

Annual Monitoring Report for 2005/06

Canterbury Regional Land
Transport Strategy
2005 – 2015

Prepared under the Land Transport Act 1998
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Report No. U06/61





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Key Points for 2005/06

Transport planning and investment

- Work progressed on several important transport and land use studies, including the Timaru and Ashburton Transportation Studies, the Christchurch Rolleston and Environs Transportation Study and the Urban Development Strategy for Greater Christchurch.
- For Christchurch, road infrastructure works started on the Blenheim Road Deviation and construction works on SH1/SH73 Hornby Mall Intersection and Main North Road 4 laning were completed. On the regional State Highway network, road works were completed at Saltwater Creek, Haypaddock Hill Corner and passing lanes were constructed near Seadown.
- Timaru and Waimakariri District Councils adopted their walking and cycling strategies
- Work started on updating the Christchurch Transport Model.
- Canterbury's in-transit stock truck effluent disposal facilities in Hurunui, Ashburton and Selwyn districts were well utilised.

Passenger transport

- The Public Passenger Transport Plan was updated and released for consultation.
- Public transport passenger trips rose 2% to 15.82 million
- Work started on updating the Christchurch Public Passenger Transport Strategy, with the first round of consultation completed.

Road safety

- Land Transport New Zealand reported a reduction in the total number of deaths from road crashes from last year, but injuries increased. There were 39 fatal crashes resulting in 44 deaths and 1,598 reported serious and minor injuries.
- The social cost of crashes¹ in the Canterbury Region in 2005 was estimated at \$432.9 million, up 12% from \$387.6 million in the previous year.

Summary of monitoring indicators

- There has been no significant change in trends, with the monitoring indicators providing a consistent picture of growth in motorised travel.
- Key economic indicators are still positive and this is reflected in areas such as freight transport growth.
- Indicator data suggests that progress is being made towards the public transport target.
- Targets for 2011 of no congestion outside Christchurch City and limited congestion within the central city are unlikely to be met unless reductions in the rate of traffic increase are made. Increasing traffic volumes are also leading to increased vehicle emissions.

¹ The social cost of road crash figure is calculated by Land Transport New Zealand. It is a cost estimate that covers loss of life and life quality, loss of output due to temporary incapacitation, medical costs, legal costs and property damage costs.

- Perception survey shows high satisfaction among Canterbury's residents about their footpaths, pedestrian areas and overall walking environment.

A summary of the latest monitoring indicator data is reported in Table 1.

Table 1: Summary of Strategy Monitoring Indicators

	INDICATOR	ANNUAL CHANGE	LATEST FIGURE	Latest Year
ALTERNATIVE MODES	(1) Alternative Mode Share ²	down	14%	Mar 2001
	(2) Total Length of Bus Lanes	no change	0.4Km	Jun 2006
	(3) Total Length of Cycle Lanes	up	257 Km	Jun 2006
	(4) Expenditure on Alternative Modes	up	\$29.59 M	Jun 2006
	(5) Population Coverage by Bus Route	no change	95%	Jun 2006
	(6) Urban Public Passenger Transport Trips	up	15.82 M	Jun 2006
	(7) Public Passenger Service Quality	down	82%	Jun 2006
	(8) Perception of public pedestrian facilities (index ³)	up	3.39	Jun 2006
ROADS: INFRASTRUCTURE, SAFETY AND ENVIRONMENT	(9) Registered Vehicles in Region	up	494,384	Jun 2006
	(10) Perception of How Safe Are NZ Roads	up	79%	Jun 2006
	(11) Investment in Canterbury Roads	up	\$125 M	Jun 2006
	(12) Perception of land transport accessibility (index ³)	up	3.28	Jun 2006
	(13) Average Daily Traffic on Strategic Routes ⁴	up	66,382	Dec 2005
	(14) Heavy Vehicle Traffic on Strategic Routes	up	5,371	Dec 2005
	(15) Annual Per Capita Fuel Use (Petrol)	down	723 l/person	Dec 2005
	(16) Annual Per Capita Fuel Use (Diesel)	up	704 l/person	Dec 2005
	(17) Annual Per Capita Carbon Dioxide Emissions	up	3.57 t/person	Dec 2005
	(18) Road Crash Deaths Per 100 000 People	down	8.4	Dec 2005
	(19) Road Crash Injuries Per 100 000 People	up	303	Dec 2005
DEMAND MGMT	(20) TDM No. of Participating Households ⁵	-	-	
	(21) TDM No. of Participating Businesses	no change	5	Jun 2006
LAND USE	(22) Consents - new for dwellings	down	4,116	Dec 2005
	(23) Consents - new floor area (non-residential)	down	0.84 M m ²	Dec 2005
FREIGHT	(24) Number of Registered Goods Vehicles	up	66,879	Jun 2006
	(25) Total goods vehicle RUC tonne kms	up	7,367 M	Jun 2006
	(26) Regional Ports Activity - Gross Weight	up	5.35 M t	Jun 2005
	(27) Regional Ports Activity - Cargo Value	up	\$7,426 M	Jun 2005

² For this indicator the national census year of 1996 is the base year, so this trend is for a 5-year period. The mode share refers to journey to work trips only.

³ Mean score index where 1= very difficult, 4=very easy (based on survey sample of 600 Canterbury residents).

⁴ Data on traffic counts, fuel consumption, carbon dioxide and road crash statistics are only available for the calendar year to December 2004.

⁵ The goSmarter community travel behaviour change trial projects have now finished, although a follow-up survey will be undertaken over the next few years to monitor the effectiveness of the projects.

Overview

CHAPTER 02 OVERVIEW

This report has been prepared in accordance with Section 182 of the Land Transport Act 1998 and outlines progress in implementing the Canterbury Regional Land Transport Strategy 2005 – 2015 (RLTS).

Canterbury Regional Land Transport Strategy 2005 – 2015

The Strategy 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 five Key Result Areas; Alternative modes, Roads, Demand management, Land use and Freight.

Reporting Land Transport Monitoring Data

This report uses a suite of indicators to monitor the Strategy's Key Result Areas and quantify change in key variables for each area. 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, allowing the effectiveness of the Strategy to be monitored and new directions established as necessary.

It must be noted that some data sets apply to the July to June 2006 financial year, while others, such as Land Transport New Zealand crash data, applies to the calendar year up to December 2005.

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 2006/07 financial year.

Canterbury Regional Activity Profile

CHAPTER
03
CANTERBURY
REGIONAL
ACTIVITY
PROFILE

The overall demand for land transport is a function of the household and industry travel activity that exist within and beyond the Canterbury region. In terms of personal travel, it is the household that generates the demand for transport. An increase in the number of households, and the number of people within each household, is likely to cause an increase in travel demand. The choice of transport mode is influenced by the availability of various travel modes, such as access to public transport, a cycle or a private motor vehicle. Vehicle numbers have increased significantly in recent times, resulting in increased traffic volumes, fuel use and vehicle emissions. The other generator of travel demand is that required to support business activity within the region. 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.

Table 2: 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 Jobs (ex Journey To Work)			191,952	
% 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

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 ACTIVITY
 PROFILE

Other indicators	2001	2002	2003	2004	2005
Canterbury Estimated Residential Population ⁶	496,700	503,600	512,600	520,500	526,300
Canterbury economic activity index ⁷	155.4	163.7	169.4	175.7	182.1
New Zealand economic activity index ⁷	145.9	152.2	156.5	162.9	165.3
Ports Activity (gross weight in tonnes) ⁸	4.10 million tonnes	4.64 million tonnes	4.95 million tonnes	5.18 million tonnes	5.35 million tonnes
Ports Activity (cargo by value in NZ dollars) ⁹	\$7,345 million	\$7,407 million	\$7,052 million	\$7,236 million	\$7,426 million
Price of regular fuel (cents/litre) ¹⁰	114.4 cents/l	103.7 cents/l	114.8 cents/l	119.6 cents/l	124.6 cents/l

⁶ 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.

⁷ 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, as at June, is adjusted for inflation and set to base year = 1987. Source: National Bank NZ.

⁸ 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.

⁹ 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.

¹⁰ Retail price (Real) for regular unleaded petrol adjusted using CPI inflation figures (for March year 2005 prices), price figure taken at June for each year. Source: New Zealand Energy Data file, Ministry of Economic Development, January 2005.

Achieving the Vision - progress towards targets

CHAPTER
04
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, responsible for land transport provision, strive towards. Some of the targets are based on the analytical tools used to evaluate the Strategy, as opposed to measurable data available on an annual basis. These analytical tools are typically updated following the collection of data that coincides with each National Census. For this reason, it is not possible to formally report on many targets until the 2006/07 annual monitoring report. Furthermore, interim progress reporting for some targets is difficult. As a result of these factors, an assessment of the targets is best achieved by undertaking a qualitative assessment.¹¹

An indication of trends for the Strategy targets is provided below. These trends are provided for the years since the 2002 Strategy.

TARGET DESCRIPTION	QUALITATIVE TREND ASSESSMENT
<i>Region-wide targets for 2011</i>	
No congestion outside Christchurch City	Traffic growth is increasing slowly
Carbon dioxide emissions to no more than 10 percent of 2001 levels	CO2 emissions increasing and now above the target
Reduce deaths from road crashes to 6 or less per 100,000 population	Trending down towards the target
Reduce deaths plus hospitalisations to less than 560 per year	Still high, no downward trend apparent
Increase satisfaction among Canterbury's residents about their footpaths, pedestrian areas and overall walking environment	High satisfaction recorded
<i>Targets for Christchurch for 2011</i>	
Reduce the proportion of single occupant motor vehicles in peak periods within Christchurch City	Likely no significant movement towards target
No traffic congestion within Christchurch City outside peak periods	Traffic growth is increasing
Contain the amount of congested road within Christchurch City during peak periods to 40-lane kilometres or less	Congestion increasing and likely trending above target
Increase proportion of all trips (excluding walking trips) made by cycle to twelve percent	No apparent gain towards the target
Increase proportion of all trips (excluding walking trips) made by public passenger transport to six percent	Indicators suggest a positive trend towards the target

¹¹ Although the Strategy targets provide a quantitative measure of progress, it is important to also consider wider changes in the transport system as reported annually through the indicator programme. This will ensure a balanced assessment of progress towards the Strategy vision.

4.1 Region-wide targets for 2011

TARGET	TREND FROM 2002
No congestion outside Christchurch City.	<i>Traffic continues to increase but congestion is not considered an issue</i>

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

TARGET	TREND FROM 2001
Carbon dioxide emissions to no more than 10 percent of 2001 levels	<i>Carbon dioxide emissions are increasing – now above target</i>

The indicator-monitoring programme identifies the amount of fuel being sold within the Canterbury region. From this, the level of carbon dioxide emissions is estimated. The figure for 2005/06 shows that the amount of carbon dioxide produced from land transport has exceeded the target maximum level set for 2011.

As the population and economy of Canterbury continues to grow, so too does the demand for travel. When this travel is made by motorised vehicles the fuel use and carbon dioxide emissions will increase. The RLTS aims to reduce the growth in motor vehicle travel in the long term, and the introduction of more efficient motor vehicles is also expected to help to reduce motor vehicle emissions. In the meantime, carbon dioxide emissions are exceeding the targeted level.

TARGET	TREND FROM 2002
Reduce deaths from road crashes to 6 or less per 100,000 population	<i>Trend is towards target</i>
Reduce deaths plus hospitalisations to less than 560 per year	<i>Still high, no downward trend apparent</i>

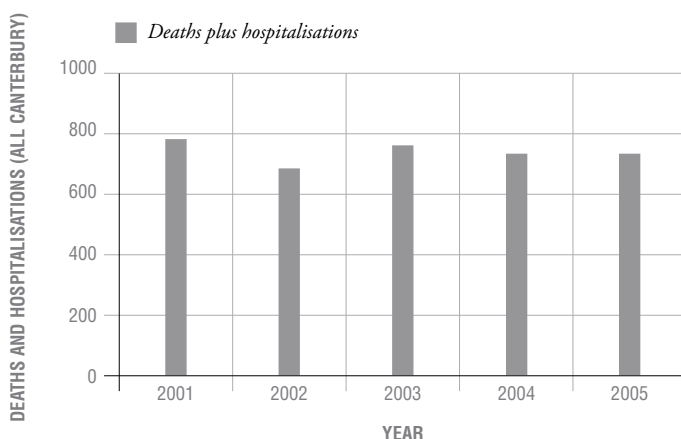
Since the 1990's, deaths and injuries from road crashes have been steadily declining. In fact for the year 2000, deaths from road crashes met the 2011 target of 6 per 100,000 people. The second road safety target is reported as deaths plus number of hospitalisations resulting from road crashes. Since 2001, in any particular year, the reported figures have been fluctuating. However it is evident that for road crash injuries, in particular, there is still a lot to be done if we are to meet the target of 560 (Figure 1 shows the trend towards this target over the last five years).

CHAPTER 04 ACHIEVING THE VISION – PROGRESS TOWARDS TARGETS

4.1 Region-wide targets for 2011

4.2 Christchurch City targets for 2011

Figure 1: Annual total deaths plus hospitalisations resulting from road crashes for all Canterbury.



TARGET	TREND FROM 2001
Increase satisfaction among Canterbury's residents about their footpaths, pedestrian areas and overall walking environment	<i>A high level of satisfaction recorded from perception survey</i>

The RLTS recognises the importance of walking and promotes pedestrian-friendly built environments. Pedestrian-friendly environments, where people choose to walk for short distance journeys and enjoy their experience of being out and about, are difficult to measure using qualitative techniques. An annual perception survey of 600 Canterbury residents has been used to gauge residents' satisfaction. No clear trend is observable in the survey results. However the high level of satisfaction, consistently recorded over the last few years, with pedestrian environments, is a positive finding.

4.2 Christchurch City targets for 2011

TARGET	TREND FROM 2001
Reduce the proportion of single occupant motor vehicles in peak periods within Christchurch City	<i>It is likely that there has been no significant movement towards the target</i>

The RLTS aims to achieve efficient motor vehicle use by encouraging more people to travel together in private motor vehicles. To measure changes in vehicle occupancy, surveys are conducted at selected sites, where both the type of vehicle and the number of occupants are recorded. In their most rigorous form, these surveys capture all roads that cross a particular screenline, for example, 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 to measure vehicle occupancy is extensive and costly. As a result, these surveys have only been undertaken to coincide with major transportation studies, such as the development of the Christchurch Transport Study (CTS) model in the early 1990's.

In 2003 a selection of sites, originally surveyed for the CTS transport study, was (as an interim measure to assess possible changes) resurveyed in the city bound direction of the morning peak period. When comparing these to the 1991 values, there appears to be little change in vehicle occupancy levels.

A full screenline survey is anticipated with the CTS model update. 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 Land Transport New Zealand's household travel survey.

TARGET	TREND FROM 2002
No traffic congestion within Christchurch City outside peak periods	<i>Traffic continues to increase but congestion is not considered an issue</i>
Contain the amount of congested road within Christchurch City during peak periods to 40-lane kilometres or less	<i>Traffic continues to increase and congestion is considered to be worsening</i>

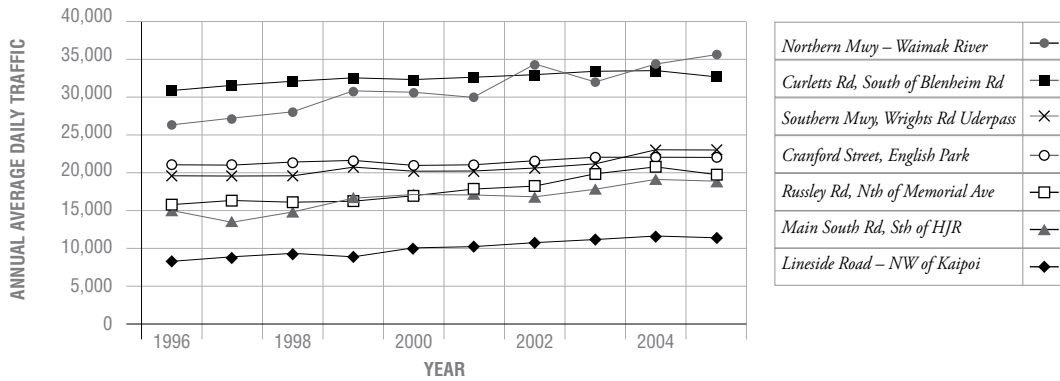
The methodology used to set these targets is based upon the CTS model of the metropolitan Christchurch area. This model is developed from the 5 yearly Census information so cannot measure changes on a year-by-year basis.

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 be used to evaluate whether traffic congestion is likely to be worsening or not. A selection of seven Transit New Zealand traffic count sites within the metropolitan Christchurch area is used to provide an indication of how traffic flows are changing over time. Although this does not provide a total picture, it 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 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 no more than 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 New Zealand sites in 1996 summed to 136,100. In 2005, the observed traffic flows had risen to 161,728 equating to around 2.7% per annum growth. It is likely, therefore, that not much progress has yet been made towards achieving the RLTS targets. This is not surprising given the early stages of the Strategy implementation. The traffic flows since 1996 are shown in Figure 2 below.

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Figure 2: Annual average daily traffic volumes at Christchurch control sites since 1996



TARGET	TREND
Increase proportion of all trips (excluding walking trips) made by cycle to twelve percent	2001 Census journey to work shows no gain towards this target
Increase proportion of all trips (excluding walking trips) made by public passenger transport to six percent	Passenger growth numbers indicate that gains are being made towards this target.

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 (now Land Transport New Zealand) completed a similar survey. Land Transport New Zealand have recently instigated a rolling household travel survey programme that will yield sufficient data on Canterbury peoples' 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.

The utilisation of cycling and public transport requires the provision of facilities and services for these modes to be of a high standard. Further improvement in this area is needed before significant increases in numbers will be seen. Growth in public transport patronage is a result of the concerted efforts of Environment Canterbury, Christchurch City Council and bus operators to improve service provision and make public transport an attractive alternative to private motor vehicle travel. There is a substantial network of routes in place, with integrated electronic ticketing; the Metrocard makes passenger transfers from one service to another quick and seamless. The overall system provides 95% of households (within 500m bus route) access to a public passenger transport service in the Christchurch area.

Transport indicators

These sections report progress on implementing the Strategy based upon its Key Result Areas. A full description of each indicator, along with base monitoring data, is provided in a supporting technical report.¹²

5.1 Alternative Modes

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

Table 3: Annual trend for Alternative Mode Indicators¹³

Key Result Area - Alternative Modes

INDICATOR	PERCENTAGE CHANGE FROM PREVIOUS YEAR						
	2001	2002	2003	2004	2005	2006	
ALTERNATIVE MODES	Alternative Mode Share	-7%					
	Total Length of Bus Lanes				0%	0%	0%
	Total Length of Cycle Lanes					13%	13%
	Expenditure on Alternative Modes				27%	5%	15%
	Population Coverage by Bus Route				0%	0%	0%
	Urban Public Passenger Transport Trips		23%	13%	-1%	4%	
	Public Passenger Service Quality		-9%	3%	0%	7%	-6%
	Perception of public pedestrian facilities					-3%	2%

CHAPTER 05 TRANSPORT INDICATORS

5.1 Alternative Modes

5.2 Roads: Infrastructure, Safety and Environment

5.3 Demand Management

5.4 Land Use

5.5 Freight

¹² Technical reports can be viewed and downloaded from Environment Canterbury's web page, www.ecan.govt.nz, Transport section.

¹³ If there is no base indicator for 2001, the trend is from the earliest indicator as shown in the indicator values table.

Table 4: Alternative mode indicator values (absolute numbers)

INDICATOR		ANNUAL INDICATOR VALUE					
ALTERNATIVE MODES		2001	2002	2003	2004	2005	2006
	(1) Alternative Mode Share (% ¹⁴)	14					
	(2) Total Length of Bus Lanes (Km)			0.4	0.4	0.4	0.4
	(3) Total Length of Cycle Lanes (Km)				201.59	227.99	256.59
	(4) Expenditure on Alternative Modes (\$M)			19.1	24.3	25.7	29.6
	(5) Population Coverage by Bus Route (%)			95	95	95	95
	(6) Urban Public Transport Trips (M)	10.75	13.23	14.98	14.83	15.46	15.82
	(7) Public Passenger Service Quality (%)	87	79	81	81	87	82
	(8) Public Pedestrian Facilities (index ¹⁵)				3.42	3.31	3.39

CHAPTER
05
TRANSPORT
INDICATORS

Discussion on alternative mode indicators

The *Alternative Mode Share* indicator for 2001 reports 14% of people choose walking, cycling or public transport when travelling to work. This is down from 15% for 1996. Agencies involved in providing services and infrastructure in support of walking, cycling and public transport have to make a concerted effort if the targets for alternative modes are to be met.

An indication of the level of infrastructure allocated for cycle and bus modes is provided with the reporting of infrastructure provision indicators. In 2006, there was an estimated 257 kms¹⁶ of cycle ways (143km on-road, 114km off-road) and 0.4 km for bus lanes. It is hoped that recording changes in *Cycle/Bus Lane Length* over time may give an indication of investment in alternative mode infrastructure, reflecting greater support for these modes; however, it is important to note that this infrastructure must be of good quality to be most effective. This indicator does not measure attributes such as quality of infrastructure or appropriateness of location/design.

The *Alternative Mode Expenditure* indicator reports on the 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 June 2006, an estimated \$29.6 million (\$2.26 million for cycling and \$27.36 million for public transport) 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 access a bus service. For 2006, the *Population Coverage by Christchurch Bus Routes* indicates that 95% of residents are within 500 metres of a route – no change from the previous year. This is in line with the service standards set in the Regional Passenger Transport Plan.

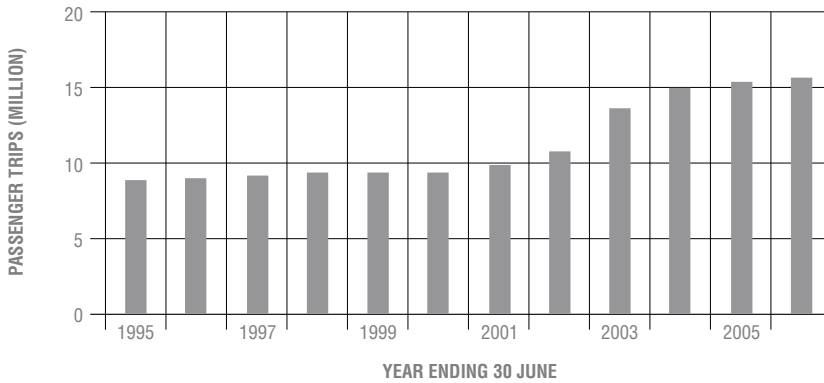
¹⁴ For this indicator, the national census year of 1996 is the previous/ base year.

¹⁵ Mean score index where 1= very difficult, 4=very easy (based on survey sample of 600 Canterbury residents).

¹⁶ The cycle length figures in this report have been recalculated based on new information. Due to difficulties in securing reliable figures, pre-2004 cycle way/lane figures were removed and the indicator now reports annual change over the last three years.

The total number of *Urban Public Passengers Trips* is an indicator of the use of public passenger transport (see Figure 3 for a graph of public passenger transport patronage over the last 11 years). The total number of passenger trips taken on the Canterbury public passenger transport system (including school services) was 15.82 million for the year ended June 2006.

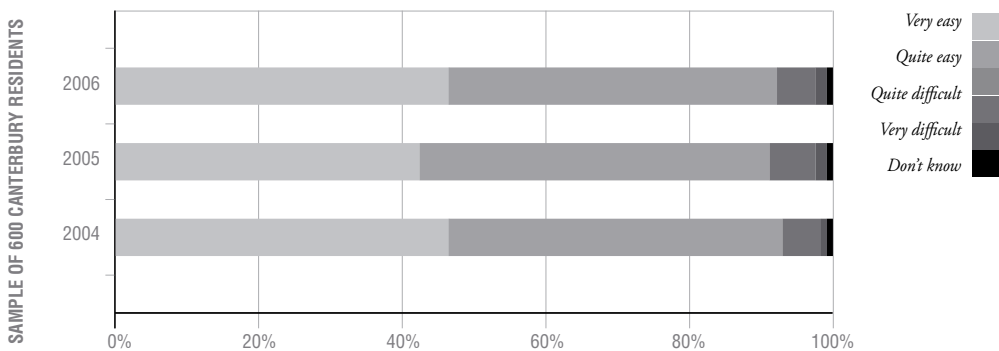
Figure 3: Canterbury public passenger transport trips by year (1995 - 2006)



An understanding of public transport user experience provides an indicator that is a direct reflection of user satisfaction. For 2006, the user *Perception of Passenger Service Quality* indicator dropped back to 82%, although still recording a very high user satisfaction with the bus service provision in Christchurch.

An indication of *Perception of public pedestrian facilities* is derived from a perception survey conducted in May each year. The results are shown in Figure 4 for the three years surveyed. The survey asked 600 Canterbury residents to rate the ease of walking using public facilities. Using a scoring range of 1 (very difficult) to 4 (very easy), the 2006 survey gave a mean score of 3.39, indicating that most respondents rated walking using public footpaths, pedestrian areas or street crossings as easy. There are small variations between years, but no trend can be established at this stage. Information on this indicator will continue to be collected and may show trends over a longer monitoring period.

Figure 4: Findings from the perception survey of 600 Canterbury residents to rate ease of use of public facilities.



5.2

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. (Indicators 9 to 12 cover data sets to June 2006; where no 2006 figures are reported, the indicator is calculated from data sets to December 2005.)

Table 5: Annual trend for Roads: Infrastructure, Safety and Environment

Key Result Area - Roads: Infrastructure, Safety and Environment

INDICATOR	PERCENTAGE CHANGE FROM PREVIOUS YEAR					
	2001	2002	2003	2004	2005	2006
Registered Vehicles in Region		↑ 2%	↑ 3%	↑ 5%	↑ 4%	↑ 3%
Perception of How Safe Are NZ Roads			↓ -1%	↑ 1%	↓ -3%	↑ 3%
Investment in Canterbury Roads		↓ -11%	↑ 11%	↑ 19%	↑ 7%	↑ 3%
Land transport accessibility				↑ 4%	↓ -2%	↑ 1%
Average Daily Traffic on Strategic Routes		↑ 2%	↑ 6%	↑ 5%	↑ 1%	
Heavy Vehicle Traffic on Strategic Routes		↑ 8%	↑ 2%	↑ 12%	↑ 7%	
Annual Per Capita Petrol Use		↑ 2%	↑ 2%	0%	↓ -3%	
Annual Per Capita Diesel Use		↑ 4%	↓ -1%	↑ 5%	↑ 7%	
Estimated Carbon Dioxide Emissions		↑ 3%	↑ 1%	↑ 3%	↑ 2%	
Road Crash Deaths Per 100 000 People		↓ -3%	↑ 18%	↓ -18%	↓ -3%	
Road Crash Injuries Per 100 000 People		↓ -4%	0%	↓ -9%	↑ 7%	

CHAPTER 05 TRANSPORT INDICATORS

Table 6: Roads: Infrastructure, Safety and Environment Indicators values (absolute numbers)

INDICATOR		ANNUAL INDICATOR VALUE					
		2001	2002	2003	2004	2005	2006
ROADS: INFRASTRUCTURE, SAFETY AND ENVIRONMENT	(9) Registered Vehicles in Region	415,783	425,833	440,485	461,565	479,611	494,348
	(10) How Safe Are NZ Roads (%)		79	78	79	77	79
	(11) Investment in Canterbury Roads (\$M)	97.66	86.87	96.10	113.98	121.75	125.15
	(12) Land transport accessibility (index ¹⁷)			3.21	3.34	3.26	3.28
	(13) Traffic on Strategic Routes (AADT ¹⁸)	57,615	58,882	62,563	65,644	66,039	
	(14) Heavy Traffic on Strategic Routes (AADT)	4,050	4,371	4,475	5,003	5,371	
	(15) Per Capita Petrol Use (l/person)	714.7	726.8	743.3	743.5	722.7	
	(16) Per Capita Diesel Use (l/person)	608.0	631.5	626.2	659.0	703.9	
	(17) Per Capita CO ₂ Emissions (t/person)	3.28	3.38	3.40	3.50	3.57	
	(18) Road Deaths Per 100 000 People	9.26	8.94	10.53	8.65	8.36	
	(19) Road Injuries Per 100 000 People	321.52	310.37	309.79	282.61	303.63	

CHAPTER 05 TRANSPORT INDICATORS

5.2 Roads: Infrastructure, Safety and Environment

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.

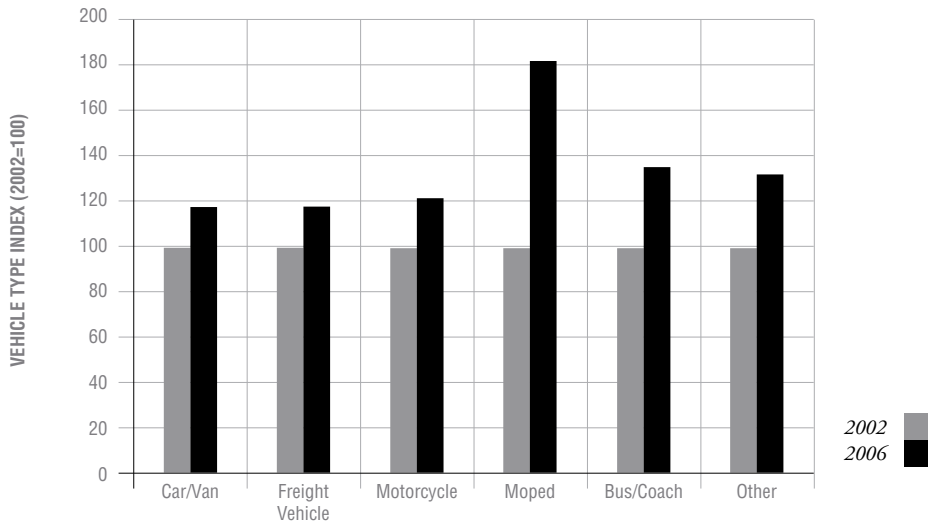
The first indicator *Registered Vehicles* draws on an annual measure of change in Canterbury's vehicle fleet composition. This is a coarse indicator that presents gross changes in total vehicle availability. Analysis of the raw data is graphed in Figure 5. This shows a proportional change by each vehicle type indexed to 2002. It should be noted that the car/van category is by far the largest group covering about 80% of all registered vehicles, with heavy commercial and freight vehicles at 14%, being the next biggest.

Although there has been a 36% increase in registered mopeds from 2005, these small motorcycles makeup just 0.7% of total registered vehicles; this growth in moped ownership may reflect demand for smaller, cheaper modes of transport reflecting recent fuel price rises.

¹⁷ Mean score index where 1= very difficult, 4=very easy (based on survey sample of 600 Canterbury residents).

¹⁸ AADT is an estimation of the Annual Average Daily Traffic on a section of road. It represents a typical total daily traffic volume, adjusted for seasonal and weekly variations.

Figure 5: Licensed vehicle indices by type for Canterbury (base 2002 = 100)



Public investment on transport infrastructure 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 National Land Transport Programme (NLTP). (The figures in Table 7 include local rates for road projects, but do not include any unsubsidised work that local authorities undertook using their own funds). Total public expenditure on roads through the National Land Transport Programme has risen to \$125 million for 2005/06.

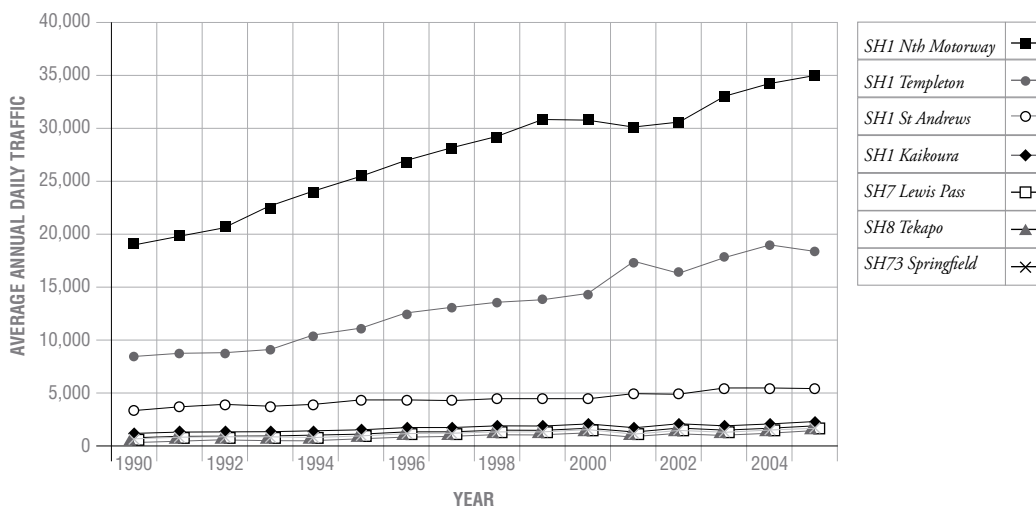
Table 7: Public investment (from the National Land Transport Programme and Transit New Zealand) in roads for Canterbury for the last 6 years

PUBLIC INVESTMENT IN ROADS IN \$ MILLIONS (NOT ADJUSTED)			
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
2004/05	77	45	122
2005/06	81	44	125

An indication of *land transport accessibility* is derived from a perception survey of Canterbury residents conducted in May each year. The survey asked 600 Canterbury residents to rate the ease of accessing the places they wish to travel to. Using a scoring range of 1 (very difficult) to 4 (very easy), the survey gave a mean score of the public's perceptions of land transport accessibility of 3.26, indicating that overall respondents felt that travelling to destinations within Canterbury as relatively easy. There was some small variation among years. The magnitude of the responses reflects a generally high level of satisfaction with peoples' ability to access the places they wish to visit. Longer term monitoring of this indicator is required to determine long-term trends.

While indicator nine (Registered Vehicles) shows change in vehicle availability, the following two indicators shed light on actual vehicle use. The *Average Daily Traffic* on Strategic Routes indicator gives a measure of growth in vehicle trips on different parts of the road network. The seven locations are the same roads shown on Figure 6.

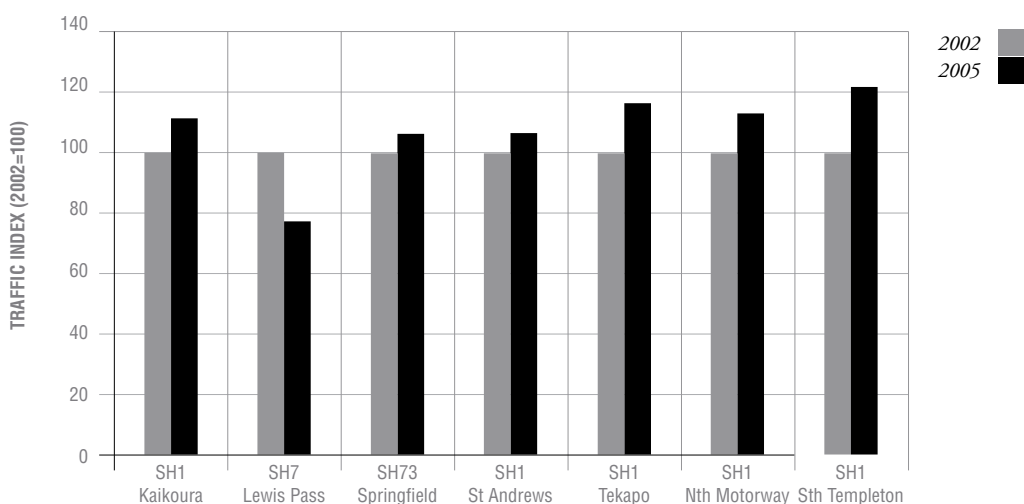
Figure 6: Annual average daily traffic volumes over the last 15 years for seven State Highways across Canterbury



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Figure 7 presents traffic volume changes per road indexed to 2002 traffic volumes. This shows fairly uniform traffic growth across the seven 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 7: Traffic count indices for selected Canterbury State Highways (base 2002 = 100)¹⁹

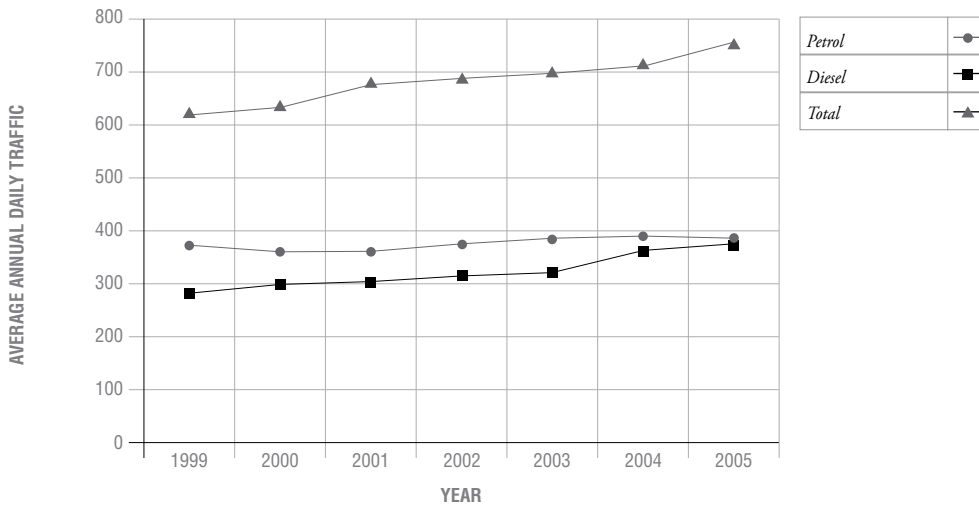


¹⁹ The State Highway 7 Lewis Pass annual average daily traffic volume was unusually high in 2002 due to road closures on State Highway 73 and additional heavy traffic movements; therefore, the indexed 2004 volume appears low in comparison. The 2004 and 2005 traffic volumes are consistent with historical growth for this route.

Heavy commercial vehicles make up a significant proportion of traffic on many roads across Canterbury. In most cases, these vehicles are utilised for business activities. Therefore, the *Heavy Vehicle Traffic* indicator²⁰ gives an indication of growth in vehicle trips associated with economic activity. The annual percentage change in heavy vehicle traffic counts has been positive over the last few years, reflecting steady growth in trips made by these vehicles.

Fuel consumption is a good indication of changing demand and reflects growth in vehicle kilometres travelled for transport in Canterbury. Total annual land transport fuel consumption trends over the last six years are shown in Figure 8.

Figure 8: Canterbury land transport fuel consumption for the last 6 years



The *Annual Per Capita Fuel Use* indicator provides a measure of average fuel resource use per person. For the 2005 calendar year, it is estimated that 722.7 litres of petrol (down 3% from last year) and 703.9 litres of diesel (up almost 7% from last year) were consumed for every person in Canterbury. In total, 751 million litres of fuel was consumed for all of Canterbury's land transport fuel needs in 2005.

An indication of the pressures on the environment resulting from the transport system can be gained from analysing regional fuel data figures. One of these pressures is the production of greenhouse gas from land transport vehicles. This pressure is reported via the *Annual Per Capita Emissions of Carbon Dioxide* indicator. In 2005, it is estimated that for every person in Canterbury about 3.57 tonnes of Carbon Dioxide was produced as vehicle emissions, with 1.88 million tonnes produced in total.

Road crashes and associated costs is another area of significant effects resulting from the transport system. The RLTS has two targets that quantify progress towards reducing the costs (both human/social and economic) of road crashes. The indicator values for *Road Crash Deaths and Injuries* for 2005 were almost 8.4 deaths and slightly over 303 injuries per 100,000 people in Canterbury.

²⁰ This indicator is the average annual daily traffic count for heavy vehicles on the seven strategic routes. The count is the sum of seven routes and also includes heavy vehicle class buses and coaches.

The death and injury road safety indicators report outcomes. The third road safety indicator reports public perception 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 safe²¹.

The cost to society of regional road crashes was estimated by the Land Transport Safety Authority to be \$432.9 million. This is an increase from the 2004 figure of \$387.6 million. When looking at the rural-urban split for 2005, crashes on rural roads had a social cost of \$222.8 million (\$198.3 million in 2004) and urban roads a social cost of \$210.1 million (\$189.4 million in 2004).

5.3 Demand Management

The following indicators reflect progress in the demand management policy area.

Table 8: Annual trend for Demand Management Indicators

Key Result Area - Demand Management

INDICATOR	PERCENTAGE CHANGE FROM PREVIOUS YEAR					
	2001	2002	2003	2004	2005	2006
DEMAND MGMT			0%	↑ 183%	↓ -35%	
	TDM No. of Participating Households					
				↑ 25%	0%	0%
	TDM No. of Participating Businesses					

Table 9: Demand Management Indicator values (absolute numbers)

INDICATOR	ANNUAL INDICATOR VALUE					
	2001	2002	2003	2004	2005	2006
DEMAND MGMT						
(20) TDM No. of Participating Households		160	160	452	292	NA
(21) TDM No. of Participating Businesses			4	5	5	5

Discussion

The indicator programme for the key result area, Travel Demand Management (TDM), directly reflects the work undertaken as identified in the 2002 RLTS major project area. Both indicators are simple descriptive records of individual and organisation participation in TDM programmes.

²¹ This is drawn from a national survey of 1640 people, including 135 Canterbury residents undertaken in 2005. Of the Canterbury respondents, 85% (slightly higher than the New Zealand average of 79%) agreed that New Zealand roads are fairly safe or 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

The number of households participating in TDM, compared to the previous year, has been reported as an indicator of participation rates in community based travel behaviour change programmes. The community based Go Smarter pilot programmes have now finished. Future Annual Monitoring Reports will include any research findings from longitudinal monitoring of the Avondale project and any similar programmes.

The second indicator for this section focuses on business travel plan programmes. This indicator records 5 organisations with business travel plan measures²².

5.4 Land Use

The land use section in the RLTS is intended to provide better integration between land use planning and transport planning. The RLTS advocates for land use planning that reduces the amount of travel required to meet daily needs and includes measures to protect and make better use of the existing transport system. This process will take time to evolve and it is likely that more indicators will be added to this section in the future to track changes in land use.

Table 10: Annual trend for Land Use Indicators

Key Result Area - Land Use

INDICATOR		PERCENTAGE CHANGE FROM PREVIOUS YEAR				
		2001	2002	2003	2004	2005
LAND USE	Consents – Number of new dwellings	↑ 3%	↑ 33%	↓ 30%	↑ 6%	↓ -8%
	Consents - New floor area m ²	↑ 6%	↑ 43%	↓ -13%	↑ 166%	↓ -32%

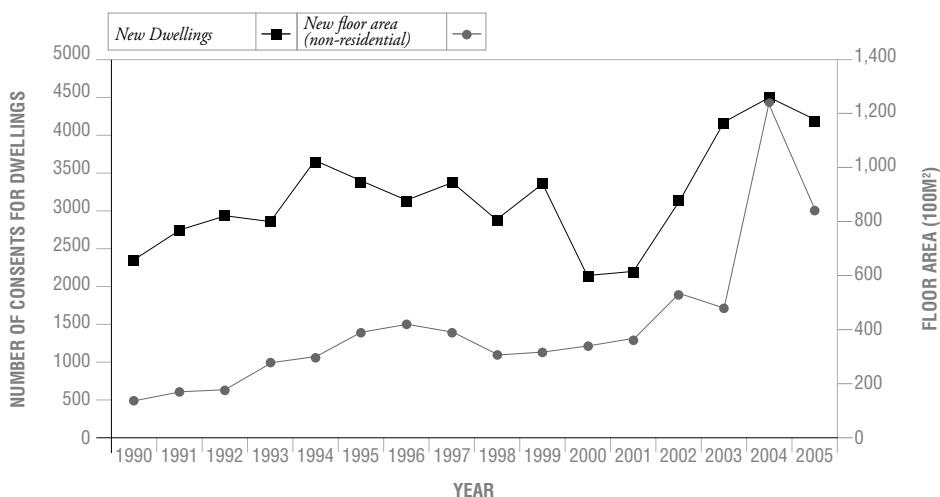
Table 11: Land Use Indicator values (absolute numbers)

INDICATOR		ANNUAL INDICATOR VALUE				
		2001	2002	2003	2004	2005
LAND USE	(22) Number of new dwellings	2439	3233	4189	4452	4116
	(23) New floor area m ² (non-residential)	371,021	529,239	460,490	1,226,919	837,622

Building activity can be a useful indicator of land use changes, as well as economic growth. Differences in rates of building activity between areas may also be used to monitor spatial changes in transport demand. Consents issued for new dwellings rose significantly in 2002 and 2003, but the growth rate has slowed considerably in 2004, with a slight drop in 2005. In contrast, the amount of new floor area (non-residential) gaining consent dropped from 2002 to 2003, but then more than doubled in 2004, however it has dropped back 32% in 2005. Both indicators are quite variable from year to year, but show marked increases from 2000 to 2004 (see figure 9).

²² It is likely that other organisations are also implementing business travel plan like measures that are not reported here.

Figure 9: Commercial and private residential building activity in Canterbury over the last 15 years



5.5 Freight

The following are indicators of activity in the Key Result Area of freight.

Table 12: Annual trend for Freight indicators

Key Result Area - Freight

INDICATOR	PERCENTAGE CHANGE FROM PREVIOUS YEAR						
	2001	2002	2003	2004	2005	2006	
FREIGHT	Number of Registered Goods Vehicles			↑ 2%	↑ 4%	↑ 5%	↑ 3%
	Total goods vehicle RUC			↑ 0%	↑ 2%	↑ 14%	↑ 4%
	Regional Ports Activity - Gross Weight	↑ 12%	↑ 13%	↑ 7%	↑ 5%	↑ 3%	
	Regional Ports Activity - Cargo Value	↑ 15%	↑ 1%	↓ -5%	↑ 3%	↑ 3%	

Table 13: Freight Indicator values (absolute numbers)

INDICATOR	ANNUAL INDICATOR VALUE					
	2001	2002	2003	2004	2005	2006
(24) Number of Registered Goods Vehicles ²³		58,434	59,806	62,123	65,044	66,879
(25) Total goods vehicle RUC (M tonne kms)		6,140	6,141	6,234	7,118	7,367
(26) Ports Activity - Gross Weight (M tonnes)	4.10	4.64	4.95	5.18	5.35	
(27) Ports Activity - Cargo Value (\$M)	7,345	7,407	7,051	7,236	7,426	

²³ Data sourced from Land Transport New Zealand, Registry Centre for the Registered Goods Vehicle indicator includes all vehicles under the classification of 'Goods - Van/Truck/Utility,' where a goods vehicle means a motor vehicle designed exclusively or principally for the carriage of goods (including animals and mails), but does not include a tractor. This would include all vehicles that could transport goods, and therefore does not represent a census of vehicles employed by the freight transport industry.

Discussion

The indicator programme for the key result area of freight is based around four indicators to 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.

Canterbury's goods vehicle numbers is provided from Land Transport New Zealand records. At June 2006, for Canterbury there was 66,879 *Registered Goods Vehicles*. A steady upward trend in registered goods vehicles has been observed over the last five years.

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 5.35 million tonnes and cargo by value of 7.43 thousand million dollars, has been identified for 2005 using the latest available figures from Statistics New Zealand. Figures 10 and 11 show a six year trend for each indicator.

Figure 10: Cargo by gross weight imported/exported through Canterbury's export ports

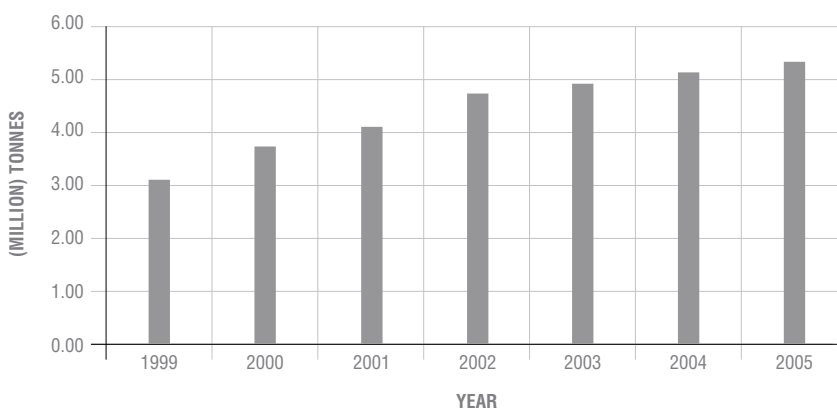
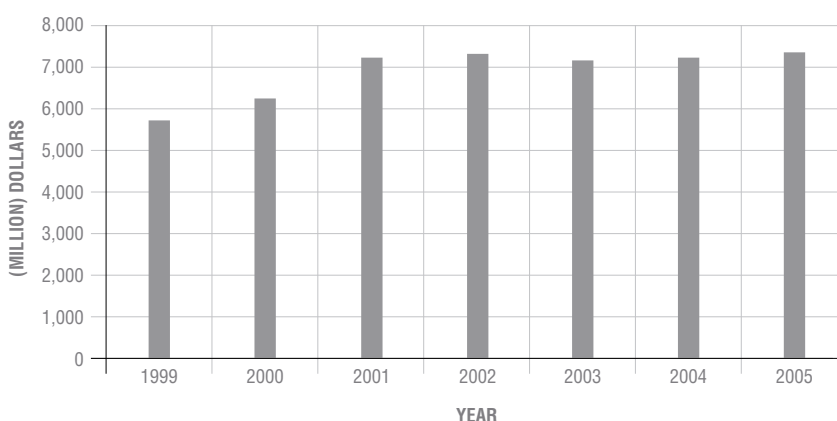


Figure 11: Cargo by value imported/exported through Canterbury's export ports



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 (Transport Licensed Goods and Other Goods vehicle usage license only) for the financial year to June 2006 was up 4% from 2005 to 7,367 million tonnes.

Implementation of Regional Land Transport Strategy Activity Areas

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, service provision, maintenance and improvement 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.

CHAPTER

06

IMPLEMENTATION OF REGIONAL LAND TRANSPORT STRATEGY ACTIVITY AREAS

6.1

KRA 1

Alternative Modes

Walking Activities / Projects for 2005 - 2006

Policy 1.1	Progress to June 2006
Support greater use of walking, ensuring the guiding principles for walking are applied	
Promote the development, implementation and periodic review of pedestrian strategies and strategic plans.	<p><i>The Christchurch City Council Pedestrian Strategy is due for review.</i></p> <p><i>Waitaki District Council has a draft walking and cycling strategy – due for finalisation in September/October</i></p> <p><i>Transit NZ advise minor pedestrian improvements have been achieved with the upgrading at the SH1/73 Hornby Mall intersection. Design currently underway include improved provision for pedestrians.</i></p> <p><i>Selwyn District Council supporting the advancement of pedestrian linkages between new subdivisions</i></p> <p><i>Timaru District Council have adopted their draft Active Transport Strategy – Timaru Transportation Study has reviewed pedestrian and cycling routes.</i></p> <p><i>Waimakariri District Council adopted a walking and cycling strategy in February 2006. Implementation plan will be developed in 2006/07.</i></p>
Implement and periodically review the Pedestrian Strategy for Christchurch City and safe routes to schools.	<p><i>Christchurch City Council advise implementation of pedestrian strategy is ongoing through including pedestrian facilities as part of strategic traffic management, particularly on arterial roads, school road safety and reconstruction works.</i></p>

6.1 KRA 1 - Alternative Modes

- Walking Activities
- Cycling Activities
- Public Transport Activities
- Public Total Mobility Activities
- Public Rail Activities

6.2 KRA 2 - Roads: Infrastructure, safety and environment

- Road Safety Activities
- Environmental Impacts Activities
- Roads Activities
- Road Activities

6.3 KRA 3 - Demand Management

- Demand Management Activities

6.4 KRA 4 - Land Use

- Land Use Activities

6.5 KRA 5 - Freight

- Freight Activities

6.6 Chapter 5 - Funding

- Major Funding Projects for 2003 - 2004

Cycling Activities / Projects for 2005 - 2006

Policy 1.2 Support greater use of cycling, ensuring the guiding principles for cycling are applied	Progress to June 2006
<p>Promote the development, implementation and periodic review of cycling strategies and strategic plans.</p>	<p><i>The Christchurch City Council Cycle Strategy has been regularly updated - 1996, 2000 and 2004.</i></p> <p><i>Waitaki District Council has a draft walking and cycling strategy – due for finalisation in September/October</i></p> <p><i>Installation of cycle lanes in the SH1/SH73 intersection, Yaldhurst/Russley intersection upgrade and SH75 Halswell Road are now complete with improved provision for cyclists, reports Transit NZ.</i></p> <p><i>Design of cycleway between Prebbleton and Lincoln completed and construction underway, reports Selwyn District Council.</i></p> <p><i>Timaru District Council have adopted their draft Active Transport Strategy – Timaru Transportation Study has reviewed pedestrian and cycling routes.</i></p> <p><i>Waimakariri District Council adopted a walking and cycling strategy in February 2006. Implementation plan will be developed in 2006/07.</i></p>
<p>Implement Cycling in Canterbury</p>	<p><i>Environment Canterbury started work on developing a methodology to identify a set of regional cycling on-road routes.</i></p> <p><i>Hurunui District Council note its urban centres are geographically separate and that cycling is a not well used alternative transport mode in the district.</i></p> <p><i>Capital and Operation funding ongoing. Temporary freeze on cycleway capital projects with CCC moratorium (June - Nov 2005) report Christchurch City Council.</i></p> <p><i>Waitaki District Council has a \$60,000 project to implement their walking & cycling strategy.</i></p> <p><i>Transit NZ advise Christchurch City safe cycling facilities design completed and ready to go to tender.</i></p> <p><i>Selwyn District Council advise their cycling strategy is likely to be completed in 2006/07</i></p> <p><i>Timaru District Council have constructed a new combined walking and cycling way for Gleniti Road.</i></p> <p><i>Implementation plan will be developed in 2006/07 for Waimakariri District Council's adopted a walking and cycling strategy.</i></p>
<p>Implement and periodically review Christchurch City Council Cycle Strategy.</p>	<p><i>Updated in 1996, 2000 and 2004</i></p>

CHAPTER 06

IMPLEMENTATION OF REGIONAL LAND TRANSPORT STRATEGY ACTIVITY AREAS

<i>Removal of barriers to strategic cycling routes.</i>	<p><i>None identified in Hurunui District.</i></p> <p><i>Christchurch City Council advise work on going. Site specific including pinch points/bridge refer to Transit NZ.</i></p> <p><i>Waitaki District Council including walking and cycling in projects to remove potential barriers.</i></p> <p><i>Transit NZ report provision in programme for I+R report on rural “pinch” point for cyclists.</i></p>
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Public Transport Activities / Projects for 2005 - 2006

Policy 1.3 Progress to June 2006	
Support greater use of public transport	
Implement the Regional Passenger Transport Plan.	<i>On going implementation of the plan.</i>
Implement Christchurch Public Passenger Transport Strategy including construction of bus priority measures.	<p>Christchurch City Council:</p> <ul style="list-style-type: none"> • <i>Target was adjusted to 50 shelters - 57 installed</i> • <i>Contract complete - 200 bus finder signs installed</i> • <i>RTI Bus Finder Installation Project No. 542/1440 \$50,000 (06/07)</i> • <i>VMS Installation Project No. 542/1441 \$60,000 (06/07)</i> • <i>Bus shelters \$107,944 (06/07)</i> <p><i>Transit NZ scoping TDM implementation project (for quality bus corridors)</i></p>
Improve services and related infrastructure in Waimakariri and Selwyn districts.	<p><i>Selwyn District Council advise two new bus shelters provided in Prebbleton. New bus stops in Rolleston also provided.</i></p> <p><i>Environment Canterbury will be starting a new and improved services for the Waimakariri District in Nov 2006 - Waimakariri District Council will be supporting this by putting in new infrastructure.</i></p>
Strategic investigation of options for the enhancement to the public transport system linking urban areas.	<p><i>Included in the Urban Development Strategy process.</i></p> <p><i>Waimakariri District Council involved in enhanced bus service to Waimakariri area, consultation during the year, park & ride options have been considered in general terms.</i></p>
Implement the Timaru Public Passenger Transport Strategy.	<i>No further work completed (shelter and 15 seats installed in 04/05) report Timaru District Council.</i>
Review the Regional Passenger Transport Plan.	<p><i>Environment Canterbury updated the Regional Passenger Transport Plan and produced a draft for consultation.</i></p> <p><i>Transit NZ made a submission on Draft, seeking more information on travel time reliability.</i></p> <p><i>Timaru and Waimakariri District Councils have input into the review.</i></p>

CHAPTER 06

IMPLEMENTATION OF REGIONAL LAND TRANSPORT STRATEGY ACTIVITY AREAS

6.1 KRA 1 - Alternative Modes

Walking Activities
Cycling Activities
Public Transport Activities

Public Total Mobility Activities / Projects for 2005 - 2006

Policy 1.4		Progress to June 2006
Provide for people with special transport needs		
Provide total mobility services.	<p><i>Service running in Christchurch, Ashburton, Timaru and Waimate. 2005/06 financial year operating expenditure of \$1.46 million.</i></p> <p><i>255,495 passengers transported.</i></p>	

Public Rail Activities / Projects for 2005 - 2006

Policy 1.5		Progress to June 2006
Promote rail as an integral part of Canterbury's strategic land transport system.		
Investigate the use of rail for commuter travel within greater Christchurch, including link to Kaiapoi, Rangiora, Rolleston, Lyttelton, Darfield and beyond.	<p><i>Christchurch City Council participated in ECan Rail Network Level Investigative Report scoping study; some assessment undertaken in CRETS.</i></p> <p><i>Waimakariri District Council report Kaiapoi Community Board commissioned a research study on the viability of a Kaiapoi to Christchurch rail link. This was completed during the year.</i></p>	
Investigate greater use of rail for transportation of freight (e.g. dairy, forestry products and waste) in the region including the proposed branch line to Clandeboye.	<p><i>Hurunui District Council reports no approaches have been made by industry for Council support.</i></p> <p><i>ONTRACK and Fonterra are continuing to work on the Clandeboye branch line proposal. No decision has been made at this stage. Improvements to the West Coast coal route have increased capacity by 50%.</i></p> <p><i>Waitaki District Council supports greater use of rail.</i></p> <p><i>Timaru District Council advise there have been discussions with Fonterra and ONTRACK in regard to Clandeboye branch line proposal.</i></p>	
Improve safety infrastructure at level crossings, including grade separation at critical locations.	<p><i>ONTRACK advise no level crossings in the Canterbury region were ungraded in the year to June 2006. In the next 12 months, 4 crossings are programmed to be done.</i></p> <p><i>Waitaki District Council note issues with level crossing maintenance and need for improved safety at crossings.</i></p> <p><i>Transit NZ working with ONTRACK regarding upgrade at Fernside Rd rail crossing adjacent to SH71.</i></p> <p><i>Selwyn District Council report ONTRACK advise installation of alarms at Two Chain Road / Jones Road is a priority and is being investigated.</i></p> <p><i>Timaru District note ONTRACK consider this a low priority for this district - improvements done at one crossing in Temuka.</i></p> <p><i>Waimakariri District Council advise lighting improvements at Marshes Road crossing completed.</i></p>	

CHAPTER 06 IMPLEMENTATION OF REGIONAL LAND TRANSPORT STRATEGY ACTIVITY AREAS

Rail network improvements.	<i>The railway network has not been added to in the last 12 months. However, expenditure on maintenance and asset renewals has been increased substantially, reports ONTRACK.</i>
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6.2 KRA 2 Roads: Infrastructure, safety and environment

Road Safety Activities / Projects for 2005 - 2006

Policy 2.1	Progress to June 2006
Progressively reduce the number and severity of crashes in Canterbury	
Implement road safety campaigns and community development programmes for the target areas identified in the Road Safety Reports.	<p><i>New Zealand Police note they are fully involved with road safety partners and TLAs.</i></p> <p><i>Co-ordinated campaigns and community development continue, report the Christchurch City Council.</i></p> <p><i>Waitaki District Council has a road safety co-ordinator, a partners programme with Police and actively promotes road safety in the district.</i></p> <p><i>Transit NZ report Network Safety co-ordination projects well underway. New projects have developed. Minor safety programme and safety retrofitting progressing well.</i></p> <p><i>Ongoing in conjunction with the Selwyn and Banks Peninsula Road Safety Subcommittee. Intersection crashes and speed initiatives being covered, reports Selwyn District Council.</i></p> <p><i>Land Transport New Zealand provided assistance and advice to the Regional Road Safety Co-ordinator in relation to all activities by ECan as part of the Community Road Safety Programme (CRSP - funded by Land Transport New Zealand). Provided assistance and advise to all local authority Road Safety Co-ordinators and community groups in relation to the activities undertaken as part of CRSP funded activities.</i></p> <p><i>Land Transport New Zealand also advise road safety data and issues reports for 2001 – 2005 were prepared and distributed to all councils.</i></p> <p><i>Timaru District Council report targeted campaigns completed by South Canterbury Road Safety Trust.</i></p> <p><i>Waimakariri District Council annual programme was delivered as approved.</i></p>

CHAPTER 06

IMPLEMENTATION OF REGIONAL LAND TRANSPORT STRATEGY ACTIVITY AREAS

6.1 KRA 1 - Alternative Modes

Public Total Mobility Activities
Public Rail Activities

6.2 KRA 2 - Roads: Infrastructure, safety and environment

Road Safety Activities

<p>Implement Road Safety Strategies.</p>	<p><i>Hurunui has an active Road Safety coordinating committee which meets 6 times per year and oversees programmes.</i></p> <p><i>Christchurch City Council report ongoing implementation.</i></p> <p><i>No road safety strategies implemented at this stage, reports Waitaki District Council.</i></p> <p><i>Playing an active role in the implementation of strategies, reports Transit NZ.</i></p> <p><i>Selwyn District Council advise their Roading SMS (Safety Management System) completed and implementation underway.</i></p> <p><i>Land Transport New Zealand report Hurunui Road Safety Strategy (RSS) prepared and consulted on as part of LTCCP, Road Safety South Canterbury Charitable Trust has a RSS and annual business plan and Christchurch City Council has an operative RSS.</i></p> <p><i>Timaru District Council advise this is part of SMS – other strategies being developed.</i></p> <p><i>Waimakariri District Council report this was part of the district’s road safety campaigns and road safety improvement programmes.</i></p>
<p>Undertake road safety infrastructure improvements.</p>	<p><i>The maximum allocation of funding from Land Transport New Zealand is applied for and used on minor safety improvements throughout the Hurunui District.</i></p> <p><i>Christchurch City Council ongoing safety programme is part of Council Capital Programme</i></p> <p><i>Waitaki District Council has a \$400,000 minor safety project for improvements in the district</i></p> <p><i>Transit NZ continue to promote block projects such as Haypaddock Hill and Handyside to address safety issues.</i></p> <p><i>Selwyn District Council has an ongoing minor safety programme of projects, e.g., lighting, intersections, speed thresholds and road realignment improvements.</i></p> <p><i>Minor safety funding allocation fully expended on road safety projects, report Timaru District Council.</i></p> <p><i>Waimakariri District Council report Flaxton/Skewbridge and Tram/Jacksons intersections improved - \$380,000 of minor safety projects completed.</i></p>

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<p>Develop and implement Safety Management Systems (SMS).</p>	<p><i>Hurunui District Council's SMS has been developed.</i> <i>Christchurch City Council notes SMS being incorporated in Quality Control processes</i> <i>SMS project deferred from 05/06 and due to commence in September 2006, notes Waitaki District Council</i> <i>Transit NZ advise the implementation of the Safety Management System is ongoing.</i> <i>Selwyn District Council advise their Roading SMS is completed and implementation ongoing.</i> <i>Land Transport New Zealand report Road Safety South Canterbury Charitable Trust commenced development of a joint SMS in 2006 – final draft set for August 2006.</i> <i>Timaru District Council's SMS in progress.</i> <i>Waimakariri District Council Safety Management System in final draft form</i></p>
<p>Develop improved crash reporting processes, especially for non-motorised modes.</p>	<p><i>New Zealand Police advise a new process was trialed for one year. Further refinements being made. There has been an increase in reporting as a result.</i> <i>Regarding unreported crash database - attempts being made to collect all types of crashes, reports Transit NZ.</i> <i>Webpage form available on Waimakariri District Council website - this is for all modes of transport.</i></p>

Environmental Impacts Activities / Projects for 2005 - 2006

<p>Policy 2.2</p> <p>Ensure adverse environmental impacts from transport are monitored and national and regional standards are met</p> <p style="text-align: right;">Progress to June 2006</p>	
<p>Environmental monitoring and investigations of motor vehicle emissions.</p>	<p><i>Part of the work involved with the roadside monitoring site for Christchurch City.</i></p>
<p>Install a network of stock truck effluent disposal sites.</p>	<p><i>Hurunui District Council continues to operate a stock effluent disposal facility at Glasnevin, on behalf of all Canterbury TAs and ECan.</i> <i>Two stock effluent sites in the Waitaki District, south of the Regional Council boundary.</i> <i>Transit NZ advise all consenting issues of the Kaikoura facility were resolved and construction will start in 06/07.</i> <i>Site installed at Springfield, reports Selwyn District Council</i> <i>Timaru District Council supports this regional initiative.</i> <i>Waimakariri District Council is part of the regional project.</i></p>
<p>Establish a vehicle emissions monitoring site in Christchurch.</p>	<p><i>Work progressed on establishing a roadside monitoring site for Christchurch City.</i></p>

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6.2 KRA 2 - Roads:
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Environmental Impacts
Activities

Promotion and introduction of pollution-free technologies for public bodies to provide leadership by example.	<p><i>Environment Canterbury set-up a bus bio-diesel trial for the 2006/07 financial year.</i></p> <p><i>Environment Canterbury has two hybrid electric/petrol cars in its fleet.</i></p> <p><i>Christchurch City Council continues to operate Shuttle Bus service. Council pool bikes available for staff.</i></p> <p><i>Transit NZ has progressed the development of recycling specifications as a National initiative to reduce the environmental effects of roading materials.</i></p> <p><i>Waimakariri District Council is investigating teleconferencing between WDC and its service centres to reduce vehicle use.</i></p>
Enforcement of “10 second rule” for smoky vehicles.	<p><i>New Zealand Police advise there is still little of this enforcement taking place – law is very restrictive on enforcement.</i></p>

Roads Activities / Projects for 2005 - 2006

Policy 2.3	Progress to June 2006
Support the maintenance and balanced development of the region's strategic road network.	
Develop corridor management plans.	<p><i>Not done for Hurunui District.</i></p> <p><i>Christchurch City Council notes Urban Development Strategy intends to identify key corridors</i></p> <p><i>Not done for Waitaki District.</i></p> <p><i>Ashburton and Timaru Transportation studies commenced.</i></p> <p><i>Part of UDS and CRETS, reports Selwyn District Council.</i></p> <p><i>Underway as joint process with Transit NZ, report Timaru District Council.</i></p> <p><i>Waimakariri District Council report no specific corridor management plans developed. Activity Management Plan completed and this defines levels of service for various road types.</i></p>
Complete State Highway Strategy Studies in major urban areas.	<p><i>Transit NZ advise CRETS Transportation study due for public consultation September 2006.</i></p>
Investigate options for Tram Road Improvements.	<p><i>Waimakariri District Council report Tram Road widening and intersection improvement project approved by Land Transport New Zealand – professional services contract let with first stage Tram/Jacksons intersection completed.</i></p>
Develop congestion monitoring techniques to align with traffic congestion targets.	<p><i>Ongoing - annual travel time surveys part of this process</i></p>

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<p>Establish a hierarchy and standards for Canterbury's road network (including non-strategic local roads).</p>	<p><i>Hierarchy in place and recorded in Hurunui District Plan.</i></p> <p><i>Hierarchy in Christchurch City Plan</i></p> <p><i>Waitaki District Council has a road hierarchy in place and will be extending this with extended traffic count programme.</i></p> <p><i>Transit NZ advise hierarchy for South West Christchurch being developed through CRETS.</i></p> <p><i>Part of UDS and CRETS, reports Selwyn District Council.</i></p> <p><i>Part of the Timaru Transportation Study, advise Timaru District Council.</i></p> <p><i>Activity Management Plan completed and this defines levels of service for various road types, reports Waimakariri District Council.</i></p>
<p>Belfast to Hornby corridor improvements.</p>	<p><i>Russley/Yaldhurst Intersection upgrade project complete.</i></p> <p><i>Other projects reviewed through CRETS.</i></p>
<p>Road widening, re-alignments, passing lanes and bridge improvements.</p>	<p><i>Hurunui District Council reports 2 kilometres of road widening completed.</i></p> <p><i>Christchurch City Council advise:</i></p> <ul style="list-style-type: none"> • <i>Blenheim Road Deviation (\$10m) started in 2006 (includes new bridge over railway line)</i> • <i>Ferrymead bridge lifeline project near construction phase</i> <p><i>Future Projects:</i></p> <ul style="list-style-type: none"> • <i>Widening of Ferry Road to Four Laning (\$12m) 2009/2012</i> • <i>Main Road Three laning Ferrymead Bridge towards Sumner (\$1.6m) 2008</i> • <i>Lincoln Road Four Laning (\$7m) 2010-2112</i> • <i>Cranford St Four Laning (\$10) 2010-2014</i> • <i>Hills Road Four laning (\$7m) 2011</i> • <i>Burlington at Brougham St - New slip lane (\$1.8m) 2010</i> <p><i>Waitaki District Council report minimal road widening completed; no realignments or passing lanes undertaken. Bridge renewals completed in the last two years.</i></p> <p><i>Transit NZ advise the following projects were completed in 05/06:</i></p> <p><i>Main North Road 4 laning, Saltwater Creek Realignment, Haypaddock Hill Corner, Handyside to waterfall guardrail, Empire Road, Okiwi Bay Safety Improvement, SH1/SH73 Hornby Mall Intersection, Lunns Rd/Parkhouse Rd Intersection, Kowai River No 2 Bridge Widening and Seadown South Passing Lanes.</i></p> <p><i>Timaru District Council report completion of final stage of Temuka to Clandeboye dairy factory road route.</i></p>

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6.2 KRA 2 - Roads:
Infrastructure, safety and
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Road Activities / Projects for 2005 - 2006

Policy 2.4	Progress to June 2006
Support the maintenance and enhancement of non-strategic local roads	
Review of "Living Streets" project in Christchurch.	<i>Christchurch City Council advise Living Streets principles adopted in standard project development process</i>
Prepare and implement asset management plans (AMP) for transport infrastructure.	<p><i>AMPs for Hurunui's District Roads are continuously being updated and refined.</i></p> <p><i>Activity Management Plan in place in line with LGA requirements reports Christchurch City Council</i></p> <p><i>Waitaki District Council draft asset management plan completed – to be finalised by end June 2007</i></p> <p><i>Selwyn District Council report asset management plan being updated in 2006.</i></p> <p><i>Draft asset management plan completed, report Timaru District Council</i></p> <p><i>Waimakariri District Council report Activity Management Plan completed.</i></p>

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6.3

KRA **3**

Demand Management

Demand Management Activities / Projects for 2005 - 2006

Policy 3.1	Progress to June 2006
Undertake travel behaviour change programmes, and education and promotion measures, to reduce the use of private motor vehicles, especially in areas of traffic congestion	
Develop Christchurch travel demand management strategy	<p><i>Christchurch City Council advise project not started – no action on the strategy</i></p> <p><i>Transit NZ scoping TDM implementation project (quality bus corridors) in collaboration with CCC/ECan</i></p>
Trial school travel plans.	<i>2 STPs adopted and being implemented for Christchurch</i>
Develop tools to support the uptake of business travel plans such as a web-based rideshare programme.	<i>GoSmater.org.nz web has been updated with new information on off-site employee options (telework)</i>

Demand Management Activities / Projects for 2005 - 2006

<p>Policy 3.2 Progress to June 2006</p> <p>Encourage use of parking controls to manage travel in and around urban areas.</p>	
<p>Implement Christchurch City-wide Parking Strategy.</p>	<p><i>Christchurch City Council advise Strategy used for all roading projects</i></p>

Demand Management Activities / Projects for 2005 - 2006

<p>Policy 3.3 Progress to June 2006</p> <p>Enhance understanding of methods and outcomes of road pricing measures.</p>	
<p>Undertake a preliminary study and raise public awareness of road pricing options.</p>	<p><i>No work in this area for 2005/06.</i></p>

6.4

KRA 4

Land Use

Land Use Activities / Projects for 2005 - 2006

<p>Policy 4.1 Progress to June 2006</p> <p>Promote the location of housing, jobs, shopping, leisure, education and community facilities and services to support transport choices and reduce the need to travel, especially by private motor vehicle.</p>	
<p>Complete the development of the Greater Christchurch Urban Development Strategy</p>	<p><i>Christchurch City Council, Transit New Zealand, Environment Canterbury, Waimakariri District Council and Selwyn District Council participated in the UDS strategy development process.</i></p>

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6.2 KRA 2 - Roads: Infrastructure, safety and environment
Road Activities

6.3 KRA 3 - Demand Management
Demand Management Activities

6.4 KRA 4 - Land Use
Land Use Activities

Land Use Activities / Projects for 2005 - 2006

Policy 4.2		Progress to June 2006
Design and programme developments and related infrastructure to support sustainable transport choices, improve interchange between modes and to reduce the need to travel, especially by private motor vehicle.		
Promote urban design guidelines to developers, surveyors and designers.	<p><i>Hurunui District Council note all urban developers are encouraged to create walkways within developments.</i></p> <p><i>Christchurch City Council documents include:</i></p> <p style="padding-left: 40px;"><i>Design for Waterways, Draft Code of Practice for Infrastructure, urban design document (includes process for subdivision applicants)</i></p> <p><i>Waitaki District Council promotes guidelines and is due to review District Plan requirements for transport.</i></p> <p><i>Timaru District Council reports development of code of practice underway.</i></p> <p><i>Ongoing through subdivision approval process, report Waimakariri District Council.</i></p>	

Land Use Activities / Projects for 2005 - 2006

Policy 4.3		Progress to June 2006
Ensure that land-use, transportation planning and transport provision are mutually supportive and priorities closely linked.		
Develop and implement area or structure plans in areas of new development.	<p><i>Area Plans being developed, reports Christchurch City Council.</i></p> <p><i>Transit NZ working with CCC to develop package of activities associated with CHCH southern motorway extension.</i></p> <p><i>Timaru District Council report Gleniti structure plan adopted subject to appeals.</i></p> <p><i>Waimakariri District Council have a number of outline development plans under development.</i></p>	
Christchurch transport model update.	<p><i>A Joint project between Christchurch City Council, Transit New Zealand, Environment Canterbury and Waimakariri District Council - contract commission let and work underway. Pilot for household interview surveys underway. Model specification agreed. Area covers UDS area.</i></p>	
Greater Christchurch Transport Statement.	<p><i>Being incorporated into UDS, advise Christchurch City Council.</i></p>	

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Area/corridor transportation assessments.	<i>Included in Christchurch City Council Area Plan work and UDS process Ashburton and Timaru studies are underway. Preliminary discussions have taken place with Kaikoura DC on their needs, reports Transit NZ. Selwyn District Council involved in CRETS study. Heavy vehicle study in Rangiora continued in 05/06, report Waimakariri District Council.</i>
Timaru Transport study.	<i>Both issue identification and option identification are completed.</i>
Ashburton Transport study.	<i>Both issue Identification and option identification are completed.</i>
Christchurch Rolleston and Environs Transport Study.	<i>Work progressed to a stage where a proposed roading hierarchy and improvement strategy has been developed. Next stage is public consultation.</i>

Land Use Activities / Projects for 2005 - 2006

Policy 4.4 Ensure a high level of accessibility to key business destinations, including ports, airports, city and town centres, agricultural, tourist and industrial areas.	Progress to June 2006
Natural hazard risk assessment and mitigation.	<i>Natural hazard risk assessment has been carried out for the Hurunui District. Christchurch City Council Lifelines projects within programme. On going for Waitaki District Transit NZ advise ongoing as part of Network operations monitoring Included in Activity Management Plan and through involvement in Lifelines Group, report Waimakariri District Council</i>
Christchurch northern access package.	<i>Modelling update near completion, projects in LTCCP, report Christchurch City Council.</i>
Christchurch southern access package.	<i>Scope and project funding agreements nearly completed report Christchurch City Council. Transit NZ advise macro scope of CHCH southern motorway agreed with CCC. Preparing to tender Design contract.</i>

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6.4 KRA 4 - Land Use
Land Use Activities

6.5 KRA 5 - Freight
Freight Activities

6.6 Chapter 5 - Funding
Major Funding Projects for
2003 - 2004

6.5**KRA 5****Freight****Freight Activities / Projects for 2005 - 2006****Policy 5.1****Progress to June 2006**

Provide for the effective movement of freight in ways that are efficient, safe and sustainable ensuring the guiding principles for freight are applied.

Implement the Canterbury Freight Action Plan.

The Freight Working Group oversaw work to complete a heavy vehicle trip research project, district plan review work and related submission work in support of implementing the Freight Action Plan.

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6.5 KRA 5 - Freight
Freight Activities

6.6 Chapter 5 - Funding
Major Funding Projects
for 2003 - 2004

6.6**Chapter 5****Funding****Major Funding Projects for 2003 - 2004****Funding – (No specific policy)****Progress to June 2004**

Develop an implementation programme for the RLTS.

A scoping, investigative level report was completed.

Glossary of terms

Terms or words that appear in italics are also described within the glossary.

Accessibility – Access, in simple terms, refers to the ability to reach a location or service within an acceptable amount of time, money and effort. Good 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.

Access management plans – A plan designed to control the access onto a corridor or section of network in order to preserve the function of that network. This may be by way of restricting private property access through the use of limited access road designations.

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

Alignment – The horizontal and vertical ground plan of a roadway, rail system or other transportation facility as it appears in the plan and profile.

Area or structure plans – These involve the integrated planning for development within a specified area.

Bus priority measures – Measures that give priority to buses over other road users such as bus lanes or responsive traffic lights.

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.

Coastal shipping – This is the carriage of cargo or passengers along the coast of New Zealand by ship. This does not include international shipping.

Commercial vehicles – A vehicle used for a commercial activity such as the movement of freight (also known as goods vehicles).

Demand management (travel demand management) – A variety of strategies and techniques aimed at encouraging less trip-making through more efficient travel behaviour, increasing the use of buses, *ride-sharing*, and other alternative *modes*. May also include influencing *travel* demand through adjusting the parking supply and various road pricing measures.

Greenhouse gasses – Gases, such as carbon dioxide, methane, water vapour, nitrous oxide, ozone and halocarbons in the atmosphere, that trap heat from the sun and warm the earth.

Infrastructure – All fixed components of a transportation system including roadways and bridges, park-and-ride sites, bus stop shelters and other elements.

Integrated ticketing system – A ticket system that can be used across a number of different operators providing transport services.

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

Land transport system – All *infrastructure*, 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, as defined by the Highway Capacity Manual. The various service levels are defined by a range from A to F, with A representing free-flow traffic conditions and F representing stop-and-go traffic.

Metro – Brand name used to promote scheduled *public passenger transport* services in Christchurch (bus and ferry only).

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

Multi-modal – Used to describe activities involving more than one mode of transport.

Mode – A categorisation of transport methods, e.g. bus, motor vehicle, single-occupant vehicle, walking, cycling, rail, aeroplane, boat or ferry.

Network – The interconnection of *infrastructure* used for the transportation of people and goods.

Nodes – A point of connection in a *network*, either between two or more links in the *network* or to provide access from the network, where a service is provided.

Public passenger transport – Passenger transportation service, including taxi services, available to the public on a regular basis using vehicles that transport people for compensation, usually but not exclusively over a set route or routes from one fixed point to another.

Ride-sharing – The act of sharing a ride with other people in a private vehicle. The term is usually applied to carpools and vanpools.

Road Controlling Authority (RCA) – City councils, district councils and Transit New Zealand.

Road pricing – Refers to the charging for road use through methods including the use of cordon charges, permit schemes, tolls, fuel charges, distance-based charges and peak-use (congestion) charges.

Road User Charge (RUC) – A charge paid to use public roads. All diesel powered vehicles and other vehicles powered by a fuel not taxed at source, regardless of weight, must pay RUC.

Safety Management Systems – A systematic approach to assist Road Controlling Authorities in developing consistent strategies, policy standards and procedures for road safety.

State Highway – A road managed by Transit New Zealand.

Stock truck effluent – Effluent from livestock that is collected whilst the stock is being transported by truck.

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

Sustainable land transport system – an interconnected system to provide access for people and the transportation of goods without adversely affecting the economic, social and natural environments of present and future generations.

Territorial authorities – City councils and district councils.

Total Mobility – The Total Mobility scheme provides a subsidised transport service to increase the *mobility* of people with serious mobility constraints.

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

Travel behaviour change programmes – A *demand management* approach designed for individuals households or organisations to help people reduce their car use by making small changes that benefit themselves and fit into their life-styles. It involves an individualised marketing approach based on assessing *travel* patterns and providing specific information and advice to encourage changes in travel behaviour.

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. Also known as Green Travel Plans, business travel plans are the product of a process where an employer, together with staff, works out how best to reduce car use by encouraging more cycling, walking, public transport, car sharing, more flexible hours and home-working. Travel plans can also be applied to schools and organisations like hospitals.

Vehicle occupancy – The number of people in a vehicle.