccarton, 2 Hospital, 2 Eastgate, 1 Northlands, 1 Canterbury University)
Improve services and related infrastructure in Timaru, Waimakariri and Selwyn.	Selwyn District Council - work has been completed in Rolleston while a new bus shelter in Lincoln is pending installation in conjunction with a street upgrade project Waimakariri District Council in discussion with Environment Canterbury regarding responsibilities and roles. Public transport strategy development underway for Timaru.
Implement the Passenger Transport Plan for Canterbury.	See above for Timaru, Selwyn and Waimakariri District Councils. On going implementation of plan. Significant improvements introduced to bus services to north and south Christchurch. Integrated ticketing system (Metrocard) introduced in Christchurch.
Strategic investigation of options for the enhancement to the	Initial investigations have been undertaken to help guide future developments of public transportation.

public transport system linking urban areas.	Strategic investigation completed for new (Metro Star) routes to start in 2004.
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Major Public Total Mobility Work for 2003 - 2004

Policy 4.1.4: Provide for people with special transport needs	Progress to June 2004
Provide total mobility services.	Service running in Christchurch, Ashburton, Timaru and Waimate. 2003/04 financial year operating expenditure of \$1.33 million. 261,526 passengers transported.

Major Public Rail Projects for 2003 - 2004

Policy 4.1.5: Promote rail as an integral part of Canterbury's strategic land transport system.	Progress to June 2004
Investigate the use of rail for commuter travel within greater Christchurch, including links to Kaiapoi, Rangiora, Rolleston, Lyttelton and beyond.	Initial investigations have been undertaken to help guide future developments of public transportation.
Investigate greater use of rail for transportation of freight, dairy, forestry products and waste in the region.	A greater understanding of rail is being developed through the work programmes of the Freight Working Group. Most opportunities within the region involve short hauls and pickup/delivery/container transfer by road, which makes them uneconomic – this was the case with hauling waste to Waipara. Rail still fulfils an important role in hauling product from adjoining regions to or through Canterbury, taking it off the road.
Improve safety infrastructure at level crossings, including grade separation at critical locations.	Regular liaison meetings with TollRail and Transit New Zealand continue. The operational safety of all at grade rail crossings is discussed at these meetings. The design of safety guard railing at the Rakaia Road over Rail Bridge has been completed. Toll Rail advises regular renewal and upgrading process continued in the region in the year. Brighter LED crossing alarm lights were installed at crossings in Waipara and Sefton; and extra lights installed at an Amberley crossing. A barrier arm mechanism was renewed at Chertsey. The installation of alarms on a level crossing at Darfield has been completed where local share was paid by a developer to enable Selwyn District Council to attract subsidy funding from Transfund New Zealand as a minor safety improvement works.

	<p>Ashburton District Council - crossing incidents warrant higher level of safety at specific crossings. Some preliminary work has been carried out.</p> <p>Waimakariri District Council - input to upgrading crossings is complete. Awaiting Transit New Zealand completion of active control upgrade.</p>
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8.2 RLTS Section 4.2 Roads: Infrastructure, safety and environment

Major Roads Projects Work for 2003 - 2004

Policy 4.2.1: Support the maintenance and balanced development of the region's strategic road network.	Progress to June 2004
<i>Proposed Physical Works</i>	
Upgrade access to Clandeboye dairy factory.	Timaru District Council and Environment Canterbury sought to undertake Stage 3 investigations into a rail branch line to the Clandeboye dairy factory. This project was eligible for Alternative to Roding (ATR) funding from Transfund NZ. Transfund, however, advised that with Central government recently buying back the rail network it was unclear how these projects were to be managed and funded; and subsequently put this project on hold.
Construction of stage one of Christchurch southern motorway.	Development of the project continued during the year with the designation and land requirements now determined but still have to place the designation changes. The project was ranked as Canterbury's top priority large project by the RLTC and the Design phase is programmed to commence during 2004/05 as is land purchase for the project.
SH 74 Woolston Burwood Expressway Stage II.	Project complete – now transferred to Transit New Zealand as part of the State Highway network.
Upgrade access to Lyttelton via Opawa and Port Hills Road.	Design near completion – consultation completed. Outline plan being prepared, funding available. Transit has continued to work with Christchurch City Council as a member of the Project Control Group for the Opawa Road upgrade. All land required has been purchased and Transit New Zealand's contribution to the construction cost of Opawa Road has been confirmed.
Upgrade access to airport via Fendalton Road.	Project completed ahead of time. CMC Trust award to be presented. Planning for Memorial Avenue initiated.
Upgrade State Highway 1 bypass west of Christchurch (Russley).	Buchanans Road intersection construction completed and construction on Yaldhurst intersection started. Work on intersection options at Memorial Avenue is being undertaken.
SH 73 Thomas River Bridge.	This project has not yet progressed to construction due to its low national ranking.

SH 1 Normanby Realignment.	The Physical Works contract was awarded and construction is proceeding well.
<i>Investigation Projects</i>	
Establish a hierarchy and standards for Canterbury's strategic road network	The Land Transport Safety Authority is undertaking a national study of road hierarchies.
Complete investigations into access options for northern Christchurch.	<p>The Northern Arterial, the Western Belfast Bypass and the four laning of a section of QEII are shown in the 04/05 programme as potential projects. Subject to Transit New Zealand Board approval it is anticipated that preliminary investigations will commence for these projects in 04/05.</p> <p>Waimakariri District Council - scheme assessments for new Southern Eastern and Western Links around Rangiora 80% complete. Tram Rd Widening and Intersection Improvement Strategy 90% complete.</p> <p>Christchurch City Council – initial investigations started for Hills Road extension.</p>
Investigate access options for south and west of Christchurch incorporating Rolleston.	<p>The Christchurch Rolleston and Environs Study (CRETS), a joint study between Transit, Selwyn District, Christchurch City and Environment Canterbury, has been delayed due to staffing difficulties within the consultancy firm undertaking the study. While considerable time has been required to regain understanding and to redevelop the model, the outcome should now be a robust model to facilitate analysis within the study area.</p> <p>The Transportation study is continuing and a study of the interim access improvements at Rolleston has been completed.</p>
Investigate northwest and west sections of the Christchurch ring road.	Christchurch City Council - initial investigations likely to be started in 2005.
Confirm roading needs for SH 73 Klondyke – Arthurs Pass.	Liaison is ongoing with TollRail and options for progressing improvements as a joint project are continuing.
Investigate replacement of Hurunui River Bridge.	This project has not yet progressed to construction due to its low national ranking.
Investigate improvements for Hundalees, State Highway 1.	The Okarahia project has not yet progressed to construction due to its low national ranking. The Limestone creek project has proceeded to detailed design.
Complete strategy studies for the State Highway network.	Project complete.
Undertake an assessment of natural hazard risks to the regional network.	Project not started.

Major Road Projects for 2003 - 2004

Policy 4.2.2: Support the maintenance and enhancement of non-strategic local roads	Progress to June 2004
Implementation of “Living Streets” project in Christchurch.	Projects almost completed – after studies to be completed. Living Streets principles increasingly adopted as part of overall process for all Christchurch City Council transport projects.
Prepare and implement asset management plans for transport infrastructure.	<p>Selwyn District Council state V3 of their Rooding Asset Management Plan is operative.</p> <p>Banks Peninsula District Council updating their 2001 Rooding Asset Management Plan.</p> <p>Waitaki District Council – a consultant has been engaged and preparation of Asset Management Plan is underway.</p> <p>Ashburton District Council’s Rooding Asset Management Plan will be developed into an Assit Activity Plan in 2004/05</p> <p>Waimakariri District Council deferred plan, to be complete by March 2005.</p> <p>Christchurch City Council – implementation is on going.</p>

Major Road Safety Projects for 2003 - 2004

Policy 4.2.3: Progressively reduce the number and severity of crashes in Canterbury	Progress to June 2004
Road safety campaigns for the target areas outlined above.	<p>Campaigns included: Pedestrian campaign in Christchurch, intersection campaigns in Christchurch, Ashburton, Waimakariri and Selwyn Districts. Speed campaigns nationally. CAAP programmes in Ashburton and Chch. A crash reduction study started (blackspot study) of pole crashes in Christchurch, evaluation of installation of hazard markers on poles. Road safety displays were staged at eleven agricultural and pastoral shows.</p> <p>Canterbury road safety forum held on driver fatigue.</p> <p>Transit New Zealand has continued to participate as a member of various road safety committees and constructed a number of minor safety projects throughout the region. The increased level of minor safety funding and the allocation of safety retrofitting funds have allowed significant progress in safety improvements on the network.</p> <p>Ashburton District Council – part of key activity in LTCCP and have a number of activities aimed at achieving this.</p>

	<p>Waimakariri District Council road safety campaign underway with various initiatives.</p> <p>Christchurch City Council - campaigns are on going.</p>
Improved crash reporting including the establishment of a robust monitoring programme for crashes involving pedestrians, cyclists or overseas visitors.	<p>Land Transport Safety Authority have started a new round of training workshops for Police on Traffic Crash Reports (TCRs) (which will be on-going). Report prepared on Pedestrians and cyclist crashes in Road Safety Data reports plus tourist crashes in Road safety Issues reports (especially the State Highway ones). Implementing changes to TCRs to include information on country of origin of overseas visitors involved in crashes. A consultant is doing work on cyclist crashes with Christchurch Hospital, additional work looking at an integrated database for cyclist crashes.</p>
Implement Territorial Authority Road Safety Strategies.	<p>Selwyn District Council has committed to increasing its minor safety work programme to take full advantage of the additional funding provided by Transfund NZ to carry out more minor safety works.</p> <p>Banks Peninsula District Council to start work to implement the Inner Harbour Road Strategy.</p> <p>Waimakariri District Council Safety of Maintenance Intervention Strategy in preparation.</p> <p>Christchurch City Council - strategy update is almost complete.</p>

Major Environmental Effects Projects for 2003 - 2004

Policy 4.2.4: Ensure adverse environmental effects from transport are monitored and are reduced to levels that are equal or better than national and regional guidelines.	Progress to June 2004
Environmental monitoring and investigations of motor vehicle emissions.	Work undertaken to develop a Christchurch site to monitor local air quality.
Install a network of stock truck effluent disposal sites.	Construction of stock effluent disposal facilities at Glasnevin and Tinwald have been completed, and detailed design has progressed on others.
Promotion and introduction of pollution-free technologies for public bodies to provide leadership by example.	<p>Transit New Zealand has progressed the development of recycling specifications as a National initiative to reduce the environmental effects of roading materials.</p> <p>Selwyn District Council has no current wish to fund any such initiatives apart from practical schemes such as zero waste strategy.</p> <p>Christchurch City Council continues to operate the Shuttle service.</p>

Enforcement of “10 second rule” for smoky vehicles.	Campaign undertaken in 2003 – the rule is difficult to enforce.
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8.3 RLTS Section 4.3 Demand Management

Major Demand Management Projects for 2003 - 2004

Policy 4.3.1: Undertake demand management education and marketing measures to reduce the use of private motor vehicles, especially in areas of traffic congestion.	Progress to June 2004
<p>Undertake trials of demand management initiatives, leading to the establishment of an on-going demand management programme.</p>	<p>Christchurch City Council and Environment Canterbury are progressing the second Go Smarter community travel behaviour change pilot project. The East Papanui pilot project was completed. Other business travel plan projects are underway at Christchurch City Council, Environment Canterbury, Christchurch Polytechnic Institute of Technology, MWH and University of Canterbury.</p> <p>Comments from other organisations:</p> <p>Transit New Zealand has continued to work closely with other Road Controlling Authorities and the Regional Council in an effort to develop a sustainable transport system based on Travel Demand Management principles.</p> <p>Selwyn District Council - congestion is generally not an issue for a rural TLA except in specific situations where improvement works would be considered. In a rural area any reduction in the use of private motor vehicles is impractical as usually it is the only available form of transport.</p>

Major Demand Management Projects for 2003 - 2004

Policy 4.3.2: Encourage use of parking controls to manage travel in and around urban areas.	Progress to June 2004
<p>Complete a city-wide parking strategy for Christchurch.</p>	<p>Completed in July 2003.</p>

Major Demand Management Projects for 2003 - 2004

Policy 4.3.3: Enhance understanding of methods and outcomes of further demand restraint measures.	Progress to June 2004
<p>Investigations into road pricing options and outcomes, particularly for Christchurch.</p>	<p>Project not started.</p>

8.4 RLTS Section 4.4 Land Use

Major Land Use Projects for 2003 - 2004

Policy 4.4.1: Promote housing, jobs, shopping, leisure, education and community facilities and services in locations that support more sustainable transport choices and reduce the need to travel, especially by car.	Progress to June 2004
Develop a long-term land use development strategy to enable enhanced transport planning in central Canterbury.	Development of Urban Development Strategy for Greater Christchurch Metropolitan area on going. Selwyn District Council, Waimakariri District Council, Banks Peninsula District Council, Environment Canterbury and Christchurch City Council participating in the Urban Development Strategy process and Metropolitan Christchurch Transport Strategy.

Major Land Use Projects for 2003 - 2004

Policy 4.2: Design and programme developments and related infrastructure to support more sustainable transport choices, improve interchange between modes and to reduce the need to travel, especially by car.	Progress to June 2004
Production of planning guidelines to support the above methods.	Project not started.

8.5 RLTS Section 4.5 Freight

Major Freight Projects for 2003 - 2004

Policy 4.5.1: Provide for the effective, efficient and sustainable movement of freight.	Progress to June 2004
Develop a regional freight strategy with specific targets and methods for the movement of freight in the region.	Draft Canterbury Regional Freight Action Plan adopted by RLTC for consultation as a component of the Draft RLTS 2005 – 2015. Freight Working Group tasked with implementing the action plan through a work programme.

8.6 RLTS Section 5 Funding

Major Funding Projects for 2003 - 2004

Funding – (No specific policy)	Progress to June 2004
Develop a funding plan for future Regional land transport strategies including sources of funding.	Incorporated into Draft Canterbury Regional Land Transport Strategy 2005 – 2015 for public consultation.

8.7 RLTS Section 6 Implementation and monitoring

Major Implementation and monitoring Projects for 2003 - 2004

Implementation and monitoring (No specific policy)	Progress to June 2004
Develop an implementation programme for the RLTS.	Incorporated into Draft Canterbury Regional Land Transport Strategy 2005 – 2015 for public consultation.
Identify relevant transport indicators that can be measured (in consultation with other regional councils).	Project completed.
Set up a monitoring programme of key transport indicators.	Project completed.
Carry out monitoring of key transport indicators.	Ongoing.
Initiate a programme of analysis of the key transport indicators for inclusion into the RLTS annual implementation report.	Project started. Annual public agency transport expenditure study established.
Devise new targets for those areas of the RLTS requiring further work.	Targets reviewed in Draft Canterbury Regional Land Transport Strategy 2005 – 2015.

Appendix A – Indicator descriptions

This appendix provides information about the base indicators for the Annual Monitoring Report. Each indicator is described and a brief comment on why it was chosen is given, along with the agency that supplied the data. More comprehensive data will be made available in the supporting technical report that will be published by Environment Canterbury at the end of the financial year.

Key Result Area – Alternative modes

Indicator 1: Alternative Mode Share – Census work trip

(1) Journey to Work Census Mode Share
Percent of alternative mode of all journey to work

For a majority of the working population, the journey to work trip usually occurs in the morning peak hour periods. In urban settings where there is high demand for limited road space, the journey to work (JTW) mode share statistic can provide important information on the choice of travel mode made by workers. This JTW statistic is collected every five years in the national Census and although it only provides a ‘snapshot’ of the way people travelled to work on one particular day, it is an empirical finding that provides a robust indicator of travel choice.

The JTW census alternative mode share indicator is presented as a sum of the alternative modes (this includes cycle, walk and bus) as a proportion of all modes of travel to work. Therefore it sheds light on the proportion of workers travelling to work by means other than by car or van. In fact, it is a direct measure of personal travel decisions, reflecting the aggregated travel mode preferences of individuals. Policies that promote alternative modes, especially for morning peak or commuter travel, affect this mode share, however it is difficult to attribute or quantify their impact in terms of the JTW mode share statistic. This indicator is more useful as an indication of general trends in travel mode choice resulting from various travel-related factors, rather than any policy specific outcomes.

This is a descriptive indicator provided by Statistics New Zealand. The indicator is calculated from Census statistics for the employed census usually resident population aged 15 years and over.

Indicator 2 & 3: Total Lane Length (Bus Lanes and Cycle Ways)

(2) Total Length of Bus Lanes in Region at
Total length of bus lanes as at 30 June
(3) Total Length of Cycle Lanes in Region at
Total length of cycle lanes as at 30 June

There are a number of different infrastructure initiatives that can support alternative modes. The provision of dedicated cycle/bus lanes is one way to make this means of transport more attractive to users. For public transport trips along congested corridors,

dedicated right-of-way road provision for buses can provide travel-time savings that make public transport a more appealing option. Similarly cycle lanes, and particularly separated cycleways, increase the ability or perceived ease to cycle by allocating specific space for cyclists.

It is noted that the type of facility can differ greatly in quality, however, these two indicators only report total additional lane length. In simple terms, this indicator is a course measure that reflects the degree of annual investment in this type of initiative.

Data supplied by Transit New Zealand and Territorial Authorities.

Indicator 4 & 5: Urban Public Passenger Transport

(4) Urban Public Passenger Transport Trips for financial year

Canterbury (total trips million)

(5) Perceptions of Public Transport Service Quality

Christchurch responses (Excellent / v. good)

For a number of people, public passenger transport is their preferred or main way to travel. As an alternative to urban travel by car, public transport can offer transport along defined corridors and across a network of routes to access most places people want to go. A simple yet effective measure of the utilisation of public transport is the total number of passengers carried on all services over a year. Over time this indicator can be used to track changes in demand for public transport services. In fact this indicator represents, to varying degrees, both supply and demand factors on public transport. For example, supply side effects are reflected through total numbers as a function of how well the services (such as provision of seats or location of routes) are aligned with travellers' needs.

The number of urban public passenger trips indicator accurately reports growth in urban bus patronage. As this is a significant proportion of alternative mode travel, this indicator contributes to an understanding of the role of alternative modes. This indicator is reported as an annual total for the financial year and collected by Environment Canterbury.

There are many aspects that contribute to the successful delivery of a public transport service. For example, this may include high quality buses, friendly and helpful drivers, routes that meet the needs of users etc. The effective delivery of these is an important part to providing a public transport system that is attractive, viable and meets the needs of users. Each year Environment Canterbury commissions a survey of bus passengers. As part of this survey an overall system rating is derived from questions asked on a range of service quality performance criteria. This 'system rating' is used as an indicator of passenger experience of the contracted Christchurch and Timaru services.

The passenger service quality indicator for public transport highlights user experience of the system. It asks the user how they rate the public bus system for overall service including friendly and helpful drivers, punctuality and quality of buses plus bus travel time, frequency, reliability, comfort and value for money. This indicator reflects a

generalised measure of the quality of the service. It should therefore be understood as a comparative indicator showing change from previous years.

This indicator is taken from the Bus User Survey Reports for Christchurch.

Indicator 6: Alternative Mode Public Expenditure (Cycle & Public Transport Only)

(6) Estimated Expenditure on Alternative Modes at
Public transport expenditure (cycle and public transport only)

The provision of infrastructure, and for bus/ferry based public transport, the provision of services is vital to the viability of alternative modes. Infrastructure to support these modes may vary from on-street fixtures such as bus shelters and traffic signal pre-emption to on-board technology like electronic ticketing. For walking and cycling, it could be the construction of dedicated path/cycle ways. Through their works programmes, central and local government authorities allocate money to a large number of projects that support and contribute to alternative modes. This expenditure in dollar terms can be used as an indicator.

The alternative mode public expenditure indicator sheds light on the relative amount of fiscal support for two alternative modes. The indicator is reported as the estimated total public expenditure on cycle and public passenger transport in Canterbury.

Future Annual Monitoring Reports will report this indicator as a trend over the life of the current Strategy. Data supplied by Transit New Zealand, Territorial Authorities and Environment Canterbury.

Indicator 7: Population Coverage by Bus Routes

(7) Population Coverage by Bus Routes at
Percentage of people within 500m of routes in Christchurch

This indicator provides a guide to Christchurch City population's physical distance from bus routes, thus providing an indication of the relative ease (in terms of distance) to access a bus service.

The population coverage by Christchurch bus routes indicator is presented as a percentage of residents within 500m of all bus routes at June each year. Data supplied by Environment Canterbury.

Key Result Area – Roads, Safety & Environment

Indicator 8: Estimated Registered Vehicles in Region

(8) Estimated Registered Vehicles at
Canterbury Postal Area (total vehicles)

Vehicle ownership has a direct relationship to vehicle kilometres travelled. As vehicle ownership rises people are able to travel further. This can result in some adverse effects such as traffic congestion pressures on the roading network and its associated social and environmental impacts.

The registered vehicles indicator provides an annual measure of change in Canterbury's vehicle fleet composition. This indicator is specified as total number of vehicles. The Land Transport Safety Authority, Registry Centre provides data for this indicator.

Indicator 9 & 10: Vehicular Traffic on Strategic Routes

(9) Average Daily Traffic on Strategic Routes

Average change in volumes from base year (2002)

(10) Average Daily Heavy Vehicle Traffic on Strategic Routes

Average change in volumes from base year (2002)

If the previous indicator sheds light on the number of vehicles potentially available for use, the following indicators report actual vehicle use. Road Controlling Authorities monitor the use of their roads through counting the number of vehicles crossing certain parts of their network. This information is used to manage the road infrastructure asset. As a simple descriptive record of road use, average daily traffic numbers can be used to reflect demand for vehicular transport.

The daily traffic on Canterbury strategic routes indicator gives a measure of growth in vehicle numbers on different parts of the road network. The seven locations reported in previous monitoring reports have been chosen as those locations. Note annual average traffic data is not yet available for 2003. The 2002 baseline figure is given but the indicator will be first reported in 2004.

The changing mix of the region's vehicle fleet type reflects both personal choices in vehicles and levels of economic/business activity. For example, in some sectors growth in economic activity is directly reflected in growth in specific types of vehicle (for instance, tourism growth through more tourist coaches or dairy production growth through demand for more milk tankers to service farms). Therefore, changes in vehicle fleet composition gives an indication of underlying economic changes. It is also a direct measure of heavy vehicle effects on the road network and surrounding social and natural environment.

The heavy vehicle traffic indicator shows average daily change in heavy vehicles on Canterbury's strategic road network. This indicator is similar of the above average daily traffic indicator and reports on heavy vehicle use. In short, it reports heavy vehicle traffic as an indicator reflecting a contribution to both regional economic activity and impacts on

the community. Note traffic data is not available for 2003. This indicator will be first reported in 2004. Transit New Zealand provides data for these indicators.

Indicator 11 & 12: Land Transport Fuel Indicators

(11) Annual per Capita Fuel Use (Petrol) for

Total annual fuel consumption (Litres/person)

(12) Annual per Capita Fuel Use (Diesel) for

Total annual fuel consumption (Litres/person)

Fuel oil products power almost one hundred percent of the Canterbury road vehicle fleet. Excluding the effect of vehicle engine efficiency technology and changes in driver behaviour, fuel consumption provides a direct empirical assessment of resource use by the road fleet. This indicator shows growth in the use of a primary transport resource and when compared with other indicators sheds light on demand for transport. It is useful to split this indicator by fuel product to show relative changes in demand for each of the two main fuel oils.

The land transport fuel use indicator provides a direct measure of transport use. It also provides an indication of average resource use per person.

Indicator 13: Carbon Dioxide vehicle emissions

(13) Estimated carbon dioxide vehicle emissions for

Estimated vehicle emissions (tonnes/person)

The emission of carbon dioxide to the atmosphere is a by-product of carbon-based fuels burnt in vehicle combustion engines. In Christchurch, transport emissions are responsible for approximately 50% of the carbon dioxide contribution to greenhouse gas emissions.

Carbon Dioxide emissions are related to the rate of fuel consumption. Although there are various emissions produced by combustion engines, CO₂ is reported as an indicator of transport effects on the environment. This indicator is calculated by applying an emissions factor to regional fuel consumption data. This indicator also takes account of CO₂ produced from additional fuel use as a result of traffic congestion.

The CO₂ from motor vehicles indicator sheds light on the environmental pressures resulting from the transport system. It is reported as tonnes per person. Data is provided by Territorial Authorities and compiled and reported by Environment Canterbury.

Indicator 14, 15 & 16: Road Safety Indicators

(14) Road Deaths Per 100 000 Population at

Regional fatal casualties per 100 000 people

(15) Road Injuries Per 100 000 Population at

Regional injury casualties per 100 000 people

(16) Perception of How Safe Are NZ Roads at

Percent of responses (very/fairly safe)

There have been significant gains in road safety over recent years. The Land Transport Safety Authority gathers a wide range of quantitative data to monitor road safety. Two key regional indicators are reported against Strategy targets. These indicators monitor progress towards reducing deaths and injuries resulting from crashes. Both indicators are reported as deaths/injuries per 100 000 people. The Land Transport Safety Authority undertakes an “Attitude to road safety and enforcement” survey each year. This survey provides an indicator on the perception of New Zealand road safety for the whole country. The indicator question is “How safe are New Zealand roads to travel on?” Data supplied by the Land Transport Safety Authority.

Indicator 17: Total Investment in Canterbury Roads (Infrastructure & Maintenance)

(17) Investment in Canterbury Roads

Total investment on roads (million \$)

Historically there has been a significant amount of public money invested in Canterbury’s road network. Prudent asset management requires ongoing investment in maintenance and the development of the network where deficiencies are identified and programmed through planning. Tracking this level of investment gives a relative indication of the amount of public money allocated to roads.

The investment in Canterbury roads indicator tracks public expenditure expressed as total dollars invested. Transfund New Zealand provided the data for this indicator. Please note the figures include local rates and central Government contributions for roading projects but do not include any unsubsidised work that local authorities undertook using their own funds.

Key Result Area – Travel Demand Management (TDM)

Indicator 18 & 19: Travel Demand Management Activity

(18) Number of Households Participating in TDM at

Number of additional participating households

(19) Number of Organisations with Business travel plans at

Total number of organisations (Canterbury)

The provision of information and education and the application of behavioural/marketing methods can be employed to modify the demand for travel. Overseas experience has shown that cost effective programmes can be implemented to help reduce travel (and therefore traffic congestion) and at the same time not affect or restrict personal mobility. Apart from the sound economic reasons to manage demand there are other benefits that fall on the community and the environment, such as reduced road maintenance costs and vehicle emissions.

The number of households participating in TDM programmes in the last year is an indicator of participation rates in community-based programmes. This indicator is reported as a change from previous years. Travel demand management activity may also be applied in the commercial or business sector. The number of organisations implementing business TDM travel plan measures is an indicator of business participation. This indicator is reported as a change from previous years.

Figures compiled by Environment Canterbury based on known TDM projects in Canterbury. It is likely that other organisations are also implementing business travel plan type activities.

Key Result Area – Land Use Planning

Land use and transport interaction

The relationship between land use and the transport system is dynamic and very complex. The land use section in the RLTS is intended to provide better integration between land use planning and transport planning. While transport planning is currently based upon a given pattern of land use, it is hoped that over time measures will be introduced to plan land use to make better use of the existing transport system. This process will take time to evolve and at present there are no indicators offered to monitor this section.

Indicators and measures will be developed in future updates of the Regional Land Transport Strategy.

Key Result Area – Freight

Indicator 20, 21, 22, 23 & 24: Regional Freight Activity

(20) Regional Ports Activity - Gross Weight at

Total gross weight (in/exported) un/loading (Tonnes)

(21) Regional Ports Activity - Cargo Value at

Total cargo value (in/exported) un/loading (Million \$)

(22) Total Number of Registered Goods Vehicles

Total number

(23) Total goods vehicle RUC purchased in Canterbury

Total tonne kilometres RUC (M)

(24) Total Rail Freight Tonnes

Total number

The efficient movement of freight around the region is vital to support the regional economy. A key component of this is the distribution of goods via the region's export ports. The flow of import and export goods through the two seaports and Canterbury's international airport provide an indication of regional economic activity. The first two indicators below are based on gross weight and cargo by value transferred through these ports. They show relative change from the previous year in import and export activity.

The regional port's activity indicator for gross weight of goods loaded and unloaded at the regional export ports is provided below. The regional port's activity indicator for cargo by value of goods loaded and unloaded at the regional export ports is provided below. Although the distribution of import and export goods gives an indication of freight activity, there are considerable amounts of freight moved around and through the region. The changing balance of heavy freight vehicles in Canterbury's vehicle fleet reflects a demand to transport freight. This demand is reported through the national registry of vehicles.

The total number of registered goods vehicles indicator is reported below. The data for this indicator comes from Indicator 8: Estimated Registered Vehicles in the Canterbury

Region and reports total registered goods vehicle fleet. Diesel powered vehicles must pay road user charges (RUC) by purchasing tonne kilometres for their amount of travel. This data is collected by the LTSA and gives a direct measure of the kilometres and tonne kilometres travelled by those vehicles. The values reported are for diesel powered vehicles used for the purpose of transporting goods.

Statistics New Zealand, the Land Transport Safety Authority and Toll Rail provide data for these indicators. Toll Rail reports rail freight activity.