

2004/2005 Annual Report on the Regional Land Transport Strategy

September 2005

Quality for life





greater WELLINGTON
REGIONAL COUNCIL

2004/2005 Annual Report on the Regional Land Transport Strategy

FOR FURTHER INFORMATION

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Highlights

- The greater Wellington region showed economic growth of 5.5% over the past year; higher than the New Zealand average (3.4%) and that of the Canterbury (5.0%) and Auckland (1.8%) regions.
- Greater Wellington's congestion levels continue to rise across all periods of the day; all-day average congestion increased 8% or from 23 seconds to 25 seconds delay per kilometre travelled between 2004 and 2005.
- Regional public transport patronage continues to grow; in the 2004/05 year peak passenger trips increased by 200,000 mainly due to increased bus patronage, with rail patronage remaining relatively static. Off-peak passenger trips by all public transport modes significantly increased during 2004/05, by over 5% or 800,000 trips.
- Road crash numbers continue to increase in general throughout the region; there has been an increase in total recorded casualties for all vehicle types since 2001 and total crash numbers have trended upwards from the year 2000. Regional casualties per 100,000 population figures remain lower than those of Auckland and Canterbury regions.
- Regional fuel consumption increased by 1.6% between 2003 and 2004 (compared with a decrease in fuel sales of a similar amount the year previous). Consequently transport related greenhouse gas emissions have also increased.
- Total Mobility passenger numbers have increased 13.5% in the 2004/05 year.
- Total inter-island ferry freight movements continue to grow (45% between 2002 and 2005) while rail freight continues to decline.
- Heavy vehicle movements over the Rimutaka Hill Road increased by 9% on weekdays last year; this continuation of growth is due to the harvesting of Wairarapa forestry blocks with logs transported by truck to the port of Wellington. A proposed road to rail log transfer station will offer an alternative to road transport from the Wairarapa.
- The private car continues to be the dominant mode of transportation.

2004 Regional land transport report card

The following report card has been developed to identify clearly our desired key outcomes and to show how well we are doing. It highlights that while good progress is being made in some areas, significant challenges remain unanswered.

	Desired Outcome	2005 Result	2004 Result	2003 Result
Improve access	Reduced road congestion	x	x	x
	Increased road accessibility	x	x	x
	Increased public transport accessibility	✓	✓✓	✓✓
Implemented cost-efficient projects		✓✓	✓✓	✓✓
Improved safety		xx	xx	x
Improve sustainability	Reduced fuel use and emissions	x	✓	x
	Increased public transport use	✓✓	✓	✓✓
	Matching adjacent capacity	?	?	?
	Reduced emergency risk	?	✓	?
	Increased walking and cycling	✓	✓	✓✓

✓✓	Significant improvement
✓	Improvement
x	Decline
xx	Significant decline
?	Insufficient information

1 Background to the report

Statutory context

Regional Land Transport Strategy

The Land Transport Act 1998¹ requires every regional council to establish a Regional Land Transport Committee (RLTC). This committee must prepare a Regional Land Transport Strategy (RLTS). The current RLTS² was approved in November 1999, fulfilling legal obligations for the period 1999 to 2004 and setting out objectives, policies and plans for the 20 years to 2019.

The RLTS is a 'living' document and is currently under review, with an updated version due for release in draft format in early 2006. Since the release of the 2003/04 Annual Monitoring Report (AMR), work has commenced on developing the Regional Travel Demand Management Strategy, Passenger Transport Plan and Western Corridor Transportation Study. Development of the Wellington CBD Corridor Study also continues.

Annual Monitoring Report

The Land Transport Act 1998 also states that an AMR must be prepared on progress towards implementing the RLTS. The report must be available within three months of the end of the financial year to which it relates; for GWRC, this is 30 June and hence this AMR is due 30 September. All indicators relate to financial years ending at 30 June unless otherwise stated.

AMR contents

Enhanced monitoring

The law offers little specific guidance on what an AMR should contain. GWRC sees value in monitoring that goes beyond minimal legal requirements, reporting on trends in a range of indicators that drive transportation demand, both within the region and across its boundaries.

Extensive reporting on road and public transport network performance, and on environmental measures, yields a detailed picture of regional performance, sustainability and trends.

Benchmarking ourselves against New Zealand's other two largest regions with significant transport issues – Auckland and Canterbury – allows us to see how well we are doing at a national level, and gives some indication as to where regional New Zealand transport issues are heading as a whole.

A regional perception survey first carried out in 2003 added further value to the largely objective data presented in previous reports by offering an understanding of public perceptions of transport-related issues. The 1,000-person telephone survey was repeated by National Research Bureau Ltd in June 2004. This has allowed benchmarking of this information against Auckland Regional Council (ARC), which carries out similar surveys on a biennial basis.

Additions to the 2004/05 AMR include:

- Total Mobility passenger numbers (GWRC): Table 5
- Revised road traffic hourly volume profiles (Transit New Zealand): Figures 28a and 28b.

Long-Term Council Community Plan Targets

GWRC, through the development of its 2003/04 Long-Term Council Community Plan (LTCCP), has developed a series of long-term 'LTCCP Targets' relating to transport sustainability. The targets relate to:

- fuel consumption
- public transport safety
- road congestion
- mode of transport to work
- cycling and walking short trip use.

These targets have been included in this report as a step towards integrating LTCCP targets with RLTS targets.

In some cases, data demonstrates that we are on the way to achieving set goals in commuter transport mode choice and active mode choice for short trips up to 1km; however in other areas such as regional fuel consumption, congestion on the road network and the use of active modes for short trips up to 2km, targets are not being met. These will need to be addressed if we are to achieve our LTCCP targets.

¹ As amended by the Land Transport Management Act 2003 and the Land Transport Amendment Act 2004

² The Wellington Regional Land Transport Strategy 1999-2004 (Wellington Regional Council, 1999)

Section outlines

Section 2 presents demographic variables driving regional land transport demand.

Section 3 presents measures of passenger and freight transport activity across Wellington regional boundaries.

Sections 4 to 8 describe regional transportation network performance in respect of each RLTS objective area:

- accessibility and economic development
- economic efficiency
- affordability
- safety
- sustainability / environment.

Section 9 details progress in implementing RLTS projects and policies.

Section 10 summarises progress in and identifies obstacles to implementing the strategy.

Section 11 presents conclusions of the report.

Information availability

Most agencies co-operated in supplying information for the monitoring programme, and GWRC gratefully acknowledges this. Sometimes, however, relatively straightforward information proved to be difficult or impossible to obtain.

Collecting key information on air and surface water quality is expensive. The first regional transport-focused air quality monitoring station (located at the intersection of Victoria and Vivian Streets, Wellington) was commissioned in early 2004. We continue to investigate surface water monitoring options and are optimistic a programme will be established within the next few years in conjunction with the GWRC Environment Division.

2 Regional demographic indicators

This section sets out and discusses trends in the following regional demographic variables driving transport demand:

- Resident population
- Occupied dwellings
- Unemployment
- Regional economic activity
- Building activity
- Vehicle ownership

Indicators

Resident population

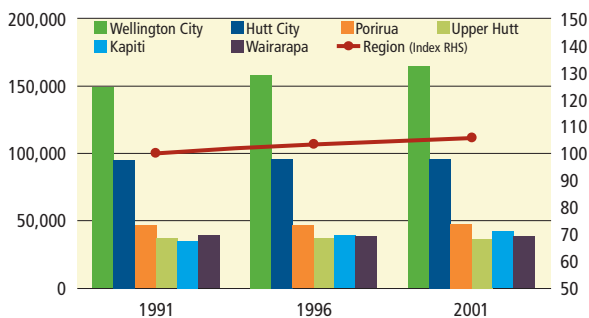


Figure 1: Resident population, by district. 1991 = 100. Source: Statistics New Zealand

Definition: The graph shows usually resident populations by district. Census data is collected five-yearly, so this indicator will next be updated in the 2007/08 AMR.

Interpretation: The total 2001 regional population was 423,700. Thirty-eight percent lived in Wellington City; 32% in the Hutt Valley; 11% in Porirua; 10% in Kapiti; and 9% in Wairarapa.

Table 1 shows a wide variation in district growth rates. Kapiti has seen at least 2% annual growth since 1991, while the Hutt Valley and Wairarapa have experienced de-population. Regional population growth has averaged 2,343 people per annum since 1991, with a slight slowing since 1996. Current growth is 0.6% per annum (2001 figures).

Comments: Population growth in the region is modest. Population growth fuels regional demand for travel. Kapiti's faster growth is partly driven by families relocating from Wellington and elsewhere in the region. This strong growth will create further demand for travel both within Kapiti and between Kapiti and Wellington, putting the existing transport networks under more strain.

District	Growth rates per annum					
	1991 – 1996		1996 – 2001		1991 – 2001	
	No.	%	No.	%	No.	%
Wellington	1,856	6.3	1,221	3.9	1,538	10.4
Hutt City	198	1.5	-79	-0.8	60	0.6
Porirua	16	0.1	149	1.6	83	1.8
Upper Hutt	-34	-0.5	-69	-0.9	-51	-1.4
Kapiti	729	10.4	772	10	751	21.5
Wairarapa	-17	-0.2	-60	-0.8	-38	-1
Region	2,748	3.4	1,934	2.3	2,343	5.8

Table 1: Population growth rates, by district

Occupied dwellings

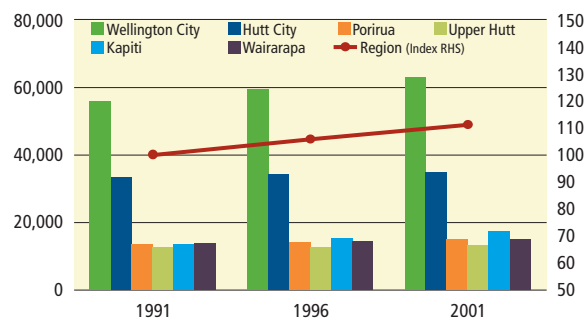


Figure 2: Occupied dwellings, by district. 1991 = 100. Source: Statistics New Zealand

Definition: The graph shows occupied dwellings by district. Census data is collected five-yearly, so this indicator will next be updated in the 2007/08 AMR.

Interpretation: Patterns of absolute and relative growth are closely linked to population. Table 2 shows movements in the average number of people per occupied dwelling, derived from the above indicators. Household size is falling across the region; the largest households are in Porirua, the smallest in Kapiti, reflecting this area's large retirement-aged population.

District	Number of persons per occupied dwelling		
	1991	1996	2001
Wellington	2.7	2.7	2.6
Hutt City	2.9	2.8	2.8
Porirua	3.4	3.3	3.2
Upper Hutt	3.0	2.9	2.7
Kapiti	2.6	2.5	2.4
Wairarapa	2.8	2.7	2.6
Region	2.8	2.8	2.7

Table 2: Change in number of persons per occupied dwelling, by district

Unemployment

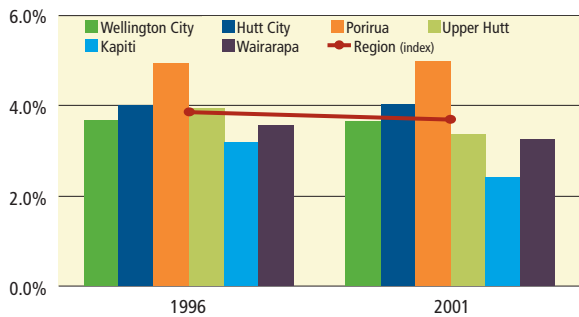


Figure 3: Unemployment, by district. Source: Statistics New Zealand

Definition: The graph shows district labour force status, with unemployment as a percentage of population. Census data is collected five-yearly, so this indicator will next be updated in the 2007/08 AMR.

Interpretation: A downward regional trend masks inter-district differences. Unemployment rates have fallen most markedly in Upper Hutt, Kapiti and Wairarapa, while Porirua has experienced a small increase. Porirua unemployment rates are the highest in the region.

Comments: Data is available for only two census years, so apparent trends should be treated with caution. Transportation demand is likely to be inversely correlated with unemployment rates: the highest levels of unemployment result in the lowest levels of transportation demand.

Regional economic activity

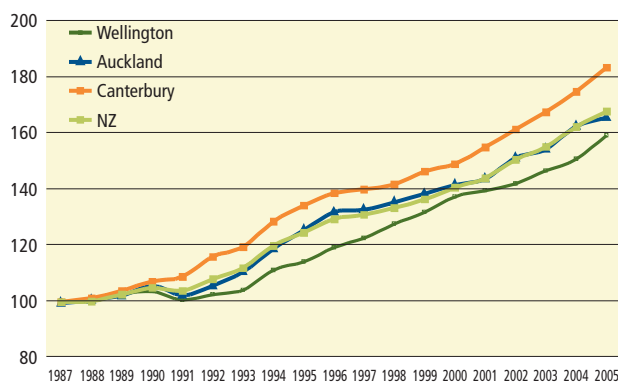


Figure 4: Regional/New Zealand economic activity. 1987 = 100. March quarter. Source: National Bank

Definition: The graph shows a composite measure of economic activity that includes: business and consumer confidence; retail sales; new motor vehicle registrations; regional exports; registered

unemployment; building consents; real estate turnover; job advertisements; accommodation; and results from the Household Labour Force Survey.

Interpretation: Although steady regional growth has been shown between 1987 and 2004 by each region featured, the greater Wellington region has experienced the least overall increase in economic activity. However over the past year, at 5.5%, Wellington's growth rate has been above the New Zealand average of 3.4%, Canterbury's (5.0%) and that of Auckland (1.8%).

Comments: Indications are that the greater Wellington region is enjoying strong economic activity. This growth can be expected to increase demands for movement of people and freight.

Building activity (number of consents, Wellington region)

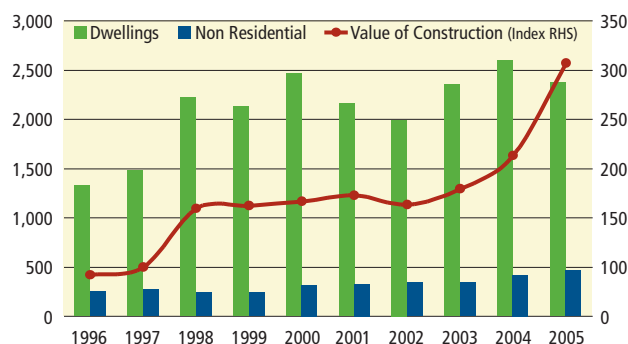


Figure 5: Greater Wellington building activity. 1997 = 100. Year ended March. Source: Statistics New Zealand

Definition: The graph shows the number of residential and non-residential building consents issued. Figures are available monthly and relate to the year ended March.

Interpretation: From 2000, a decline in residential building consents to 2002 was followed by 30% growth to 2004. The number of residential consents issued in 2005 has decreased again (9%) to the 2003 level.

Non-residential consents have shown an increase since 2003 of 22% in 2004, with half that growth in 2005 at 11%. This follows a relatively static period from 2000 to 2003.

The value of the non-residential consents issued in 2005 has more than trebled since last year. This has pushed the 'value of construction' index up significantly.

Comments: The construction industry generates demand for transport as well as being a ‘barometer’ of regional economic activity. Demand for travel (both freight and passenger) is positively correlated with regional economic activity.

Whilst the value of construction is a useful measure of total construction activity, it should be noted that this is susceptible to variation in the unit costs associated with the construction sector (which do not necessarily have any implications for levels of transportation activity).

Vehicle ownership by household: change 1996 to 2001

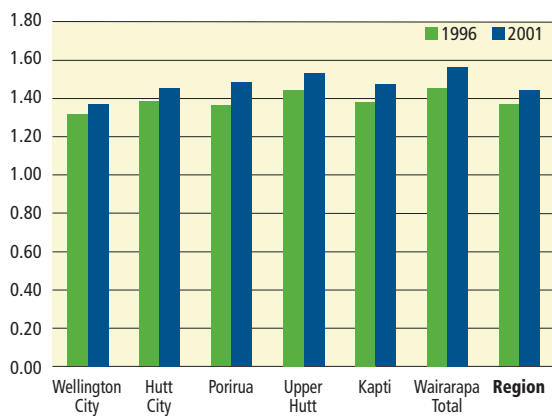


Figure 6: Regional vehicle ownership by household. Source: Statistics New Zealand

Definition: The graph shows census figures which are available five-yearly, so this indicator will next be updated in the 2007/08 AMR.

Interpretation: Over the five years from 1996 to 2001, the average number of cars per household rose from 1.37 to 1.44, or by 5%. Levels of car ownership correlate inversely with urban density: the lowest levels are in Wellington City, the highest in Wairarapa. Car ownership grew in every district, with the highest rate (9%) in Porirua and the lowest in Wellington City (4%).

Comments: Increasing car ownership leads to greater car use and more demands on the road network, which in turn, has a negative affect on the environment.

Registered car ownership

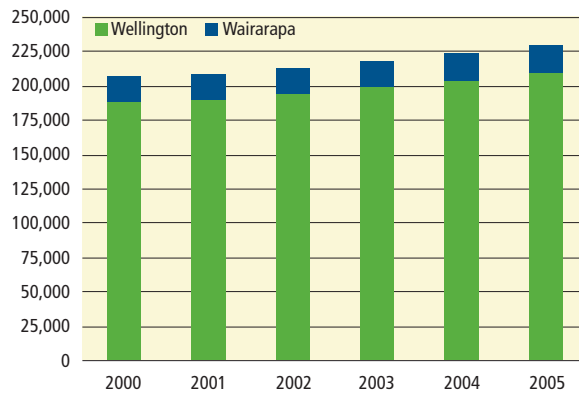


Figure 7: Greater Wellington regional car registrations. Source: Land Transport New Zealand.

Definition: The graph shows car ownership numbers in Wairarapa and the rest of the region (‘Wellington’) as recorded by the Land Transport New Zealand car registration process.

Interpretation: Over the five years from 2000 to 2005, the total number of cars registered rose from 207,136 to 229,547 or by 10.8%. Car registration levels correlate with regional population density: the lowest levels are in ‘Wairarapa’, the highest in ‘Wellington’ (the more urban part of the region). The total number of car registrations in Wairarapa has grown by 9.6% over the past five years compared with 10.6% growth in the Wellington sub-region.

Comments: Increasing car ownership correlates with greater car use, which leads to increased negative environmental effects.

Demographic summary

Demographic indices

Definition: Figure 8 shows movement in demographic indices and a composite index at a macro level. All are expressed relative to a base year of 1996.

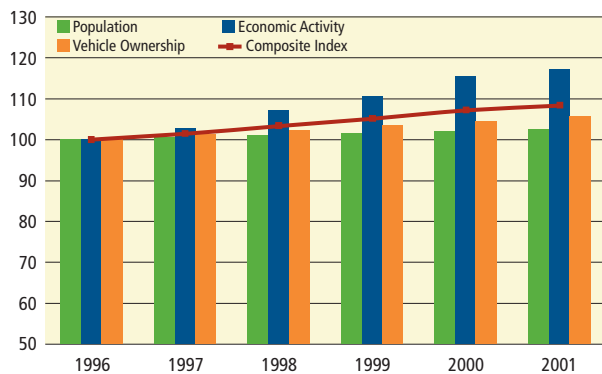


Figure 8: Regional demographic indices. 1996 = 100

Interpretation: Modest growth of 8% occurred between 1996 and 2001.

Regional level

Over the five years from 1996 to 2001, the regional population grew by 2% while vehicle ownership increased by 6%. This stems from the continuing relatively low cost of vehicle operation (although recent fuel price rises may impact) and increasing economic activity: 17% in the same period.

The rate of growth in the composite index (the average of three indices: population, economic activity and vehicle ownership) was 8% between 1996 and 2001.

As the focal point of economic activity, and home to 38% of the 2001 regional population, Wellington City has a strong influence on regional figures.

Sub-regional level

Population has declined in Wairarapa and Upper Hutt, while Kapiti's population has grown. There has been little change in unemployment rates, which remain highest in Porirua and elsewhere show a steady decline. Growth rates of total vehicle ownership by household are lowest in Wellington city, reflecting a trend for inner-city apartment living and proximity to employment. Conversely, census data indicates the highest rates and growth of vehicle ownership are in the more remote Wairarapa and Upper Hutt areas.

The highest rates of growth continue in the western corridor serving Kapiti, while Wairarapa and Hutt Valley growth remains relatively subdued. The trend towards CBD living can be expected to suppress growth in travel demand. This is offset by the desire of many to live outside the Wellington urban area, so increasing demand for peak-time commuter travel.

Outlook

These trends are, in general, expected to continue. To a large extent, however, transport demand is driven by factors over which the RLTS has no control, such as fuel prices and economic activity. It is expected that the Wellington Regional Strategy will influence the future demographic and economic patterns of the region.

Implications for transportation planning

Transportation demand is expected to rise markedly, driven by increasing car ownership, modest population growth and economic activity. Current initiatives to discourage peak-period car use (e.g. Travel Planning) rely mainly on a voluntary change in travel behaviour only anticipated to affect the demand for travel at the margins. Ultimately, tolls, congestion pricing and parking fees will be needed to give travellers direct financial incentives to change their behaviour and ensure the network can efficiently accommodate transportation demand.

3 Inter-regional travel indicators

This section sets out and discusses trends in total travel to and from the Wellington region according to the following indicators:

- Inter-regional passenger movements
- Inter-regional freight movements

Indicators

Inter-regional passenger movements

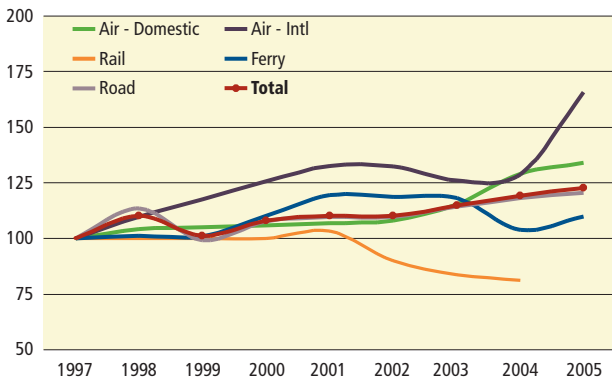


Figure 9: Inter-regional passenger movements. 1997 = 100. Sources: Wellington International Airport; Toll NZ; Strait Shipping; Transit New Zealand

Note: 2005 rail passenger data unavailable. Passengers by road refer to the previous calendar year.

Definition: The graph shows a passenger movement index. Figures relating to numbers of people crossing regional boundaries by air, sea (inter-island ferries only), rail or road (buses are excluded because information is unavailable). Because some data is commercially confidential, absolute numbers are not given. Some double counting of passenger movements will be included (e.g. passengers may arrive in the region by car and leave by ferry). An average vehicle occupancy factor of 1.7 has been applied to road traffic counts. Wellington airport’s function as a domestic network hub results in many movements not destined for or originating in the region, but counted as crossing regional boundaries.

Table 3 shows absolute numbers of travellers; figures for the inter-island ferries (operated by Strait Shipping and Toll NZ) and inter-regional passenger trains (operated by Toll NZ) have been omitted to protect commercial confidentiality.

Mode	Number of persons (million) in 2005
Air – domestic	4.0
Air – international	0.6
Rail	N/A
Ferry	N/A
Road (except buses)	11.0

Table 3: Number of inter-regional passengers, by mode (2005)

Interpretation: Road continues to be the dominant mode for passenger movement to and from the region (by land transport). The growth of air travel is volatile, affected by airline industry changes, industry competition and fuel prices.

Despite these factors, domestic air passenger movements have grown by 34% between 1997 and 2005. The growth rate of international passenger movement by air over the same period is 66% led by a sharp increase of almost 29% between 2004 and 2005.

Inter-regional rail passenger numbers have declined 21% from 2001 to 2004. A recent increase in ferry patronage hasn’t quite resulted in the levels experienced between 2001 and 2003. Competition between rival inter-city airlines causing domestic airfare prices to fall, may be partly responsible for the lack of growth in road and rail passengers.

Overall, the trend is strong growth, with a 23% increase in total passenger trips between 1997 and 2005.

Comments: Road-based travel is vital to the region. Despite this, the two main routes, state highways (SH) 1 and 2, offer poor service and are vulnerable to closure in the event of an earthquake. Earthquake hazard also poses a risk to the region’s second largest passenger mover, air, with the main Wellington international/ domestic airport being located on uplifted land.

Inter-regional freight movements

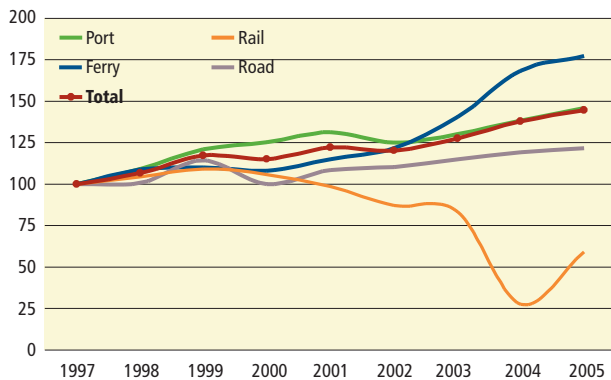


Figure 10: Inter-regional freight movements. 1997 = 100. Sources: CentrePort; Strait Shipping; Transit New Zealand; Toll NZ

Note: 2004 rail freight index may not include inter-island freight. Road freight refers to the previous calendar year.

Definition: The graph shows a freight index. Freight is measured in a range of non-comparable units. For this reason, and because some data is commercially confidential, absolute numbers are not given. The aggregate measure is based on several assumptions and for indicative purposes only. It is hoped that the volume and quality of available information in this area will improve. Much recorded freight does not have a regional origin or destination and is counted twice in the figures; for example, a container of logs may enter the region by road and leave by sea. Air freight figures (other than the number of non-passenger flight movements, which is considered unreliable) are also unavailable.

Interpretation: Inter-regional freight movement by ferry has shown a steady increase since 2000 followed by a significant growth rate totalling 45% from 2002 (some of which may be attributed to the addition of the Strait Shipping Bluebridge service in 2002). Over the eight year period depicted in Figure 10, the total growth rate of ferry freight is 77%. Conversely, rail freight has shown a continual decline since 2000 with a greater than 44% decrease; (note that 2004 rail data may be incomplete). Freight movement through the port and by road has also shown steady growth since 2002 of 16.8% and 10.2% respectively. Overall there is a positive trend, with the aggregate measure suggesting 44% growth over the measured period.

Comments: Strong freight movement growth has occurred despite accessibility problems to and from Wellington on state highways. This reinforces the need to maintain and improve the quality and reliability of the state highway network.

Inter-regional travel summary

Inter-regional travel indices

Definition: Figure 11 shows movement in indices for inter-regional passenger and freight movements and a composite index. The index is expressed relative to a base year of 1997 and has not been weighted to reflect the equal importance of both passenger and freight movements in the region.

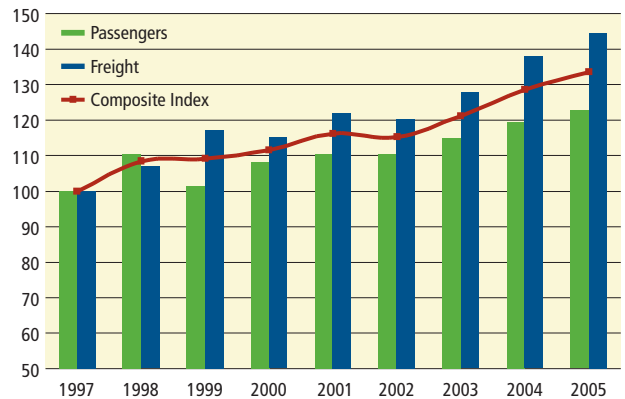


Figure 11: Total movements to/from region (indices). 1997 = 100

Interpretation: Total passenger movements grew by 23% between 1997 and 2005 (rail passengers in 2005 not included as data unavailable). Freight movements in the same period grew by 44%. The composite index shows growth of 34% or approximately 4% per annum. The figures should not be taken entirely at face value: passengers and freight passing through the region and crossing its boundaries twice are counted twice.

Regional level

The main routes to and from the region, SH1 and SH2, account for around two-thirds of passenger movements across the regional boundary. SH1 accounts for over 80% of total movements, highlighting the road's significance to the whole region.

Road passenger movements grew by 21% between 1997 and 2005, while domestic and international air travel experienced substantial growth at 34% and 66% respectively. Ferry passenger numbers also grew, at the slower rate of 10%, reflecting strong growth in tourism travel and more direct international air services.

Passenger rail travel plays only a small part, with the single remaining long-distance service being the daytime Overlander to and from Auckland (the Northerner night-time train ceased service in November 2004). The Capital Connection is a commuter service to and from Palmerston North and the Napier service was also discontinued in 2001. Rail passenger movements declined steadily between 1997 and 2004, dropping 19% over the period.

Total freight moved through CentrePort shows strong growth of 46% since 1997. Over the same period, the inter-island ferry services have significantly increased their freight carriage, by more than 77%. Road freight has increased by around 22% over the period, although not at a constant rate. Like passenger numbers, inter-regional rail freight has experienced decline.

Sub-regional level

The figures are, by definition, regional totals; hence disaggregation by district is impossible.

Outlook

The tourism market is expected to remain buoyant for the foreseeable future; this will contribute to growth in all passenger modes, especially the inter-island ferry services.

Road traffic and freight levels correlate strongly with regional economic activity, so steady growth is expected.

Inter-regional rail passenger and freight movements are expected to continue to decline in the face of stiff competition from highly competitive internal air passenger services and a deregulated road freight environment.

Implications for transportation planning

Demand for passenger and freight movement to and from the region is expected to grow steadily over the next few years. The predominance of road-based travel requires reliable connections, particularly the SH1 corridor to the north of Wellington. Access to the port, ferry terminal and airport will also become critical as traffic to and from these destinations increases.

This section sets out and discusses items relating to the RLTS accessibility and economic development objective: *to provide a transport system that optimises access to and within the region.* It considers the following performance indicators:

- Perceptions of network reliability
- Mode use
- Short trip active mode use
- Perceptions about the ease of walking
- Perceptions about the ease of cycling
- Travel time performance indicators
- State highway screenline traffic volumes
- Wellington CBD cordon counts
- Road traffic hourly profiles
- Heavy vehicles on key routes
- State highway vehicle kilometres
- Road network use
- Road network level of service
- Vehicle occupancy on Wellington CBD cordon
- Key route travel times: public transportation
- Public transport service patronage
- Wellington CBD cycle and pedestrian movements
- Mode of journey to work
- Parking supply in CBDs

Indicators

Perceptions of network reliability

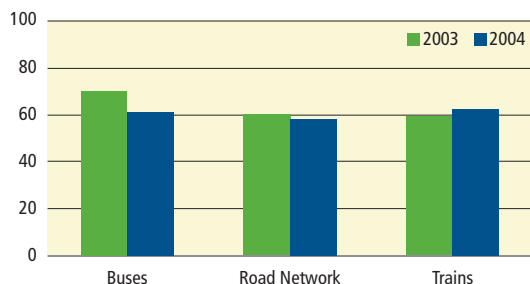


Figure 12: How many people rate regional transport networks as reliable? Source: GWRC perception survey, 2003, 2004

Definition: The graph shows the percentage of people who rate main commuter transport networks as 'reliable'. This indicator will be updated next in 2005/06.

Interpretation: Of all regional networks, the bus network reliability perception fell most significantly in 2004 to 61% (c.f. 70% in 2003); and people's perceptions of road network reliability fell 2% between 2003 and 2004 to 58%. Interestingly, the train network was the only one on which people thought reliability had improved, rising 3% to 62% in 2004, and thus being perceived as the most reliable network in the region.

Comment: Overall, about 60% of people think Wellington's transport networks are reliable. This indicates a relatively low level of service is being provided. Despite bus reliability falling almost 10% between 2003 and 2004, over 60% of the population still see the key public transport networks in the region as reliable, yet many still choose to use private vehicles for transport. Other factors must be leading to their mode choice.

Mode use

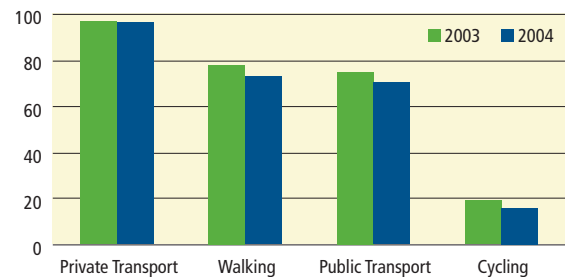


Figure 13: Over the last six months, have you made any of your trips in the region by? Source: GWRC perception survey, 2004

Definition: The graph shows how many people have used the four main forms of transport in the past six months in 2003 and 2004. This indicator will be updated next in 2005/06.

Interpretation: 96% of respondents said they had made trips in the previous six months by private transport; 73% by walking; and 70% by public transport. Only 16% said they had made a trip by cycle. Relative use of modes remains unchanged since the 2003 survey. The apparent decline in use across all modes is not supported by other survey data.

Comment: It is expected that many people will have used private transport. The Wellington CBD and indeed other regional cities are very pedestrian-friendly environments, so again it is not surprising that many people have made walking trips. It is also not surprising that many people have not cycled; this issue is discussed further in section seven.

Short trip active mode use

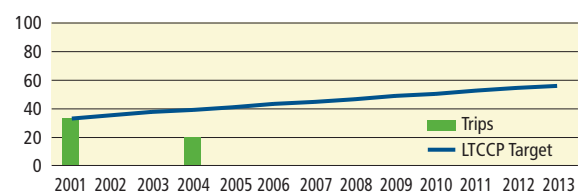


Figure 14: Percentage of trips less than 2km made by pedestrian or cycling modes. Source: GWRC household survey, 2001; GWRC active mode survey, 2004

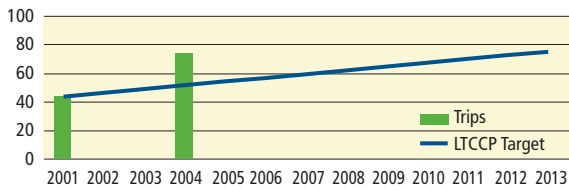


Figure 15: Percentage of trips less than 1km made by pedestrian or cycling modes. Source: GWRC household survey, 2001; GWRC active mode survey 2004

Definition: The graphs show how the percentage of short trips by the active modes of cycling and walking compare with the GWRC LTCCP targets. As the 2001 data was collected as part of an expensive model calibration survey, it was decided to instigate a new three-yearly 'active mode survey' using similar methodology to that in the 2001 survey. This indicator will be updated next in 2006/07.

Interpretation: The 2004 active mode survey showed that only 19% of people made trips of less than 2km by the active modes of cycling or walking (c.f. 33% in 2001), while 74% made trips less than 1km by the same modes (c.f. 44% in 2001).

Comments: As the methodology of the 2004 active mode survey was not identical to that of the 2001 survey, it will be some years before an accurate trend will emerge. The LTCCP target is that 75% of all trips up to 1km are walked or cycled and 56% of all trips up to 2km are walked or cycled by 2013. While already a relatively high number of people make short trips by active modes, GWRC aims to encourage significantly more trips by these modes.

Perceptions of short trip active mode use

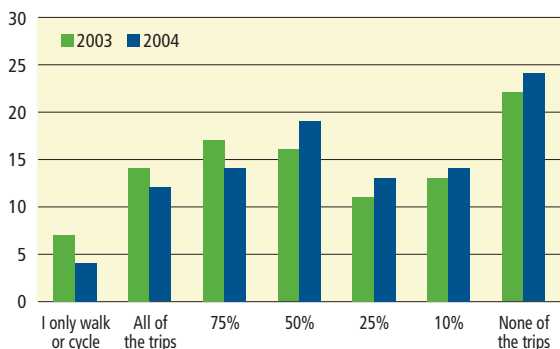


Figure 16: What amount of your current short trips could just as easily be walked or cycled? Source: GWRC perception survey, 2004

Definition: The graph shows how many short trips respondents believed they could just as easily walk or cycle. This indicator will be updated next in 2005/06.

Interpretation: 49% of respondents said that half or more of their trips could just as easily be walked or cycled (c.f. 54% in 2003), while only 24% of respondents said that none of their trips could be (c.f. 22% in 2003).

Comment: This question is designed to gather an understanding of how many short trips people are currently undertaking that by their own reckoning could just as easily be undertaken by the active modes of walking or cycling. Interestingly, almost half of people said that most (50% or over) trips could just as easily be walked or cycled, while nearly a quarter said that none of their trips could be walked or cycled. GWRC aims to encourage active mode use to reach the LTCCP targets in the above indicator.

Perceptions about the ease of walking

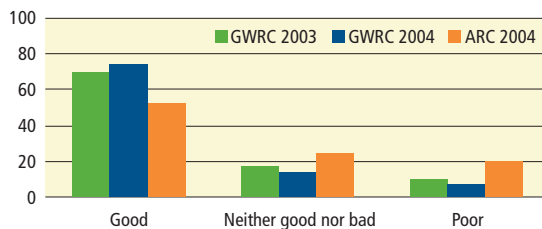


Figure 17: How 'hassle free' is getting around the region by walking? Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows how easily people find it to get around the region by walking, and this is compared with Auckland. This indicator will be updated next in 2005/06.

Interpretation: 74% of Wellingtonians believe that getting around the region by walking is easy (c.f. 70% in 2003), over 20% more than their Auckland counterparts. Twenty percent of Aucklanders believe that getting around their region by walking is difficult, 13% more than their Wellingtonian counterparts.

Comment: This question offers an understanding of how easily people see getting around the region by the active walking mode. A perception that using this mode is difficult can lead people to use less active modes.

Most Wellingtonians believe that getting around the region by walking is relatively easy, but the same cannot be said of our Auckland counterparts. This result is to be expected as Wellington's regional cities and towns are geographically small in scale, whereas Auckland has generally sprawled over the landscape as it has grown.

Perceptions about the ease of cycling

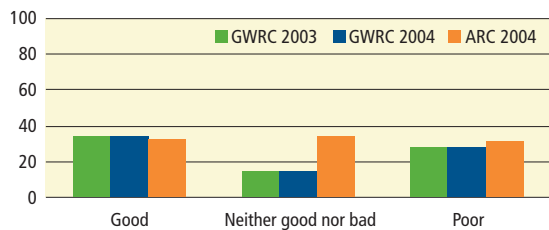


Figure 18: How ‘hassle free’ is it to get around the region by cycling? Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows how easily people find it to get around the region by cycling, and this is compared with Auckland. This indicator will be updated next in 2005/06.

Interpretation: Thirty-three percent of Wellingtonians believe that getting around the region by cycle is easy (c.f. 38% in 2003), just 1% more than their Auckland counterparts (c.f. 15% in 2003). Thirty-one percent of Aucklanders believe that getting around their region by cycle is difficult, just 3% more than their Wellingtonian counterparts (13% in 2003).

Comment: This question offers an understanding of how easily people see getting around the region by the active cycling mode. A perception that using this mode is difficult correlates to the low use of this mode.

Most Wellingtonians believe that getting around their region by cycling is relatively difficult. However, in 2004 the gap between Wellington and Auckland perceptions reduced to just 1%. This is because more Aucklanders have begun to believe it is easy to get around their region by cycling, while more Wellingtonians have begun to think that getting around the region by cycling is difficult. This result clearly indicates the need for improved cycling facilities throughout the region to provide greater comfort for users of this mode.

Travel time performance indicators

Overview: Travel time performance indicators were established for Wellington in 2002 in conjunction with Transit New Zealand and the Ministry for the Environment.

Their methodology is based on the Austroads ‘travel time performance methodology’, and involves floating car travel time surveys carried out on a sample of Wellington’s strategic and regional arterial networks in May and November each year.

The performance indicators are used to monitor changes in travel time and congestion on a year-to-year basis, and to allow direct comparison with other Australasian cities using the surveys.

Travel times have been surveyed on the following representative regional routes:



Figure 19: Greater Wellington travel time performance monitoring network. Source: Transit New Zealand

- Route 1: Paraparaumu – Wellington airport
- Route 2: Upper Hutt – Wellington airport
- Route 3: Porirua – Seaview (via SH58)
- Route 4: Karori – Island Bay.

These routes differ slightly from those originally measured in May 2002, as it was identified that a number of ‘pinch points’ on the network were missed. These new routes are not expected to change in the future, so reliable trends will emerge.

This information yields congestion, measured as minutes of delay per kilometre travelled (CGI), for the morning peak period (AM), inter-peak period (IP) and afternoon peak period (PM), average network speeds and variability in travel time.

Travel time performance indicators: CGI comparison

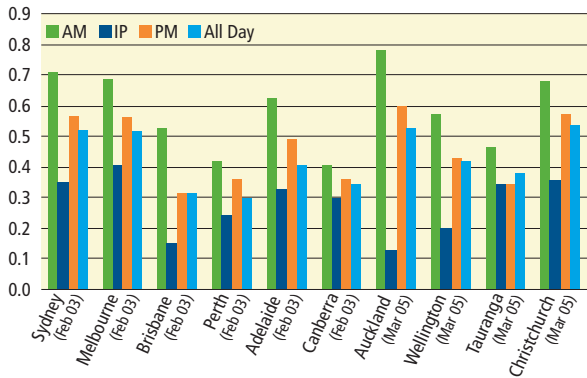


Figure 20: Comparison of CGI (mins delay/km travel) between New Zealand and Australian cities. Source: Transit New Zealand

Note: Data relating to New Zealand cities is for March 2005, while data for the Australian cities is the latest available, 2002/2003. Care should be taken when comparing between cities, each metropolitan area has a unique road system, and the survey networks include different measures of urban and rural roads. The Christchurch survey includes a high proportion of urban roads, which increases the overall CGI for that region.

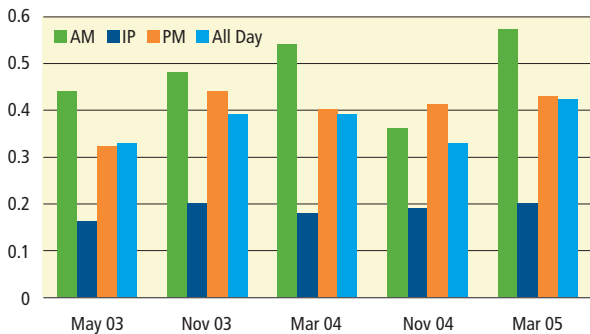


Figure 21: Wellington CGI (mins delay/km travel). Source: Transit New Zealand

Note: Data is susceptible to seasonal and day-to-day aberrations in network performance such as crashes, breakdowns and road works.

Definition: As new survey routes were established in Wellington in May 2003, it will be some years before trends emerge. Wellington’s congestion as recorded by the March 2005 travel time surveys (compared with March 2004):

AM 0.57 (0.54)	IP 0.20 (0.18)
PM 0.43 (0.40)	All day 0.42 (0.39).

Interpretation: In Wellington, AM peak congestion has shown an increase since May 2003 apart from a dip in November 2004. Congestion in the PM peak, although less than that in the morning follows a similar increasing pattern. When directly compared with

congestion in Auckland, Wellington’s congestion is less, with Wellingtonians experiencing almost 13 seconds less delay per kilometre in the morning peak than their Auckland counterparts. Interpeak congestion is greater in Wellington than Auckland reflecting the higher proportion of traffic on urban arterial routes in Wellington. Tauranga experiences more congestion in the interpeak period than both Auckland and Wellington. Direct comparisons with Christchurch cannot be made, as the network surveyed was entirely urban and therefore not representative of the whole road network.

Comments: While the data reflects the level of service the road network offers, the fact that it is averaged out over the whole measured network means localised problems are masked. As freight vehicles move around the road network in a similar manner to cars, this indicator also shows that congestion is worsening for freight, which can detrimentally affect the region’s economy.

Although increasing, Wellington’s congestion levels compare favourably with other New Zealand centres. Wellington’s congestion pattern appears to be a short peak period over the network, with a number of pinch points such as the Paremata roundabout and the merge of SH1 and SH2 at Ngauranga.

Travel time performance indicator: key route travel times by road

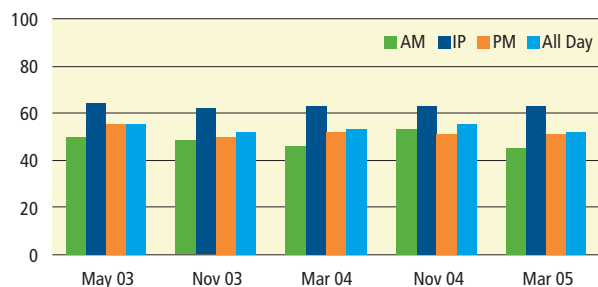


Figure 22: Network average vehicle speeds (km/h). Source: Transit New Zealand

Definition: The network average vehicle speed is calculated by dividing the surveyed actual travel time by the length of the network.

Interpretation: As new routes were established in May 2003, it will be some years before trends emerge. The March 2005 information may show the effects of increasing morning and evening peak period congestion when compared with November 2004 although a seasonal variation is also becoming apparent.

Comments: Results reflect the level of service the road network offers. These are the average results of the surveyed routes, which mask localised problem areas where congestion occurs.

Travel time performance indicator: travel time uncertainty

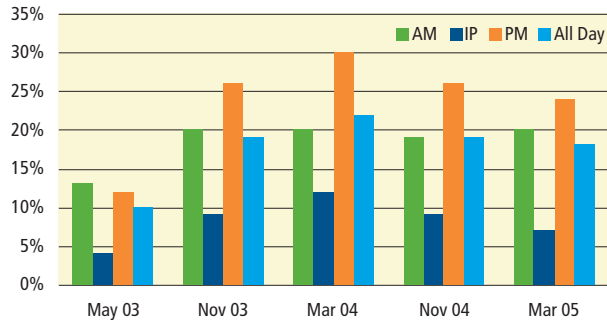


Figure 23: Variability in travel time. Source: Transit New Zealand

Definition: The graph shows a measure of the range of actual travel time results and is used to monitor the reliability of travel times. The measure is expressed as a percentage of the average travel time.

Interpretation: As new routes were established in May 2003, it will be some years before trends emerge. Apart from during the morning peak, travel time reliability has improved since March 2004, when the greatest variability for all periods was recorded. In March 2005, AM travel times varied by 20% with evening peak variability at 24%.

Comment: The overall decrease in travel time variability on the surveyed routes over the past year is encouraging; however further survey results will show if this is an actual trend.

Travel time performance indicator: Greater Wellington regional congestion

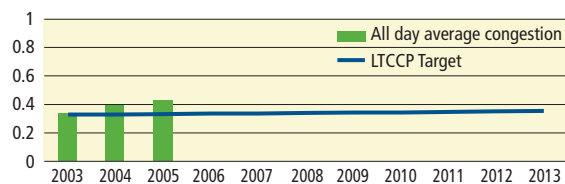


Figure 24: Greater Wellington regional congestion (mins delay/km travelled). Source: Transit New Zealand

Definition: The graph shows all-day average congestion on Wellington’s roads compared with the GWRC LTCCP target.

Interpretation: Between 2004 and 2005 all-day average congestion increased by almost 8% to 0.42 minutes’ delay per kilometre travelled. This compares with an increase of 18% from a CGI of 0.33 to 0.39 between 2003 and 2004.

Comments: The LTCCP target is based on congestion not increasing by more than 1% per year from 2003. The total increase in congestion of 27% experienced over the last two years is of concern. The regional Travel Demand Management Strategy and Road Pricing Study, both under development, should go some way to identifying methods for addressing this issue.

Travel time performance indicator: perceptions about the state of congestion

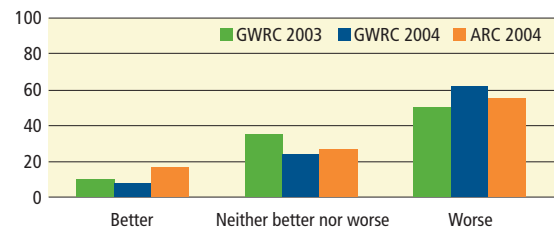


Figure 25: Do you think traffic congestion is better than it was two years ago? Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows how Wellingtonians and Aucklanders believe traffic congestion has changed over the previous two years. This indicator will be updated next in 2005/06.

Interpretation: Sixty-two percent of Wellingtonians consider congestion has worsened over the previous two years. This is 12% worse than in 2003 and means more Wellingtonians than Aucklanders (55%) think congestion has worsened in the previous two years. This indicates that Wellington’s congestion is of significant concern.

Comments: While only two surveys have been carried out, anecdotal evidence suggests that both Auckland’s and Wellington’s congestion is getting worse, with more of the public perceiving that Wellington’s congestion is getting worse than Auckland’s.

State highway screenline traffic volumes

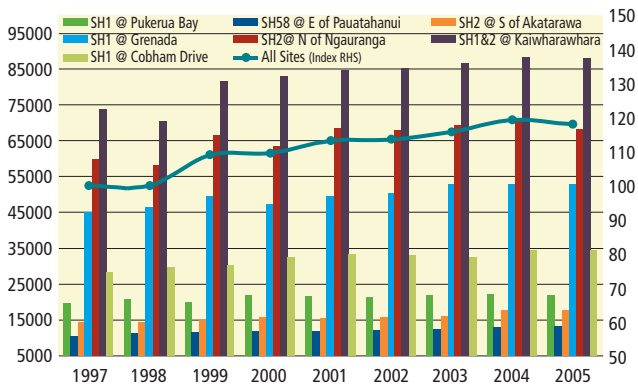


Figure 26: State highway screenline traffic volumes, AADT, 1997 = 100. Source: Transit New Zealand

Definition: The graph shows annual average daily traffic (AADT) volumes derived from automatic counters operating on each road section over a calendar year. Results must be interpreted cautiously as many vehicles are counted several times, depending on their route through the network. Counts record only vehicles on the network; vehicle trips that are avoided because of perceived congestion cannot be quantified.

Interpretation: Traffic volumes have fallen slightly in 2005, driven mainly by a decrease of 4% in traffic between the Hutt Valley and Wellington City. Volumes of traffic at all other sites have remained relatively static. Across the screened state highway network steady growth had been shown since 1997, with 2005 traffic volumes 18% above 1997 levels.

Comments: Overall, demands on the road network continue to grow. Initiatives encouraging the use of public transport, especially for peak period commuter trips, remain important, but road travel will continue to be the region's predominant form of transport.

Wellington CBD cordon counts

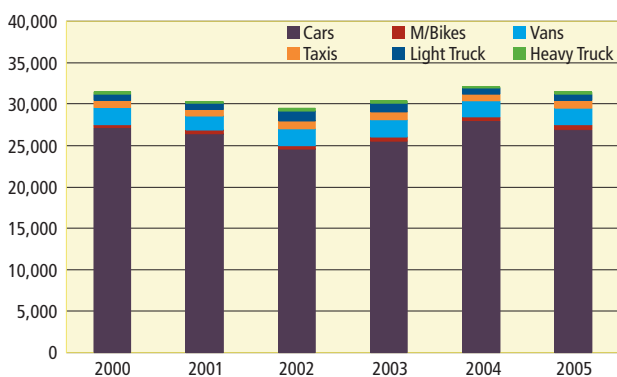


Figure 27: Wellington CBD cordon inbound traffic volumes weekday AM two-hour peak. Source: Wellington City Council

Definition: Wellington City Council commissions classified counts in March and October each year. The information displayed in this graph shows results for March only. The 'cordon' comprises Oriental Parade, Majoribanks Street, Elizabeth Street, Pirie Street, Cambridge Terrace, Buckle Street, Tasman Street, Taranaki Street, Cuba Street, Victoria Street, Willis Street, Aro Street, Abel Smith Street, Vivian Street, Ghuznee Street, Dixon Street, The Terrace, Boulcott Street, Aurora Terrace, Bolton Street, Bowen Street, Hill Street, Hawkestone Street, Murphy Street, Hobson Street, Thorndon Quay and Aotea Quay. Traffic heading into the city is counted during the two-hour morning commuter peak. Buses are not counted.

Interpretation: Total inbound road traffic volumes decreased by 2% between 2004 and 2005. Car volumes decreased by almost 4% with each of the other classifications increasing in volume (most notably motorbikes and heavy trucks). Non-car classified vehicles make up approximately 14% of the total fleet volume counted however, therefore the decrease in the volume of cars dominates the overall volume decrease.

Comments: Following an increase in peak period private car volumes entering the Wellington CBD from 2002-2004, a decline of nearly 4% in 2005 is shown. The volume of cars is still almost 10% above the lowest recorded volume in 2002 however the latest volume decrease will assist in achieving the GWRC LTCCP Target of less than 45% of work trips into the Wellington CBD being made by private vehicle.

Road traffic hourly profiles, 2004

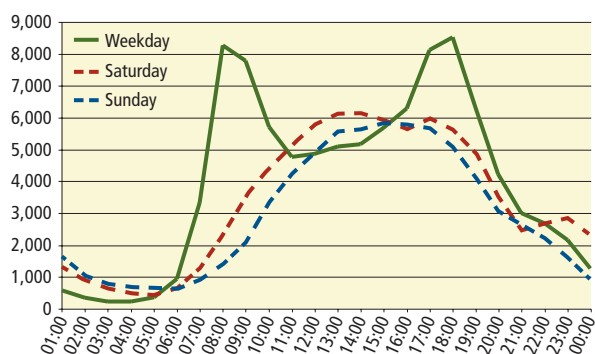


Figure 28a: Average hourly traffic volumes at Ngauranga (combined directions), 2004. Source: Transit New Zealand

Definition: The graph shows hourly flow distribution on SH1 and SH2 at Ngauranga over the course of an average weekday, Saturday and Sunday, for 2004.

Interpretation: This analysis uses combined two-way traffic volumes. Directional volumes would show more pronounced peaks especially in the direction of commuter traffic volumes. Peak weekday hourly volumes are 40% higher than peak weekend hourly volumes.

Comment: The weekend profiles show a single broad peak occurring across the middle of the day; Sunday's profile is slightly narrower than that of Saturday. Anecdotal evidence suggests that weekend congestion is worsening; however, as shown by the peak weekday hourly volumes, capacity is not an issue at weekends.

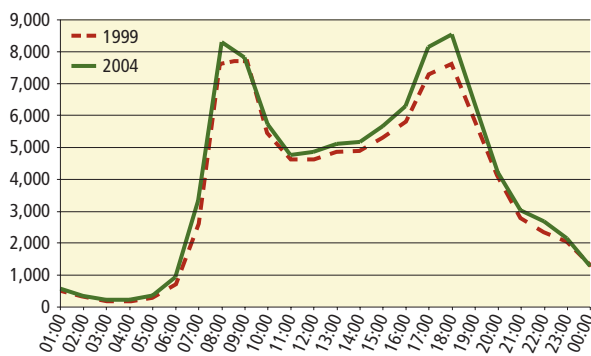


Fig 28b: Average weekday hourly traffic volumes at Ngauranga (combined directions), 1999 and 2004. Source: Transit New Zealand

Definition: The graph shows average weekday hourly traffic volumes at the same location, SH1 and SH2 at Ngauranga, compared between 1999 and 2004.

Interpretation: Although both profiles have the same shape, the 2004 traffic volumes are consistently higher than those for the corresponding hours in 1999. This is particularly evident in the evening commuter peak period.

Comment: There is some evidence of peak spreading between 1999 and 2004 (an increase in volumes outside the peak periods); however, the actual peak periods have shown the greatest numerical increase in traffic volumes.

Heavy vehicles on key routes

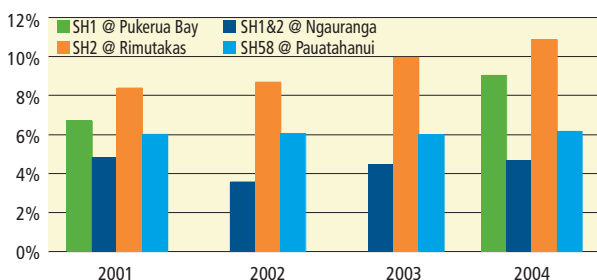


Figure 29: % heavy vehicles on major routes (weekdays). Sources: GWRC; Transit New Zealand

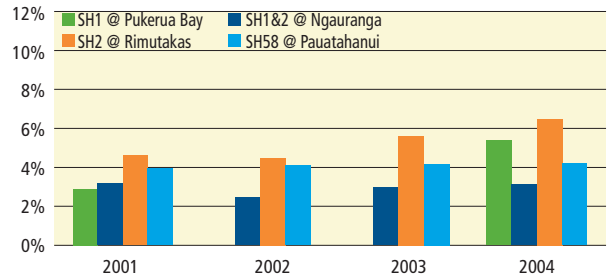


Figure 30: % heavy vehicles on major routes (weekends). Sources: GWRC; Transit New Zealand

Definition: Data for the above graphs displaying heavy vehicle percentages is obtained from permanent telemetry sites. These sites record the length of each vehicle, with anything more than 5.5 metres defined as 'heavy'. Pukerua Bay site data was unavailable for 2002 and 2003.

Interpretation: Heavy vehicles as a percentage of total weekday and weekend traffic increased at all monitored sites in 2004. Ngauranga heavy vehicle counts increased by 5% on weekdays and by 9% on weekends in 2004. Heavy vehicles make up a greater proportion of total traffic at sites further removed from the urban areas, e.g. Rimutakas and Pukerua Bay, reflecting high intra-urban light vehicle volumes. A weekday increase of 9% occurs at the Rimutakas, however the volume of heavy vehicles passing this site is small when compared with that on the overall network.

Comments: Closer to the major urban areas and during weekends, there are more light vehicles on the network, resulting in lower absolute and percentage figures for heavy vehicles. Commercial vehicle traffic is related to economic activity and the volume of heavy vehicles is increasing at a faster rate than general traffic. For the region's continued economic wellbeing it is important to allow for this growth while not compromising the needs of other road users.

The continuing heavy vehicle growth crossing the Rimutakas is a result of Wairarapa forestry block harvesting with logs currently transported by truck to the port of Wellington for export. GWRC is promoting alternatives to the movement of these logs by road with the proposed development of a road to rail log transfer station in the Wairarapa.

State highway vehicle kilometres

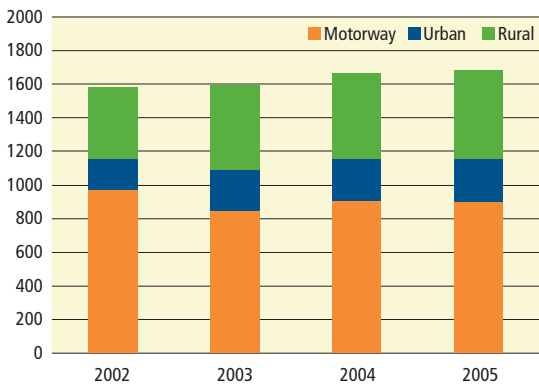


Figure 31: State highway vehicle kilometres travelled (millions). Source: Transit New Zealand. Note: Information for 2002 and 2003 is indicative only

Definition: The graph shows information that Transit New Zealand gathers from traffic counters to determine total vehicle kilometres travelled (VKT) annually on each section of regional state highway. Information for 2002 and 2003 is indicative only and should not be compared with 2004 or 2005.

Interpretation: Currently available total figures show over 6% growth in VKT on the state highways from 2002 (estimated) to 2005. As state highway traffic volumes over the same period have increased by just fewer than 4%, the number of vehicle kilometres travelled would appear to be growing faster than the volume of traffic on the state highway network.

Table 4 shows that over half of state highway travel is occurring on the motorway system.

District	State highway network, 2005	
	Percentage of network	Percentage of VKT
Motorway	37	54
Urban	14	15
Rural	49	31
Region	100	100

Table 4: State highway network characteristics, Wellington region, 2005

Comments: State highway network loadings vary widely by location; rural Wairarapa requirements are very different from those of central Wellington. Continued monitoring is needed to ensure state highway network components give the best service possible within topographical and financial constraints.

Road network use

Overview: The Wellington Transport Strategic Model (WTSM) road network comprises the main arterial and some secondary roads throughout the greater Wellington region. Reporting results for this full network obscure the results for roads that have the greatest impact on results – those considered ‘critical’ in moving people and freight on the roads between the major destinations in the region.

For this reason, three strategic routes have been identified:

- Western Strategic Network: SH1 from Waikanae to Ngauranga
- Eastern Strategic Network: SH2 from Kennedy Good Bridge to SH1 at Ngauranga, Hutt Road from Hutt City to Petone, Melling Link and The Esplanade at Petone
- Southern Strategic Network: SH1 from Ngauranga through to the airport, Hutt Road, Thorndon Quay, Aotea Quay and waterfront route through Basin Reserve to Wellington Hospital via Adelaide Road.

These results are shown on the following map. Modelled results are used for the following network indicators.



Figure 32: WTSM model network (2021), Wellington, Porirua and Hutt Valley. Source: GWRC

Expected network use

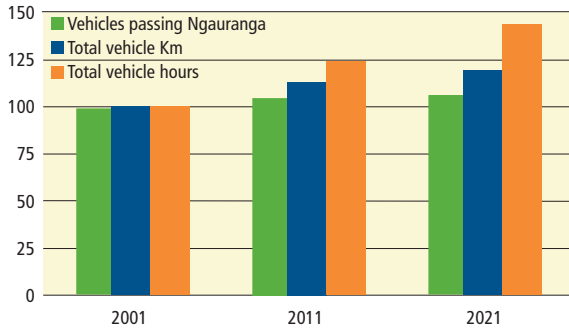


Figure 33: Modelled network use, Western Strategic Network, AM peak period (index 2001 = 100). Source: WTSM

Definition: The graph shows information derived from WTSM, which has been confirmed by observation rather than measurement or survey. Future-year forecasts should be taken as indicative only. The model comprises sub-models for the weekday morning and afternoon commuter peaks, and the period between these peaks (the inter-peak period). Totals cover the entire modelled regional network, including all principal routes. Minor local roads are not included.

Interpretation: The Western Strategic Network, comprising SH1 from Ngauranga to Waikanae, is expected to experience greater growth in the total number of trips than any other part of the strategic network. If road and traffic conditions stay as they are, changes in the number of vehicles should be matched by similar changes in VKT and hours. Forecasts indicate that, by 2021, vehicle hours (up 44%) will increase much faster than VKT (up 19%), while the number of vehicles will increase by only 7%. Total travel times are expected to increase as congestion worsens. Total travel distances will rise as a result of location changes (families moving to rural areas) and in response to congestion (seeking faster but longer routes).

Comments: The road network faces increasing demands as traffic volumes and travel distances increase. Over the next few years, higher rates of growth can be expected in inter-peak periods as commuters choose to travel outside traditional peaks.

Road network level of service

Overview: Information is derived from GWRC’s transportation strategy model, which has been confirmed by observation rather than measurement or survey. Future-year forecasts should be taken as

indicative only. The model comprises sub-models for the weekday morning and afternoon commuter peaks, and the inter-peak period. It compares forecast traffic volumes with network capacity, thus identifying ‘levels of service’ (LOS). The US Highway Capacity Manual defines this term, but the assessment here is based on the following ‘proxy’ measures (the calculated volume-to-capacity ratios for each section of road):

- LOS A: primarily light traffic, free-flow conditions
- LOS B: mostly light traffic, some disruptions
- LOS C: some permanent queuing at intersections
- LOS D: high volumes, delays due to congestion
- LOS E: operation at capacity
- LOS F: over-capacity – breakdown of traffic flow.

Graphs show the percentage length of road network operating at each LOS. In general, the AM peak period has lower LOS than the PM or inter-peak period. For this reason, results for the AM peak period are shown.

Road network LOS: full strategic network

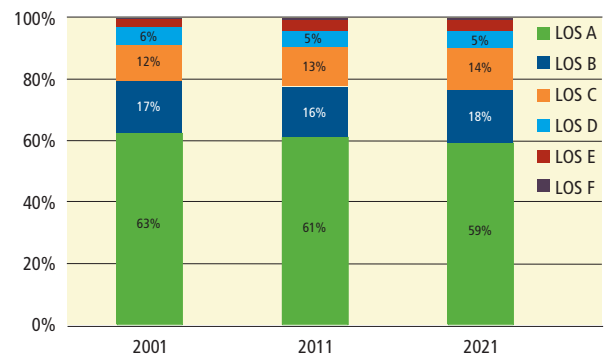


Figure 34: Road network LOS, full network, AM peak period. Source: WTSM

Definition: The graph shows the complete modelled network, which comprises the main arterial and some secondary roads throughout the greater Wellington region.

Interpretation: The percentage of the road network at LOS E or F remains below 5%. More than 75% of the modelled network operates at LOS A or B in the morning peak.

Comments: Reporting results for this full network obscures the results for the roads that have the greatest impact on results – those considered ‘critical’ in moving people and freight on the roads between the major destinations in the region.

Road network LOS: Southern Strategic Network

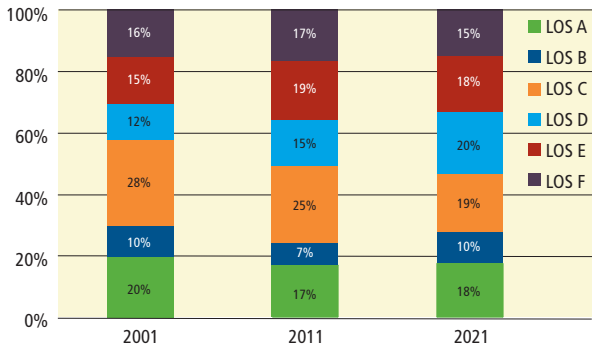


Figure 35: Road network LOS Southern Strategic Network, AM peak period. Source: WTSM

Definition: The graph shows LOS on the Southern Strategic Network (Ngauranga – Airport).

Interpretation: This part of the network, comprising the main roads from Ngauranga southwards to the airport and hospital, is expected to experience the worst LOS of any section of the region’s roading network. In the morning peak, more than 30% of the modelled network has demand close to or above its capacity. This is expected to worsen through to 2011, before getting slightly better by 2021 with the expected installation of the Ngauranga to Aotea tidal flow system on SH1. The proportion of the Southern Strategic Network that is not subject to some form of permanent queues is below 30%. Increasing traffic demands will eventually erode LOS as congestion worsens and affects a wider area.

Comments: Without improved efficiency or capacity, LOS will progressively deteriorate as traffic demands grow. The results will be greater congestion in existing problem areas and the spread of congestion to areas now operating satisfactorily.

Vehicle occupancy on Wellington CBD cordon

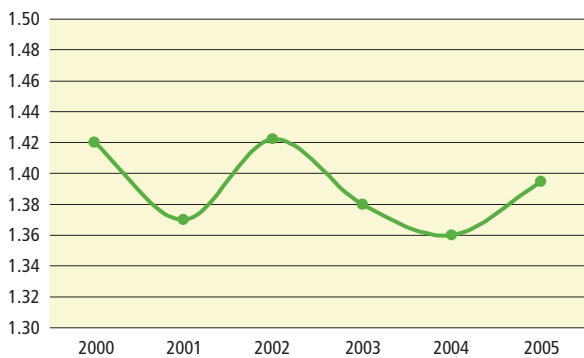


Figure 36: Wellington CBD cordon inbound traffic occupancy, two-hour weekday AM peak. Source: Wellington City Council

Definition: Wellington City Council commissions surveys in March and October each year. Information is presented for March only. The cordon comprises Oriental Parade, Majoribanks Street, Elizabeth Street, Pirie Street, Cambridge Terrace, Buckle Street, Tasman Street, Taranaki Street, Cuba Street, Victoria Street, Willis Street, Aro Street, Abel Smith Street, Vivian Street, Ghuznee Street, Dixon Street, The Terrace, Boulcott Street, Aurora Terrace, Bolton Street, Bowen Street, Hill Street, Hawkestone Street, Murphy Street, Hobson Street, Thorndon Quay and Aotea Quay. Only traffic heading into the city is counted during the two-hour morning commuter peak, and figures show average numbers of vehicle occupants. Buses are not counted.

Interpretation: Average occupancy of vehicles into the Wellington CBD rose slightly in 2005. While this increase is encouraging, typical occupancy remains at approximately 1.4 people per vehicle, still below the highest occupancy level of 1.42 recorded in both 2000 and 2002.

Comments: The high proportion of single- or double-occupancy vehicles represents an inefficient means of transportation. An emphasis on moving *people* rather than *vehicles* would significantly improve efficiency. Various initiatives under the draft Travel Demand Management Strategy seek to increase car occupancy in the region.

Key route travel times: public transportation

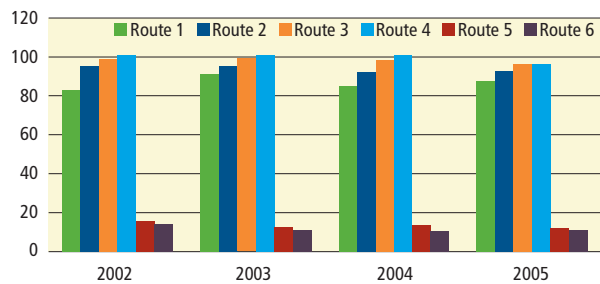


Figure 37: Public transport travel time (AM peak period, in mins). Sources: Bus/rail timetables, survey

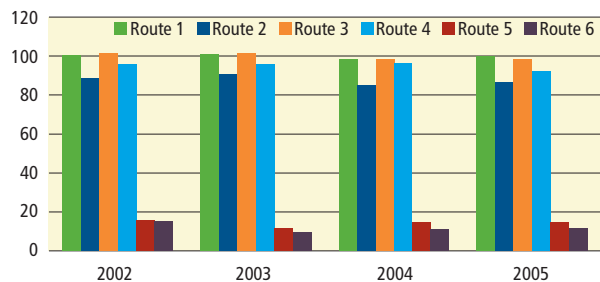


Figure 38: Public transport travel time (inter-peak period, in mins). Sources: Bus/rail timetables, survey

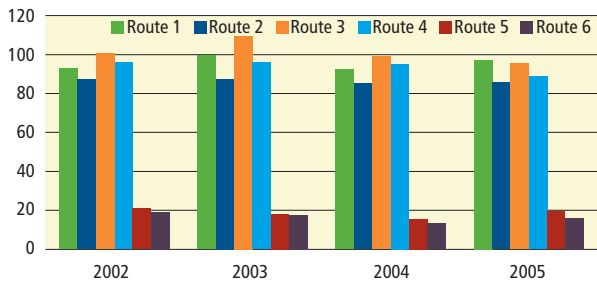


Figure 39: Public transport travel time (PM peak period, in mins). Sources: Bus/rail timetables, survey

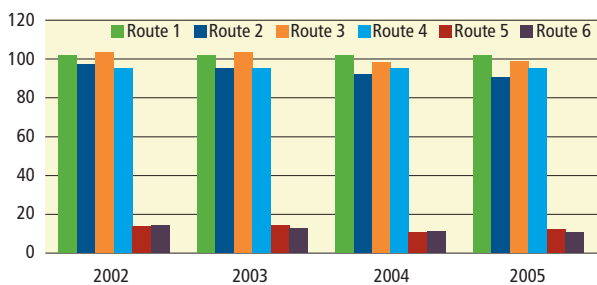


Figure 40: Public transport travel time (Saturday, in mins). Sources: Bus/rail timetables, survey

Definition: Travel times derive from timetables for routes 1 to 4. Routes 5 and 6 face congestion in the Golden Mile (Lambton Quay to Courtenay Place), rendering timetables unreliable; information on these routes is collected by survey. The graphs show routes covered, which are:

- Route 1: Upper Hutt – Wellington Airport (rail/bus)
- Route 2: Wellington Airport – Upper Hutt (bus/rail)
- Route 3: Paraparaumu – Wellington Airport (rail/bus)
- Route 4: Wellington Airport – Paraparaumu (bus/rail)
- Route 5: Courtenay Place – Railway Station (bus)
- Route 6: Railway Station – Courtenay Place (bus)

Interpretation: The apparent decrease in both peak and inter-peak travel time on routes 3 and 4 (2004-2005) is due to reduced bus/rail transfer time (train timetable change in November 2004). The surveyed routes 5 and 6 experienced an increase in travel time during the PM peak between 2004 and 2005, after a reduction the year previous.

Comments: No significant *actual* decrease in travel time occurred on routes 1-4 between 2004 and 2005. The installation of bus lanes along the Golden Mile led to a decrease in travel times in the PM peak between 2003 and 2004; however an increase in time to travel these routes is apparent in 2005.

Generally, journey times can be longer during off-peak and weekend periods, as there is reduced service frequency and trains stop at all stations along each

route. Bus travel times along the Golden Mile are higher for the afternoon peak because of congestion at several points.

High level of service on the public transport network is required to encourage travellers to switch from private car travel, especially for the peak-period commute to work. This requires measures to reduce bus travel time variations, and further integration between bus and rail services to minimise the ‘cost’ of transfer to many passengers. The introduction and regional implementation of “txtBUS” and further proposed travel information enhancements along with integrated ticketing will improve public transport level of service.

Public transport service patronage

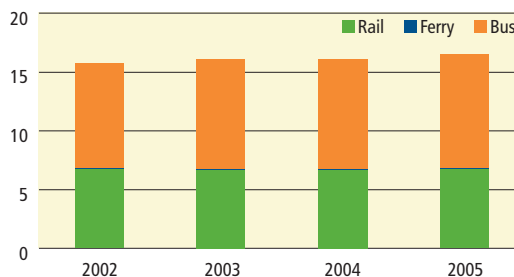


Figure 41: Public transport patronage: no. of trips (millions), by mode, combined peak periods. Source: GWRC

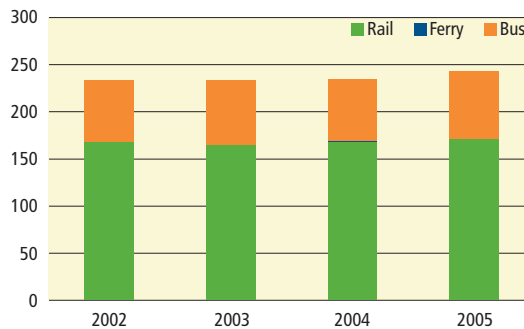


Figure 42: Public transport patronage: passenger km (millions), by mode, combined peak periods. Source: GWRC

Definition: GWRC collates information on public transport patronage for the funding system. The graphs show the number of passenger trips taken, total distance travelled and average length of trip on the main public transport modes, for both combined peak and off-peak periods.

Interpretation: The total number of peak passenger trips by public transport increased by 1.2% (200,000) between 2004 and 2005 led by an increase in bus patronage. This is consistent with the increase in peak patronage over the previous year. Peak period bus

4

patronage has increased by almost 8% since 2002 while the number of peak passenger trips taken by rail has remained relatively static. (Total ferry patronage has grown around 20% since 2002, however ferry passenger trips make up a very small proportion of overall network patronage and this increase is not obvious here).

Total off-peak passenger trips have steadily increased in number during the 2002-2004 period, with a significant increase in total passenger trips in 2005 of over 5% or 800,000.

Buses account for most journeys by public transport (58% in peak periods in both 2004 and 2005). However, rail trips are typically three to four times longer so account for most passenger kilometres (70% in peak periods).

Comments: Demands on the road network continue to grow significantly. Initiatives encouraging the use of public transport, especially for peak-period commuter trips, remain important, but travel by car will continue to be the predominant form of regional transport. Travel demands will only be met by balanced improvements to the overall transport network capacity and efficiency.

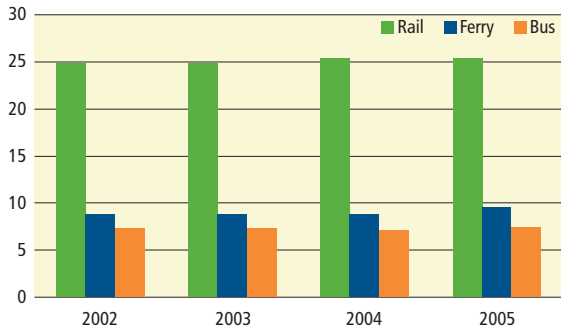


Figure 43: Public transport patronage: average trip length (km) by mode, combined peak periods. Source: GWRC

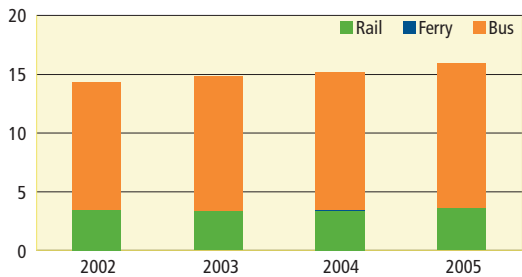


Figure 44: Public transport patronage: no. of trips (millions), by mode, off-peak period. Source: GWRC

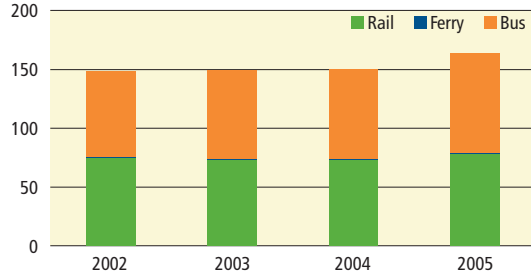


Figure 45: Public transport patronage: passenger km (millions), by mode, off-peak. Source: GWRC

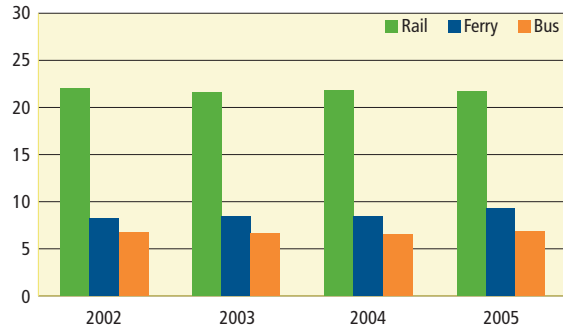


Figure 46: Public transport patronage: average trip length (km) by mode, off-peak period. Source: GWRC

Wellington CBD cycle and pedestrian movements

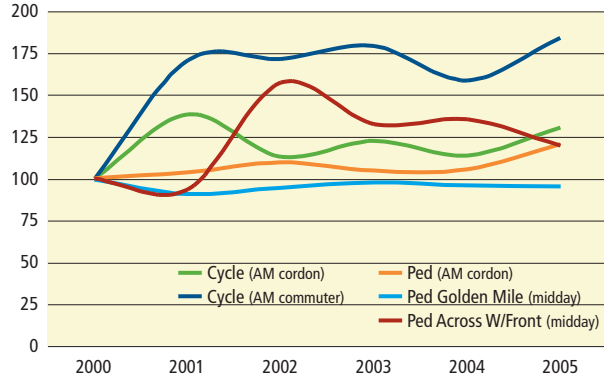


Figure 47: Wellington pedestrian and cycle movements weekday, two-hour period (2000 = 100). Source: Wellington City Council

Definition: The graph shows results from the cordon and screenline location surveys that Wellington City Council undertakes every March and October. Information here is for March only, and no information is available for other local authority areas. The following aspects are surveyed:

- pedestrians in- and outbound to/from the central city during the morning peak period
- cycles in- and outbound to/from the central city during the morning peak period
- cycles at suburban locations during the morning peak period

- pedestrians along the Golden Mile during weekday lunch-times
- pedestrians between the CBD and waterfront during weekday lunch-times.

Interpretation: Cycle and pedestrian counts vary widely according to weather conditions when surveyed. More reliable trends will eventually be established; however numbers of cyclists and pedestrians recorded during the morning peak have increased since 2004. Lunchtime pedestrian numbers remain fairly static on the Golden Mile and are shown to have declined between the CBD and waterfront in 2005.

Comments: Walking and cycling are becoming more popular means of travelling to work. Demands must be accommodated and encouraged by the provision of safe and convenient networks for pedestrians and cyclists.

Mode of journey to work

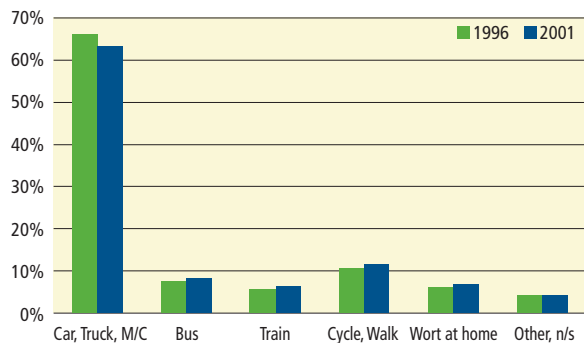


Figure 48: Main mode of journey to work, 1996, 2001. Source: Statistics New Zealand

Definition: The graph shows the main mode of travel to work for the regional population on census day. Census information is collected five-yearly and covers a single day. Data is available for 1996 and 2001, so this indicator will next be updated in the 2007/08 AMR.

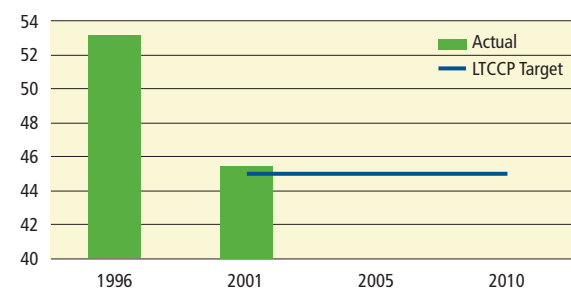


Figure 49: % of people travelling into Wellington CBD by private car, truck or van. Source: Statistics New Zealand

Definition: The graph shows the percentage of people travelling into the Wellington CBD on census day. Census information is collected five-yearly and covers a single day. Data is available for 1996 and 2001, so this indicator will next be updated in the 2007/08 AMR. An LTCCP Target is that 'less than 45% of work trips into central Wellington are made by private car'.

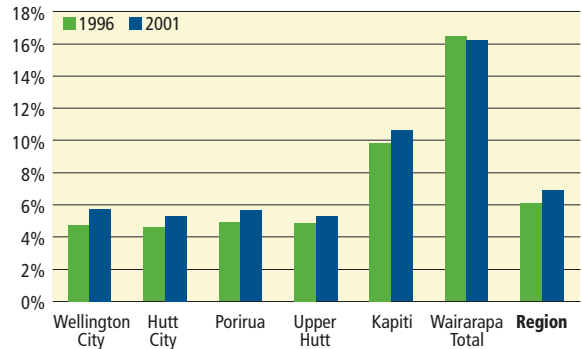


Figure 50: % of people working who work at home, 1996, 2001. Source: Statistics New Zealand

Definition: The graph shows the percentage of people working from home on census day. Census information is collected five-yearly and covers a single day. Data is available for 1996 and 2001, so this indicator will next be updated in the 2007/08 AMR.

Interpretation: These results must be interpreted with care; reliable trends cannot be established from two data points, particularly as yearly results are influenced by the weather on census day. While private cars still account for nearly two-thirds of journeys to work, the data makes it appear that there has been a shift towards public transport and active modes (walking, cycling), a trend that may be changing as indicated by the more recent Wellington City Council cordon survey. The percentage of those working from home has increased in all districts except Wairarapa.

Between the 1996 and 2001 censuses the percentage of people travelling into the Wellington CBD by private vehicle fell by 8% to 45%, thus reaching the LTCCP targets.

Comments: The decrease in numbers of car journeys to work is encouraging. Technological advances that make it easier for people to work from home or to telework at least some days each week are reducing peak period traffic demands.

Parking supply in CBDs

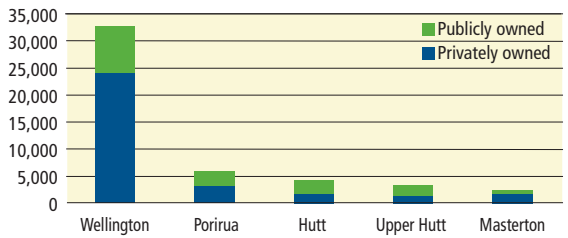


Figure 51: Greater Wellington city centre parking supply. Source: 2003 Booz Allen Hamilton parking report

Definition: The graph shows data supplied from a 2003 GWRC-commissioned Booz Allen Hamilton report on parking supply in city centres. The data should be taken as only indicative of parking supply in the region.

Interpretation: Wellington City has the largest number of carparks in the region, with a total of 32,000, of which 25,000 are privately owned. Parking supply in the other regional centres is not significant from a regional perspective.

Comments: The availability and cost of city centre parking are factors considered by residents when deciding on the mode to use to travel to work or shopping/leisure. As the city with the most employees, Wellington has the largest number of carparks available.

Parking supply in Wellington CBD: perceptions of number needed

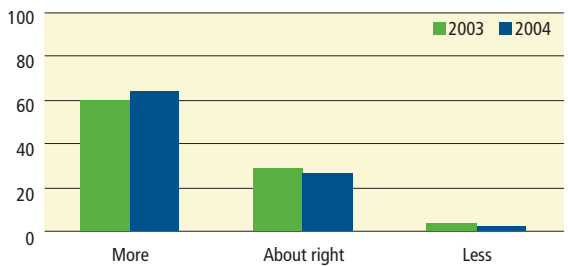


Figure 52: Perceptions of Wellington CBD parking supply. Source: GWRC perception survey, 2004

Definition: The graph shows what people think about the number of carparks available in the Wellington CBD. This indicator will be updated next in 2005/06.

Interpretation: Some 64% of respondents think there should be more carparks in Wellington (c.f. 60% in 2003); 26% think the number is about right (c.f. 28% in 2003); and only 2% think there should be fewer (c.f. 3% in 2003).

Comments: It is not surprising that people would like more carparks in the city, as anecdotal evidence suggests that finding a convenient carpark can be difficult. This result is positively correlated with the results from the survey below, asking about the cost of parking.

Parking supply in Wellington CBD: perceptions of parking prices

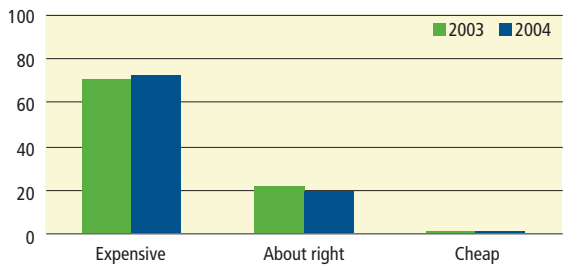


Figure 53: Perceptions of Wellington CBD parking pricing. Source: GWRC perception survey, 2004

Definition: The graph shows what people think about the cost of carparking in the Wellington CBD. This indicator will be updated next in 2005/06.

Interpretation: The graph shows that over 72% of people think that parking is too expensive (c.f. 70% in 2003); just under 20% think the cost is about right (c.f. 21% in 2003); and only 1% think it is cheap (c.f. 1% in 2003). Note this survey was conducted before parking price increases came into effect in July 2004.

Comments: Parking pricing is one method of deterring people from driving into city centres. The fact that over 70% of people think parking is expensive and over 60% think parking supply is constrained demonstrates a level of parking constraint already operating in the Wellington CBD.

Accessibility and economic development summary

Accessibility and economic development indices

Definition: Figure 54 shows the movement in indices for accessibility and economic development at a macro level and a composite index. All are expressed relative to a base year of 2003. Within the composite index, a weighting of 3:1 has been applied to average vehicle speed and state highway volume indices. This weighting reflects passenger kilometres travelled by mode on the regional strategic transport network.

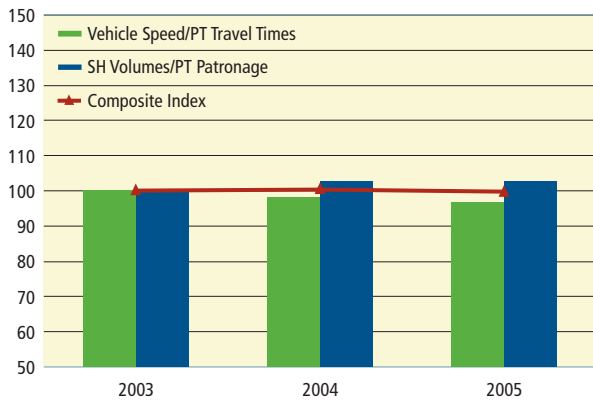


Figure 54: Accessibility and economic development (indices). 2003 = 100

Interpretation: There is insufficient data to draw any valid conclusions at present.

Regional level

State highway traffic volumes increased by 18% between 1997 and 2005, but fell by 4% over the past year. VKT on the state highway network increased by just over 6% between 2002 and 2005 and by less than 1% from 2004 to 2005.

Model forecasts indicate that by 2021 on the Western Strategic Network, vehicle hours (up 44%) will increase much faster than VKT (up 19%), while the number of vehicles will only increase by 7%. Also, more than 75% of the modelled network is anticipated to operate at LOS A or B (free-flow conditions or some minor delays) in the morning peak. There is not enough information on which to establish trends in vehicle occupancy or cycle/ pedestrian movements (although all morning peak period cycle and pedestrian movements increased on 2004 numbers).

Census results suggest that fewer people in the Wellington region are travelling to work by private car, although this mode still accounts for around 70% of journey-to-work trips. There have been corresponding gains in walking, cycling and public transport. More people are also working from home as technological advances allow.

Sub-regional level

Trends cannot be established for many indicators, as insufficient information is available.

Wairarapa had the highest 2001 rate of home working at 16.2%, followed by Kapiti at 10.6%. The rate for all other areas was between 5% and 6%. The strongest growth in home working between 1996 and 2001 was in Wellington (26%) and Porirua (25%), and the lowest in Wairarapa (2%).

An average regional decrease of -2.7% in the use of private cars for journeys to work in proportion to total trips to work from 1996 to 2001 masks regional variations between Wellington (-5%) and Wairarapa (+1%). More recent Wellington City Council cordon data reveals that private car use in the AM peak period fell by 4% in 2005, having increased over the period from 2002 to 2004.

Outlook

Daily traffic volumes will continue to grow by around 3% to 4% per annum, with some decline in the proportion of private car journeys to work.

Take-up rates of home and teleworking are likely to continue, driven by demands for lifestyle change, although this will have a marginal effect on regional travel demands. Active modes will remain variable day to day, but their use is expected to increase along with a growing awareness of their potential health benefits and improvements in more cycle and pedestrian networks.

Implications for transportation planning

The Wellington region’s dispersed development means the private car will be the dominant form of transport in the foreseeable future. Traffic volumes will grow alongside economic activity.

Increasing traffic demand will not be met without the construction of significant new infrastructure. RLTS proposals seek to maximise road network efficiency while encouraging travellers to use public transport and active modes for appropriate journeys. Current measures are relatively passive and rely on voluntary behavioural change. It is likely that direct incentives, such as road charges, congestion pricing and tolls, will be required in future to change travel behaviour.

5 Economic efficiency indicators

This section sets out and discusses items relating to the RLTS economic efficiency objective: *to implement the most efficient options and to ensure that all users of land transport are subject to pricing and non-pricing incentives and signals which promote decisions and behaviours that are, as far as possible, in accordance with efficient use of resources and of optimal benefit to the user.* It considers the following performance indicators:

- Road network congestion costs
- Public transport user costs
- Car operating costs
- Fuel price index

Indicators

Road network congestion costs

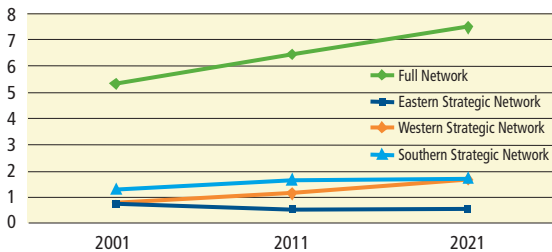


Figure 55: Annual hours of delay (millions). Source: WTSM

Definition: The graph shows delay is the difference between modelled travel time and travel time in uncongested, free-flow conditions, weighted for the volume of traffic.

Interpretation: Current estimates (2004) are that 5.5 million hours per year of vehicle delay are experienced on Wellington roads, costing around \$110 million per annum. This is expected to rise to 7.5 million hours (\$150 million) per year by 2021. Delays on the strategic network are expected to grow more slowly than delays across the entire network, indicating that increased traffic volumes are likely on non-major roads in attempts to avoid congestion on the major routes. The Eastern Strategic Network is expected to have decreased delays owing to the anticipated completion of the Dowse/Korokoro interchange by 2011.

Comments: While growing congestion is a concern, the Wellington region does not yet experience it on the scale of Auckland or Australian cities. However, there is no reason to be complacent; opportunities should be taken to pre-empt the regional financial costs of congestion by improving the roading and public transport networks' capacity and efficiency.

Public transport user costs

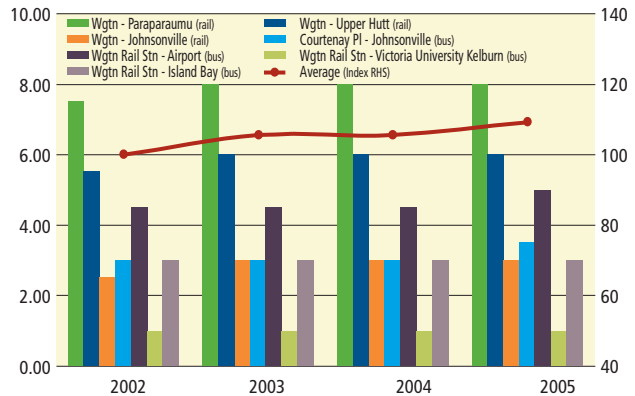


Figure 56: Public transport user costs, 2002 = 100. Source: bus/rail operators

Definition: The graph shows single adult fares on several key routes in the morning commuter peak period:

- Wellington – Paraparaumu (rail)
- Wellington – Upper Hutt (rail)
- Wellington – Johnsonville (bus)
- Courtenay Place – Johnsonville (bus)
- Railway station – airport (bus)
- Railway station – Victoria University, Kelburn (bus)
- Railway station – Island Bay (bus).

Interpretation: The public transport fare index increased slightly between 2004 and 2005, owing to fare increases on two of the measured routes.

Comments: Public transport must remain competitive to ensure travellers continue to be attracted away from private car use, especially for peak-period journeys to work. Fares are a significant element of this competition, along with perceived service quality and convenience.

Public transport user cost perceptions

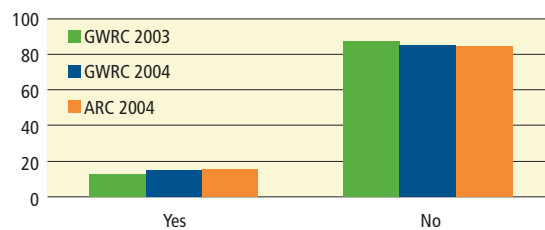


Figure 57: Perceptions of public transport costs as a barrier to mode choice. Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows whether the cost of public transport affects use. This indicator will be updated next in 2005/06.

Interpretation: The results are almost identical for Wellington and Auckland, with 85% of people saying that the cost of public transport is not hindering their use of it.

Comments: This response further strengthens comments made elsewhere that other factors such as convenience and reliability are the dominant reasons for people not using public transport more often.

Car operating costs

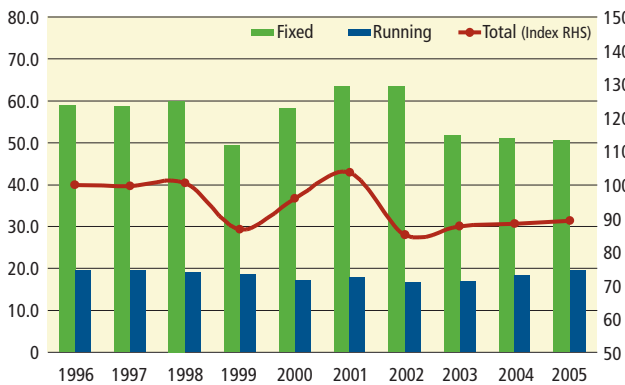


Figure 58: Car running costs, 1996 = 100. Source: Automobile Association of New Zealand (for 1601-2000cc car, 14,000 km/yr)

Note: April 2005 petrol price at \$1.32 per litre; March 2004 petrol price at \$1.17 per litre used for analysis

Definition: The graph shows vehicle operating costs per kilometre for a two-litre, petrol-engine car for 14,000km a year. They are broken down into fixed costs (unrelated to vehicle use) and variable costs (proportional to use). Parking charges are not included.

Interpretation: The total cost of operating a two-litre car grew by just under 1% between 2004 and 2005. Fixed costs dropped again slightly to 2005, continuing a decreasing trend since 2002. The cost of petrol, oil, tyres, repairs and maintenance have all risen resulting in a 6% increase in running costs over the past year. Recent significant fuel price increases are not represented, as the April 2005 petrol price of \$1.32 per litre was used.

Comments: The costs of owning and running a car are usually taken into account when choosing a mode of transport, but the choice is often made by comparing public transport costs with the variable, or marginal, costs of running a car only. Parking charges (not included in these figures) are a means of increasing car use cost relative to that of public transport.

Private transport perception costs

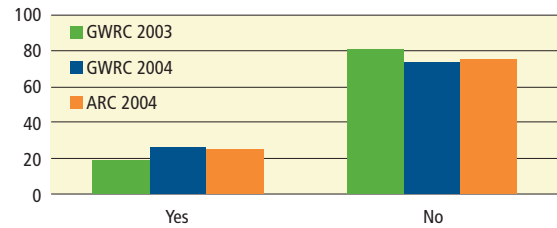


Figure 59: Perceptions of private transport costs as a barrier to mode choice. Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows whether the cost of private transport affects use. This indicator will be updated next in 2005/06.

Interpretation: The results are almost identical for Wellington and Auckland, with 75% of people saying that the cost of private transport is not hindering their use of it, down 5% on the 2003 survey.

Comments: While the majority of the population are not changing their private transport use because of cost, the survey results indicate a significant perception shift in the year 2003 to 2004, with around 5% more people in both Wellington and Auckland believing that private transport costs are affecting use. This might be due to increasing fuel prices.

Fuel price index

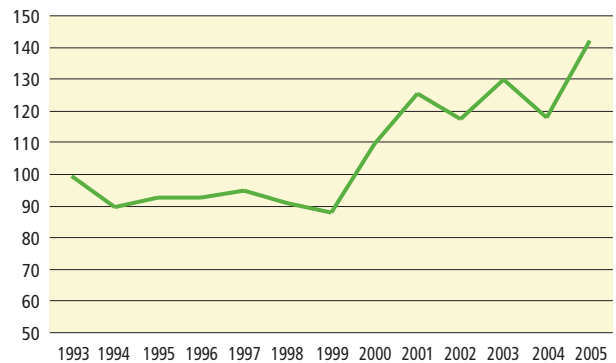


Figure 60: Fuel component of National Farm Expenses Price Index. March quarter. 1993 = 100. Source: Statistics New Zealand

Definition: The graph shows the March quarter measure of the fuel component of the Farm Expenses Price Index (FEPI).

Interpretation: The fuel price index increased by over 20% between 2004 and 2005 and has risen more than 60% since 1999.

Comment: This sub-section of the FEPI is currently the only indicator available nationally that shows fuel prices over time. While it is not ideal, it does give an indication of how fuel prices are trending over time at a national level. Oil prices are at some of their highest levels in 30 years and are continuing to show some price volatility. The high prices currently being paid for fuel (September 2005) will continue to be reflected in the index next year as the sharp increase in index value 2004 to 2005 has shown.

Economic efficiency summary

Economic efficiency indices

Definition: Figure 61 shows the movement in indices for economic efficiency and a composite index. All are expressed relative to a base year of 2003. The index has been equally weighted for public transport user costs and car running costs.

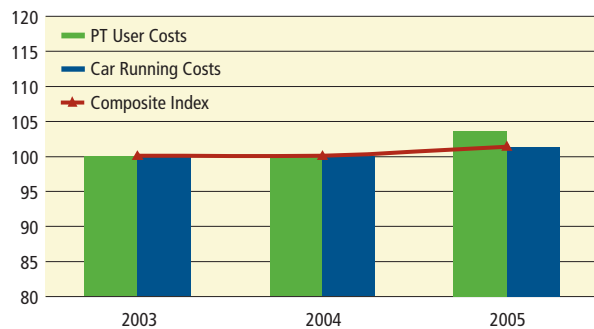


Figure 61: Economic efficiency indices, 2003 = 100

Interpretation: An increase in both public transport user costs and car running costs has caused a slight increase in the composite index.

Regional level

Over 5.5 million hours of vehicle time were spent on congested regional roads in 2004.

The cost of running a private car (two-litre, 14,000km a year) has dropped by about 11% since 1996. Costs dropped in 1999 and 2002 when lower interest rates reduced the costs of borrowing money to buy a vehicle.

Sub-regional level

No sub-regional information is available.

Outlook

Time spent using the transport network is likely to increase with population growth and economic activity. While congestion is not yet on the scale of Auckland or the larger Australian cities, average times spent on the road network will rise as congestion intensifies and spreads to previously uncongested areas and times of day.

As the fuel and car running costs are assessed early in the calendar year, it is anticipated that recent, further fuel price rises will be reflected in this indicator in the 2005/06 AMR.

Implications for transportation planning

The costs of congestion will rise as regional demand for travel increases. This situation must be pre-empted by encouraging more efficient use of the road network, use of public transport for peak-period commuter trips, use of 'active' modes for shorter trips, and an overall reduction in travel demand. It is too soon to tell if currently high fuel prices are having any impact on demand.

Affordability indicators

This section sets out and discusses items relating to the RLTS affordability objective: *to plan for a land transport system that recognises funding constraints and ability to pay.* It considers the following performance indicators:

- Capital works expenditure
- Maintenance works expenditure
- Public transport subsidy expenditure
- Household travel expenditure

Indicators

Capital works expenditure

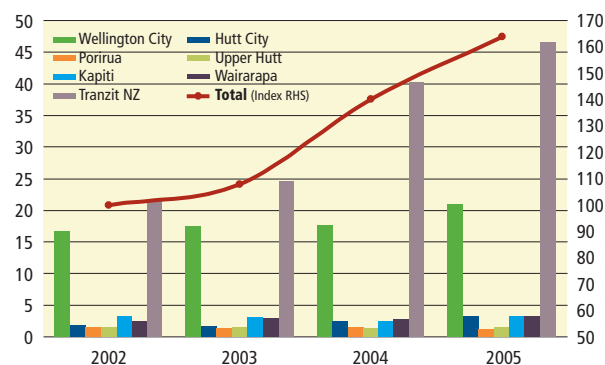


Figure 62: Capital works expenditure, by RCA, by year. 2002 = 100. Sources: local authorities, Transit New Zealand

Definition: The graph shows total annual expenditure on capital works associated with the road network, by road-controlling authority (RCA). Note that Transit New Zealand's expenditure includes property purchases for new roading developments.

Interpretation: Overall the index has increased 64% between 2002 and 2005. This includes an expenditure increase of 17% between 2004 and 2005 (c.f. 30% 2003 to 2004).

Comments: It will be some years before a reliable trend can be established; however overall capital expenditure on the road network is increasing considerably.

Maintenance works expenditure

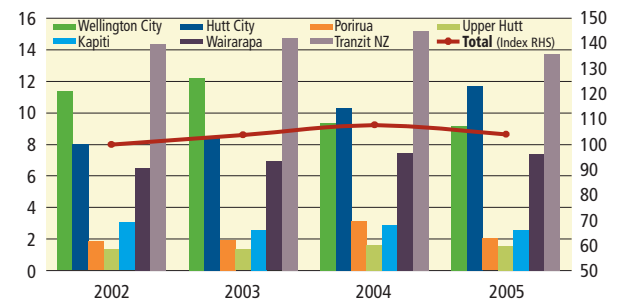
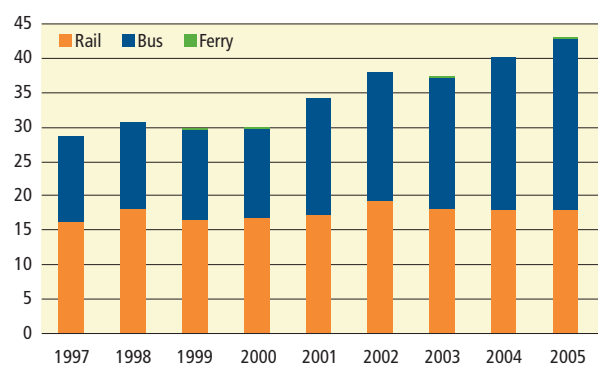


Figure 63: Maintenance works expenditure, by RCA, by year. 2002 = 100. Sources: local authorities, Transit New Zealand

Definition: The graph shows total annual expenditure on maintenance works associated with the road network. It excludes any expenditure on emergency works. Note that the 2002 figure reported for Transit New Zealand is an estimate only.

Interpretation: The index has increased 4% overall between 2002 and 2005. However, maintenance expenditure decreased by 4% between 2004 and 2005 due to lower state highway maintenance expenditure.

Comments: After initially increasing over the first two years shown, total expenditure on road network maintenance has dropped back to the 2003 level. Data is not yet available for a long enough period to establish a trend.



Public transport subsidy expenditure

Figure 64: Public transport operating expenditure on contracted services (\$ millions). Source: GWRC

Definition: The graph shows combined GWRC and Land Transport New Zealand financial contributions to the public transport contracted services operating costs. Table 5 shows the number of Total Mobility passengers from 2002.

Interpretation: As public transport services have increased over time, so too have the contributions of GWRC and Land Transport New Zealand to the cost of the services. Between 1997 and 2005, operating expenditure has increased by 50%. Total Mobility passengers have increased by 20% in number since 2002.

Comment: The cost of public transport service contracts is not strictly on a per-passenger basis, so parallels between public transport expenditure and public transport patronage cannot be made. For example, factors such as community accessibility and severance are taken into account when funding services.

Year	Average monthly passengers	Total passengers	% increase
2002/03	18,559	222,710	-
2003/04	19,630	235,561	5.8%
2004/05	22,287	267,440	13.5%

Table 5: Total Mobility passenger numbers

Household travel expenditure

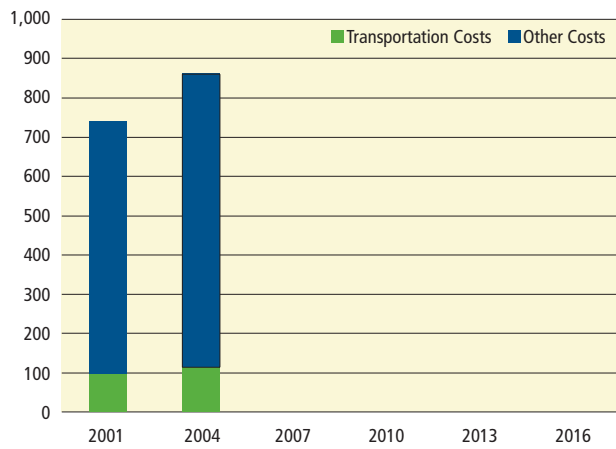


Figure 65: National average weekly expenditure per household (\$). Source: Statistics New Zealand

Definition: The graph shows national average weekly household expenditure; disaggregation by region is unavailable. The Household Economic Survey collects this information three-yearly so the next update will be in the 2007/08 AMR.

Interpretation: The total average weekly household expenditure for 2003/04 was \$860.80, of which domestic travel accounted for \$114.60 or 13% (approximately equal to the contribution of travel

expenditure in 2001). Total household expenditure increased by almost 17% and travel expenditure by 20% between 2001 and 2004.

Comments: The proportion of average weekly travel expenditure relative to average total expenditure per household remains unchanged between the two surveys. Like any economic good or service, consumption is influenced by price; if the cost of travel increases relative to other costs, total travel demand is likely to reduce, and vice versa.

Affordability summary

Affordability indices

There is not enough information available to establish indices for this category.

Regional level

It will be several years before trends become apparent. GWRC and Land Transport New Zealand expenditure on public transport services continues to rise, up 50% since 1997. Household expenditure survey results are unavailable at the regional level. National 2004 figures suggest the average household spends roughly \$115 on domestic transport per week, or around 13% of total weekly expenditure.

Sub-regional level

Trends cannot yet be established for capital and maintenance expenditure as insufficient information is available.

Outlook

The outlook for regional Wellington expenditure has been improved significantly over the past year with the Government’s announcement of an additional \$885 million to be invested in transport system improvements (road and rail) for the greater Wellington region over the next 10 years. Projects such as the inner-city bypass and MacKays Crossing junction are proceeding.

Implications for transportation planning

The network needs ongoing investment to maintain and improve efficiency levels. Travel Demand Management initiatives will address ways of improving network efficiency, discouraging peak-period commuter car trips and increasing car occupancy.

This section sets out and discusses items relating to the RLTS safety objective: *to provide a safer community for everyone through a transport system that achieves or improves on the targets of the National Road Safety Plan through the Regional Road Safety Strategy.* It considers the following performance indicators:

- Total injury crashes
- Total casualties
- Total casualties by severity type
- Regional casualties
- Regional death plus hospitalised
- Relative risk by transport mode
- Cycle casualties
- Pedestrian casualties
- Motorcycle casualties
- Perceptions of road network safety
- Safety perceptions of public transport
- Regional personal security

Indicators

Total injury crashes

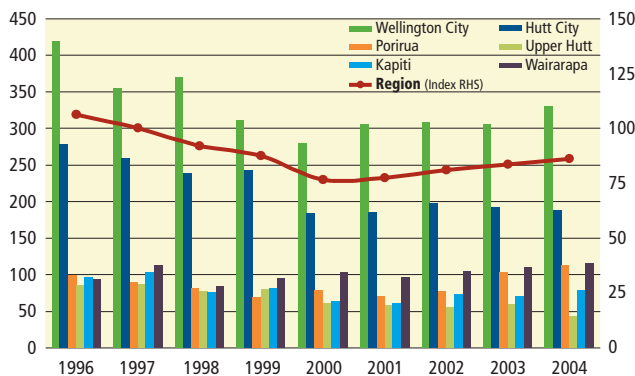


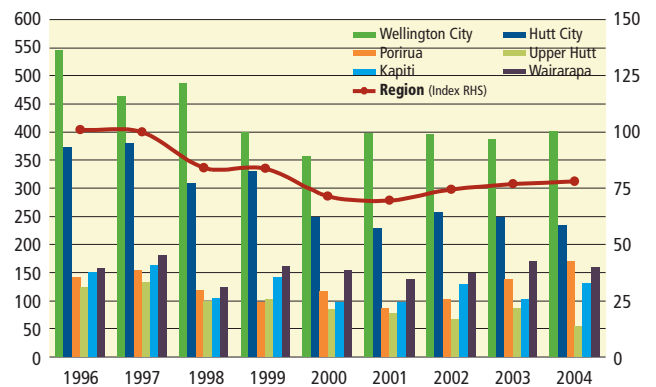
Figure 66: Total injury crashes (including fatalities) by district, by calendar year, index 1997 = 100. Source: Land Transport New Zealand

Definition: The graph shows total recorded injury crashes for all vehicle types.

Interpretation: There was a general, longer-term downward trend in most districts and across the whole region until 2000. Since 2001, total regional injury crashes have continued to increase, particularly in the Wairarapa and Porirua City. Total numbers of injury crashes are now below 1996 levels in all other territorial authority areas. Wellington City however, has shown an 8% increase in 2004 and Porirua 8.7%. Kapiti increased by 10% (actual number of crashes is smaller compared to other areas). Total injury crashes

in the Wairarapa rose 5.5% on the year previous, due to the South Wairarapa figure increasing from 25 to 41 (2003 to 2004). Hutt and Upper Hutt cities, Masterton and Carterton Districts all experienced a decrease in total injury crashes in 2004.

Comments: Vehicle safety improvements, driver education and proactive safety engineering on local roads have previously all contributed to reductions in crash numbers. However, crash numbers have trended upwards from the year 2000.



Total casualties

Figure 67: Total casualties (including deaths) by district, by calendar year, index 1997 = 100. Source: Land Transport New Zealand

Definition: The graph shows total recorded casualties for all vehicle types.

Interpretation: In a similar vein to total injury crashes, total recorded casualties showed a longer-term downward trend in most districts and across the region as a whole until 2001, after which an increase is apparent. Total casualty numbers decreased in both Upper Hutt (from 87 to 54) and Hutt cities in 2004. Casualty numbers decreased by 6% overall in Wairarapa, but an increase was experienced in the South Wairarapa District. Porirua City and Kapiti District casualties increased by 23% and 28% respectively; Wellington City increasing by 4% between 2003 and 2004.

Comments: In 1999, the RLTS set a ceiling for 2001 of 1,200 casualties or fewer; this has been achieved since 2000 when the total fell to 1,054. Despite this goal having been met, the above data shows an increase in total recorded casualties for all vehicle types since 2001.

Total casualties by severity type

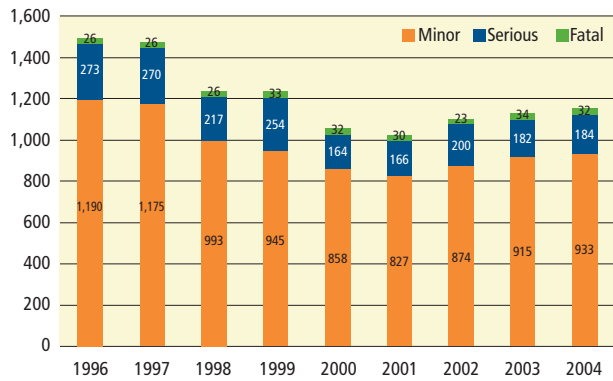


Figure 68: Total casualties, by type, by calendar year. Source: Land Transport New Zealand

Definition: The graph shows casualties disaggregated by severity: fatal, serious and minor.

Interpretation: Serious and fatal casualty numbers are very similar in 2003 and 2004; this compares with a reduction in serious casualties of 10% between 2002 and 2003 and an increase in fatalities (48%) from 23 in 2002 to 34 in 2003. Minor casualties increased 2% over the past year and are 13% higher than in 2001.

Comments: Improved vehicle safety, driver education and proactive road safety engineering have all contributed to the reduction in casualties to 2001. A continuation of the road safety interventions of education, engineering and enforcement is necessary to improve casualty rates in the region.

Regional casualties

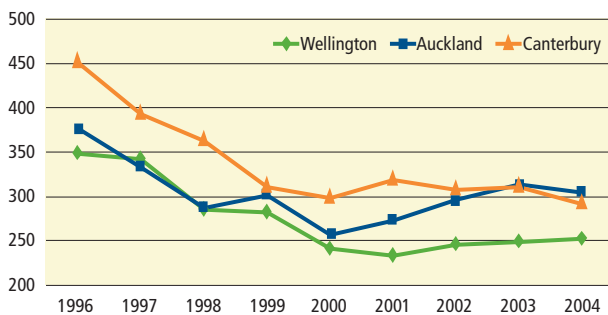


Figure 69: Casualties per 100,000 population, by calendar year. Sources: Land Transport New Zealand, Statistics New Zealand

Definition: The graph shows the number of casualties per 100,000 population, disaggregated by region.

Interpretation: At 252 casualties per 100,000 population, Wellington has the lowest casualty rate of all regions measured; the rate has continued to increase slightly since 2002. Canterbury has shown the greatest reduction in casualties per 100,000 population between 1996 and 2004 at 35%, followed by Wellington at 28%, while Auckland has achieved a decrease of 20% over the eight year period.

Comments: While our casualty rate is considerably better than that of our peers, there is no room for complacency, especially when the above data shows an increase in total recorded casualties for all vehicle types since 2001.

Regional death plus hospitalised

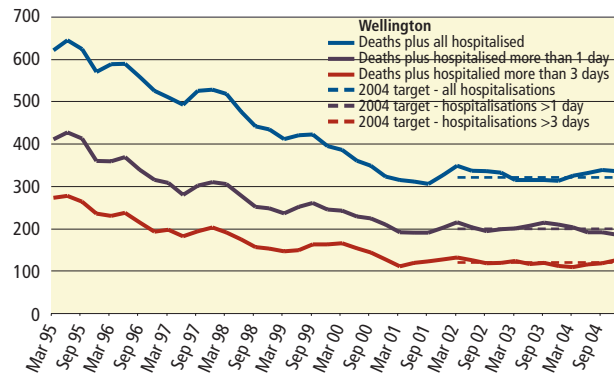


Figure 70: Deaths plus hospitalised (12-month totals) resulting from road crashes. Source: Land Transport New Zealand

Definition: The graph shows deaths plus hospitalised; deaths plus those hospitalised more than one day; deaths plus those hospitalised for more than three days, as well as regional targets for road casualties as set by the Regional Road Safety Strategy in line with the national *Road Safety to 2010* strategy.

Interpretation: Trends are similar to those seen in above indicators, with figures plateauing or increasing.

Comment: The Wellington region has not consistently achieved the 2004 interim targets; the quarterly data for 2004 averaged 3.5% over the target in the 'deaths plus all hospitalised' category. If trends continue it will be highly unlikely that the (lower) 2010 targets will be achieved unless proven road safety interventions are rejuvenated by all agencies involved in regional road safety.

Relative risk by transport mode

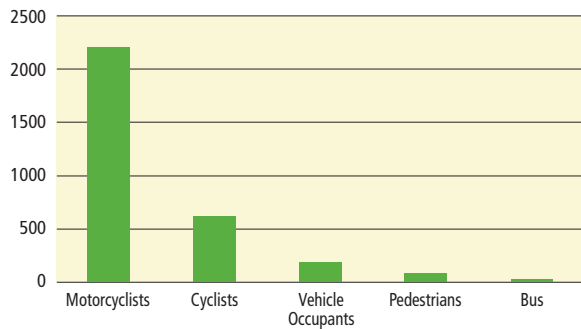


Figure 71: Relative risk by transport mode per 100 million trips. Source Land Transport New Zealand New Zealand Travel Survey 1997-98

Definition: The graph shows casualties reported per 100 million trips disaggregated by transport mode.

Interpretation: The relative risk of each mode is determined using an 'exposure-to-risk' indicator of casualties per 100 million trips. A cyclist is three times as likely as a vehicle occupant on any given trip to experience a casualty, and eight times more likely than a pedestrian. Bus travel represents the least 'risky' mode.

Comments: Reducing cyclist risk is an outstanding priority for road safety initiatives. Pedestrian travel is starting from a good base and initiatives on pedestrian safety are likely to be about maintaining that momentum. Vehicular risk will likely be contained within regional road safety initiatives.

While we can conclude that cycling is 'less safe' than other modes of transport, it is important to note that cycling in itself, as with the other modes, is not 'unsafe'. There is only one chance per 40,000 hours cycled of experiencing a casualty.

Cycle casualties

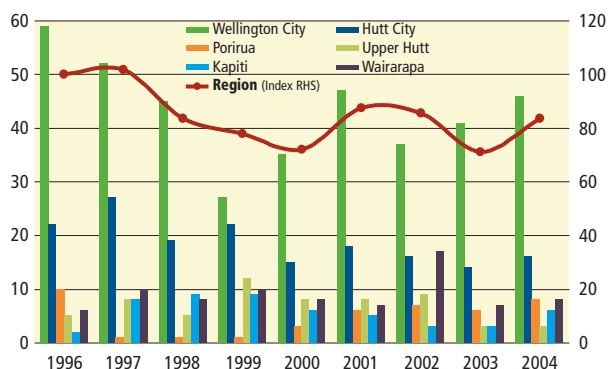


Figure 72: Cycle casualties, by district, by calendar year, index 1996 = 100. Source: Land Transport New Zealand

Definition: The graph shows cycle casualties, disaggregated by district.

Interpretation: Over the region as a whole, cyclist casualty numbers have risen to almost 2001 and 2002 levels again after exhibiting a decline in 2003. All areas show a static or increasing trend in cycle casualties (driven by Wellington City at 24% between 2002 and 2004), although actual numbers are low. Cyclist casualties are disproportionately high given the low number of trips made by cycle.

Comments: Cyclists are vulnerable road users; however cycling is a transport mode that needs to be encouraged. The GWRC Regional Cycling Strategy (2004) aims to support the cycling culture in the region.

Perceptions of cycle safety

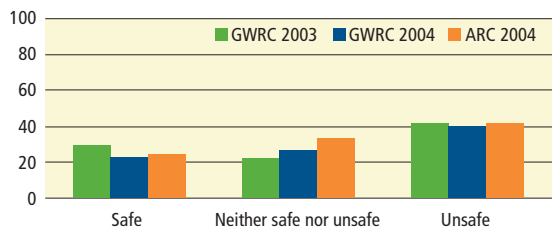


Figure 73: How safe do you think people are when using cycles? Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows how safe respondents think people are when using bicycles. This indicator will be updated next in 2005/06.

Interpretation: 40% of respondents said they felt 'unsafe' (c.f. 42% in 2003) while only 23% reported feeling 'safe' (c.f. 29% in 2003).

While the results are almost identical to Auckland, we clearly need improvements to help cyclists feel safer on the greater Wellington region's roads.

Comments: GWRC and the community must focus on providing a safe environment for all transport users. The Regional Cycling Coordinator appointed in 2004 is working to improve people's perceptions of cycle safety in the region. This result also correlates well with the relatively high risk of being involved in a crash with a motor vehicle.

Perceptions of child cyclist safety

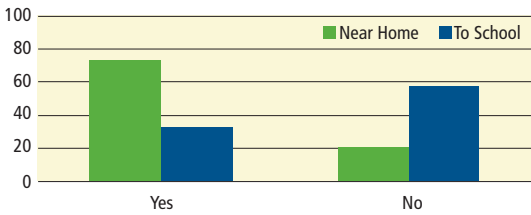


Figure 74: Would/Do you let your child (under 12) ride their bicycle unsupervised? Source: GWRC perception survey, 2004

Definition: The graph shows parents' / caregivers' perceptions of how safe they feel young children are when cycling. This indicator will be updated next in 2005/06.

Interpretation: While 73% of adults would allow their children to cycle near their home (c.f. 72% in 2003), only 32% would let them cycle to school (c.f. 34% in 2003). The main reason (over 70%) for not allowing children to cycle to school relates to road safety / engineering concerns.

Comments: GWRC and the community must focus on providing a safe environment for transport users of all ages. Many parents/caregivers now drive their children to school as they feel it is too dangerous on the roads for young cyclists. This leads to increased road congestion and less active children.

Pedestrian casualties

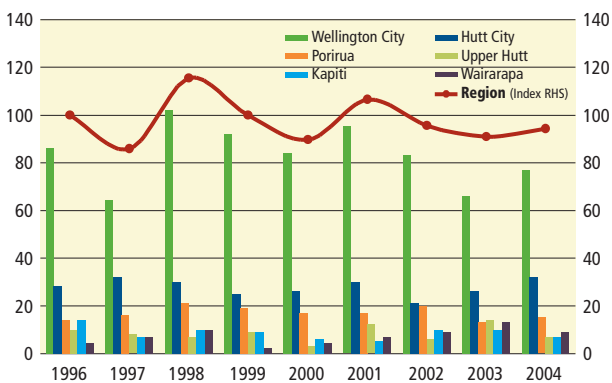


Figure 75: Pedestrian casualties, by district, by calendar year, index 1996 = 100. Source: Land Transport New Zealand

Definition: The graph shows pedestrian casualties, disaggregated by district.

Interpretation: Pedestrian casualty numbers throughout the region fluctuate from year to year and exhibit a flat or slightly downward trend. Regional trends are largely driven by Wellington City, where approximately 50% of casualties occur. This may be explained by the high proportion of pedestrian trips undertaken in the city.

In the past year Wellington City's pedestrian casualty numbers increased by almost 17%, after falling 20% in 2003. Hutt City experienced a 23% rise and there were two more pedestrian casualties in Porirua City in 2004 than 2003. Casualty numbers decreased in all other areas (in Upper Hutt by 50%) however the region's pedestrian casualty figures as a whole increased by 3.5%, reversing the downward trend evident since 2001.

Comments: The GWRC Regional Pedestrian Strategy 2004 aims to address safety issues associated with pedestrians. The risk of a pedestrian experiencing a casualty is one-third that of vehicle occupants and one-eighth that of cyclists.

Perceptions of pedestrian safety

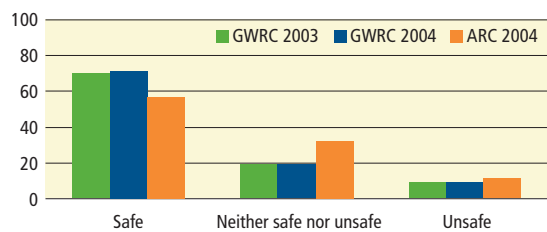


Figure 76: How safe do you think people are when walking? Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows how safe respondents think people are when walking. This indicator will be updated next in 2005/06.

Interpretation: 71% of respondents said they felt people were 'safe' while walking (c.f. 70% in 2003) while, like 2003, only 9% said they thought it was 'unsafe'. This compares favourably with ARC's survey, with 14% more people feeling 'safe' in Wellington than in Auckland.

Comments: With such a high number of people walking in the region, it is not surprising that a large number feel safe doing so. This result correlates well with the relatively low risk of being involved in a crash with a motor vehicle.

Perceptions of child pedestrian safety

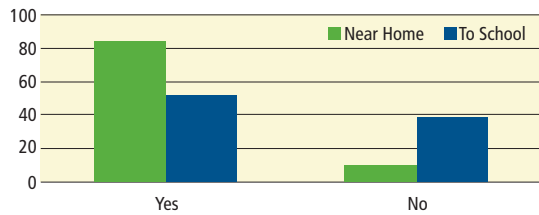


Figure 77: What percentage of people would/do let their child (under 12) walk unsupervised? Source: GWRC perception survey, 2004

Definition: The graph shows parents' / caregivers' perceptions of how safe they feel young children are when walking unsupervised. This indicator will be updated next in 2005/06.

Interpretation: The majority of adults (84%) would allow their children to walk near their homes (c.f. 84% in 2003), but significantly less (54%) would allow them to walk to school (c.f. 52% in 2003).

The main reason (just over 40%) given for not allowing children to walk to school relates to 'stranger danger' issues (c.f. just over 50% in 2003), followed by road safety / engineering concerns (16%).

Comments: GWRC and the community must focus on providing a safe environment for transport users of all ages. Many parents / caregivers now drive their children to school as they feel their communities are unsafe. This leads to increased road congestion and less active children.

While the actual recorded occurrence of 'stranger danger' incidents is very low, the media play a large role in over-reporting such incidents, leading to a climate of fear.

Motorcycle casualties

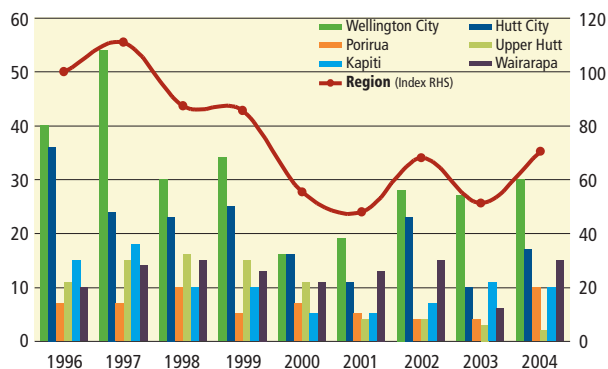


Figure 78: Motorcycle casualties, by district, by calendar year, index 1996 = 100. Source: Land Transport New Zealand

Definition: The graph shows motorcycle casualties, disaggregated by district.

Interpretation: Until 2000, a clear downward trend in motorcycle casualties is shown; however in the years following casualty numbers have fluctuated and in 2004 reached the highest level since 1999. The number of motorcycle casualties in 2004 increased in Wellington City, Porirua City, Hutt City and the Wairarapa; Upper Hutt City and Kapiti District experienced a decrease in number.

Comments: The strong downward trend in motorcyclist casualty figures has halted and although fluctuating, the overall number seems to be on the increase.

Perceptions of road network safety

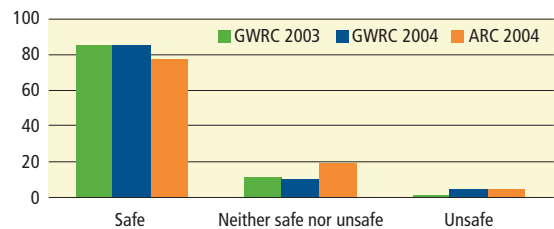


Figure 79: How safe do you feel when using a car? Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows how safe respondents think people are when using a car in the region. This indicator will be updated next in 2005/06.

Interpretation: 85% of respondents said they felt people were 'safe' when using a car (c.f. 85% in 2003), while only 4% thought it was 'unsafe' (c.f. 3% in 2003).

This result is similar to ARC's survey, but 8% more people report feeling 'safe' in Wellington than in Auckland (c.f. 7% in 2003).

Comments: With such high mode use, many people perceive they are safest when in their vehicle.

Safety perceptions of public transport

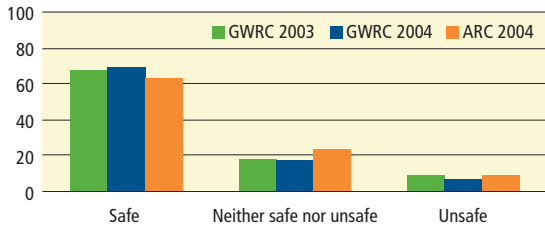


Figure 80: How safe do you feel when using public transport? Sources: GWRC and ARC perception surveys, 2004

Definition: The graph shows respondents' perceived safety when using public transport. This indicator will be updated next in 2005/06.

Interpretation: 69% of respondents said they felt 'safe' on public transport (c.f. 68% in 2003), and 7% 'unsafe' (c.f. 9% in 2003). This compares favourably with ARC's survey, with 6% more people feeling 'safe' in Wellington than in Auckland.

Comments: GWRC and the community must continue to focus on providing a safe environment for public transport users.

LTCCP safety perceptions on public transport

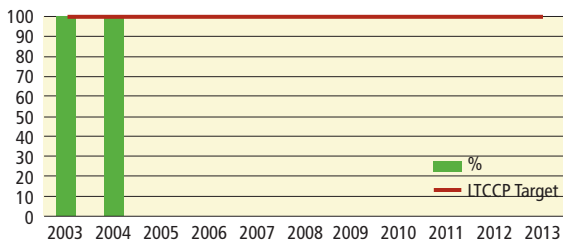


Figure 81: People surveyed who did not cite safety concerns as a reason for avoiding the use of public transport. Source: GWRC perception survey, 2004

Definition: The GWRC LTCCP target is represented in the graph along with the percentage of respondents who did not cite safety as a reason for avoiding using public transport in the past 12 months. This indicator will be updated next in 2005/06.

Interpretation: The graph shows that of the 201 respondents who said they had not used public transport in the past 12 months, none cited safety concerns as the reason.

Comments: The GWRC LTCCP target of 100% has been met in both 2003 and 2004: 'no-one cites safety as a reason why they do not use public transport'.

Regional personal security

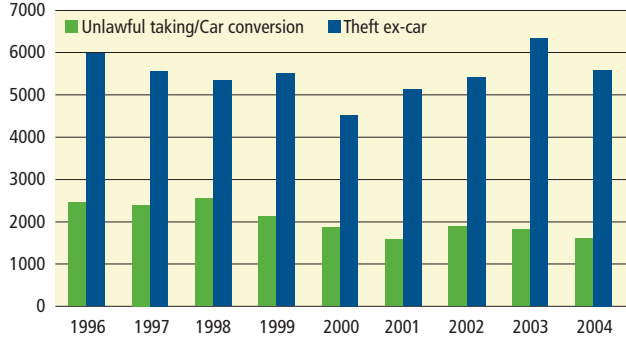


Figure 82: Wellington regional policing district car theft/conversion and theft ex-car by calendar year. Source: New Zealand Police

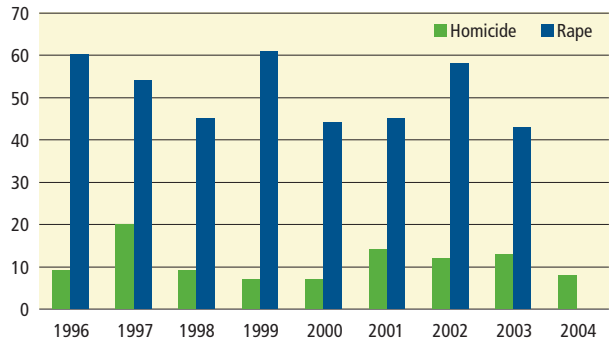


Figure 83: Wellington regional policing district rape and homicide, by calendar year. Source: New Zealand Police.

Note: Homicide includes murder, manslaughter, infanticide and attempts or conspiracy to commit homicide. Rape data unavailable for 2004.

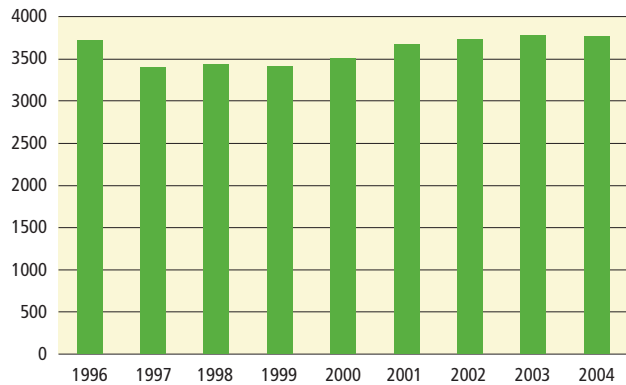


Figure 84: Wellington regional policing district all assaults, by calendar year. Source: New Zealand Police

Definition: The graphs show a selection of data relating to personal security in the greater Wellington region. The data refers to the Wellington policing district, which differs slightly from the regional boundaries. The data also relates to all reported offences, including but not limited to convictions.

Interpretation: Both car conversion/theft and theft from cars decreased by approximately 11% in 2004. However theft ex-car has increased by over 23% between 2000 and 2004. Reported rape numbers have fluctuated by up to 30% over the covered period; no data is available for 2004. Homicides dropped more than 38% from 2003 to almost the lowest level in the past eight years. The number of 'all assaults' has remained relatively static overall although there has been about a 7% increase between 2000 and 2004.

Comment: High levels of perceived personal security are required if people are to be willing to use or allow their children to use environmentally sustainable forms of transport such as walking, cycling and public transport that 'expose' them to other members of the community.

Safety summary

Safety indices

Definition: Figure 85 shows the movement in indices for safety at a macro level. The index is expressed relative to a base year of 1996 and has been weighted 9:1 for total regional casualties versus total vehicle-related crime and assault figures. This weighting reflects confidence in Land Transport New Zealand road safety data and the relatively low relevance of the personal security indicators.

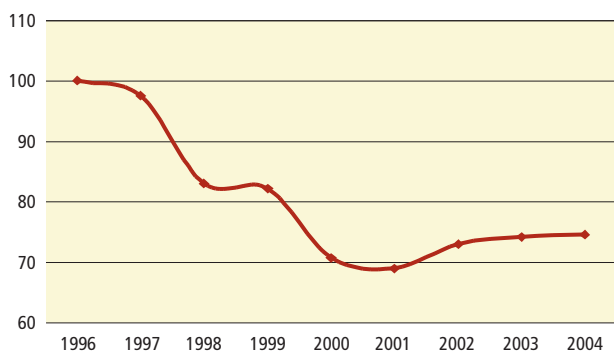


Figure 85: Safety index, 1996 = 100

Interpretation: Between 2001 and 2002 there was deterioration in the road safety and personal security index. In recent years the trend has levelled out.

Regional level

As the safety index is heavily weighted towards road casualties, an increased focus on road safety issues throughout the region is required to improve regional safety.

Sub-regional level

Wellington City accounted for 38% of total injury crashes from 1996 to 2004; Hutt City for around 25%; Porirua 10%; Upper Hutt and Kapiti 8% and 9% each and Wairarapa about 11%.

It is not possible to comment on the region's overall level of AMR-measured reported crime as data is incomplete for 2004. However in the categories that are reported, all experienced a decrease from the previous year, particularly homicides at 39% less in number than in 2003.

Outlook

Achieving the aim of improved safety will depend on concerted efforts across engineering, education and enforcement, as signalled in the Regional Road Safety Strategy 2004 and improving vehicle safety standards. The outlook is for continuing reductions, but at a lower rate than in the past.

Implications for transportation planning

Efforts are required to improve road safety through engineering, enforcement and education programmes. The number of pedestrian and cyclist casualties in urban centres is an important issue; these issues are addressed in the 2004 Regional Road Safety Strategy.

8 Sustainability/environment indicators

This section sets out and discusses items relating to the RLTS sustainability objective: *to provide a land transport system that recognises the needs of the community; avoids, remedies or mitigates against adverse effects; uses resources in an efficient way; supports an optimal demand for energy.* It considers the following performance indicators:

- Fuel consumption
- Air quality
- Noise adjacent to arterial routes
- Surface water quality
- Land use patterns

Indicators

Fuel consumption

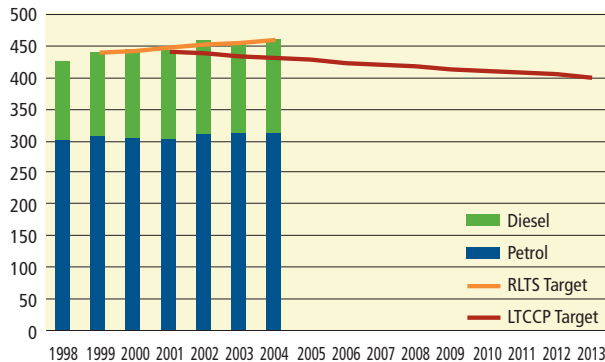


Figure 86: Greater Wellington fuel (diesel and petrol) consumption (million litres). Calendar year. Sources: local authorities

Definition: The graph shows calendar-year total petrol and diesel sales in each local authority, as collected monthly for the local body fuel tax. Although some non-retail sales occur, and some fuel is purchased outside the region but used in it (and vice versa), this is nevertheless a reliable measure of total regional fuel consumption. Sub-regional disaggregation adds little value to the data as fuel is not necessarily used in the area in which it is bought.

Interpretation: Regional petrol and diesel sales grew by 1.6% over the year 2003 to 2004 to 459 million litres having fallen by a similar amount the year previous (458 million litres total in 2002). The western part of the region (where over 86% of regional fuel is sold) also experienced a 1.5% increase while in Wairarapa overall fuel sales increased by 2.3%.

Comments: Transport-produced ambient vehicle emissions are linked to fuel consumption. Total fuel sales are therefore, a reasonable proxy measure for total air pollution attributable to motor vehicles.

At present, fuel sales continue to demonstrate slow growth. Fuel price increases during 2005 may have an impact on fuel sale levels. Effort to curb fuel consumption will be required if we are to meet our LTCCP target in future.

Regional fuel consumption

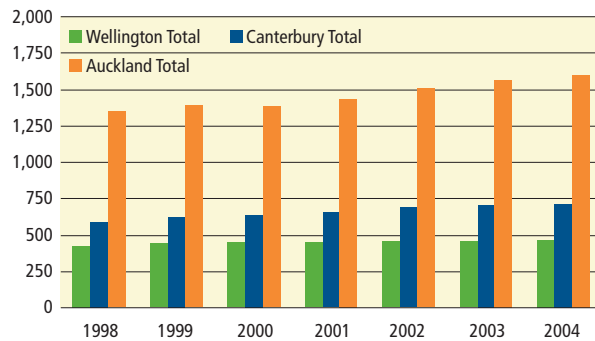


Figure 87: Regional fuel consumption (million litres). Sources: GWRC, ARC and ECan (Environment Canterbury)

Note: Data is reported by financial year for ARC and ECan; calendar year for GWRC

Definition: The graph shows total petrol and diesel sales in the Wellington, Canterbury and Auckland regions, as collected monthly for the local body fuel tax. Although some non-retail sales occur, and some fuel is purchased outside the region but used in it (and vice versa), this is nevertheless a reliable measure of total regional fuel consumption. Sub-regional disaggregation adds little value to the data as fuel is not necessarily used in the area in which it is bought.

Interpretation: Canterbury fuel sales show the highest growth rate between 1998 and 2004, at 21%. Auckland's growth rate is 18%, while Wellington compares favourably at 8%. In the past year, both Wellington and Canterbury fuel consumption rose by 1.5%, compared with an increase in Auckland of 2.4%.

Comments: Transport-produced ambient vehicle emissions are linked to fuel consumption. Total fuel sales are, therefore, a reasonable proxy measure for total air pollution attributable to motor vehicles. Both Canterbury and Auckland have high levels of air pollution attributable to vehicle emissions. Wellington's level of air pollution is currently relatively low compared with Auckland and Canterbury.

Air quality

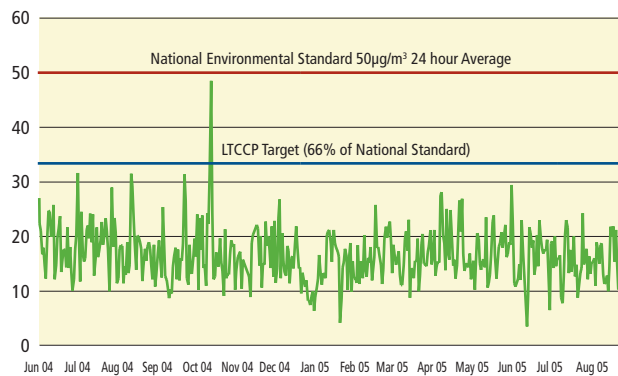


Figure 88: 24-hour average PM₁₀ concentrations at Vivian/Victoria Streets intersection, Wellington City. Source: GWRC

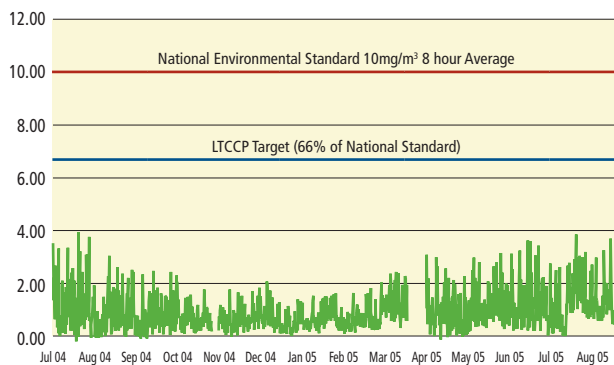


Figure 89: Eight-hour average CO concentrations at Vivian/Victoria Streets intersection, Wellington City. Source: GWRC

Background: Motor vehicle emissions are one source of the pollutants impacting on the air quality of the greater Wellington region. Motor vehicle emissions have been attributed to causing premature death in human populations in the form of cancer and cardiovascular and respiratory diseases, to name but a few.

Between May and September 1998, research by the GWRC Environment Division identified the intersection of Vivian and Victoria Streets, Wellington City as a location where air quality is likely to be degraded owing to motor vehicle emissions. This is primarily due to the intersection being part of a busy arterial route to and from the

central city as well as the canyoning effect caused by the multi-storeyed buildings lining the route. GWRC's first permanent transport air quality monitoring station (TAMS) was established at this site in April 2004.

The location was also favoured because, once the inner-city bypass is built, a similar number of vehicles (approximately 40,000 on weekdays and 30,000 during weekends) will continue to travel along the route, the only difference being that Vivian Street's one-way system will flow one-way in the opposite direction.

The station constantly monitors two key pollutants, particles (PM₁₀) and carbon monoxide (CO) along with a variety of environmental indicators including temperature, wind speed and direction. Wellington City Council also provides data on vehicle movements through the intersection.

Definition: The graphs show 24-hour average PM₁₀ and eight-hour average CO readings from the TAMS located at the intersection of Vivian/Victoria Streets. The graphs also show the relevant National Environmental Standard (NES) and GWRC 2013 LTCCP maximum target for each pollutant.

Interpretation: A full year of data is now available, and seasonal variations can be seen. Monitored levels of both pollutants are higher during the cold and calmer winter months. CO is well below national and LTCCP targets, while PM₁₀ breached the LTCCP maximum target once in the past year, almost reaching the NES also.

Comment: Air quality data associated with vehicle emissions for the region is limited to a single site located in Wellington City. GWRC Transport is committed to monitoring the effects of motor vehicles on air quality in the region, and has commissioned two mobile air quality monitoring stations. Over the next year both mobile monitoring stations are expected to be temporarily placed at roadside sites within the region, monitoring air quality for a minimum of one year before relocation.

Noise adjacent to arterial routes

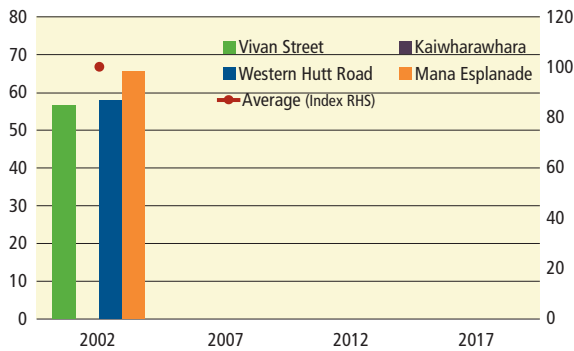


Figure 90: Noise adjacent to arterial routes (noise level 24hr L_{eq} dBa, one-week average). Source: GWRC survey, 2002

Definition: The graph shows noise measurements (at 24-hour L_{eq} ¹) for one week at several sites next to the following arterial roads:

- Vivian Street, Wellington
- urban motorway, Kaiwharawhara, Wellington
- Western Hutt Road, Lower Hutt
- Mana Esplanade, Porirua.

Interpretation: These are noise levels from 2002 surveys only, so no trend can be established. A fault in the Kaiwharawhara monitoring equipment meant no data was collected. Noise levels vary at different sites according to the equipment’s precise location, and are therefore irrelevant here.

Comments: No conclusions can yet be drawn from this information. This indicator will be measured every five years. There are currently no guidelines for noise levels adjacent to arterial roads in the greater Wellington region.

Surface water quality

Measurement of this indicator remains on hold pending the establishment of a joint monitoring programme with other agencies.

Land use patterns

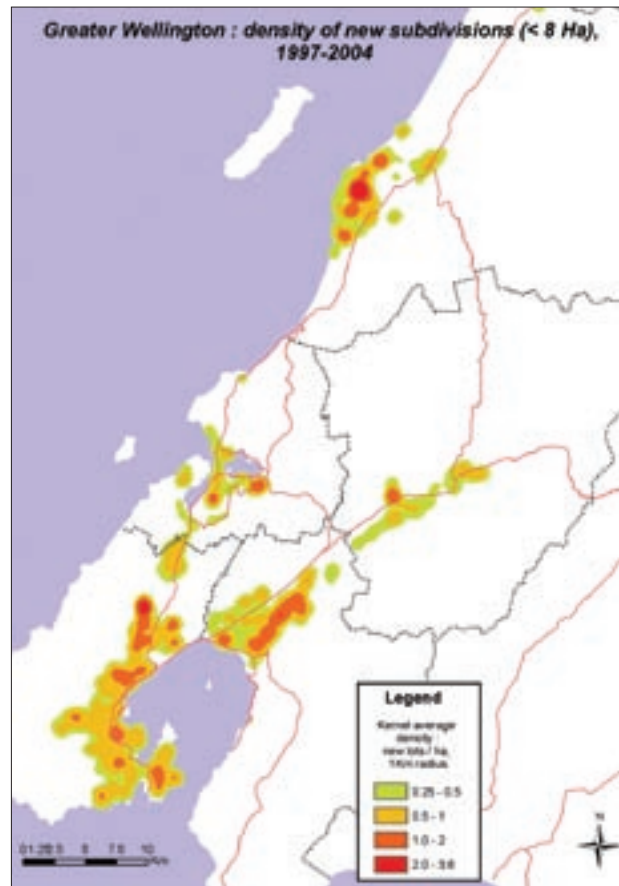


Figure 91: Density of new subdivisions in greater Wellington, 1997-2004. Source: GWRC

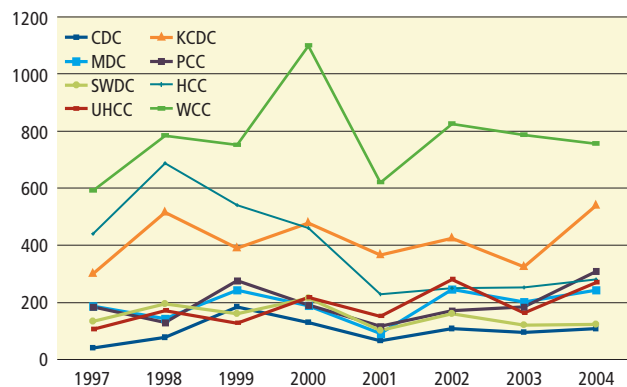


Figure 92: New lots in greater Wellington region, 1997-2004. Source: GWRC

Definition: The map and graph show the location and number of new lots in the greater Wellington region between 1997 and 2004.

¹This is a decibel figure with which the total loudness-equivalent noise averaged over the 24-hour day can be compared with that calculated by the same method for another point of interest. This gives a decibel guide to noisy versus quiet situations and can only be arrived at by 24-hour continuous monitoring of each site.

Interpretation: New subdivisions, turning open spaces into new urban areas are establishing on the Kapiti Coast and in Porirua East, Whitby, northern Wellington and western Upper Hutt. Land use densification and infilling are occurring in central Hutt City (especially around the rail corridor) and both central and suburban Wellington.

Comment: Central densification and infilling in Wellington and Hutt City is environmentally sustainable as it does not create urban areas from what was once 'green space'. Urban sprawl is evident in Porirua East, Whitby, northern Wellington, some parts of Upper Hutt and especially on the Kapiti Coast.

Overall, the number of new lots created in the region in 2004 was 32% higher than the number created in 1997. Of the total new lots created between 1997 and 2004, Wellington City has contributed the most at 6,213, followed by Kapiti Coast District and Hutt City with 3,333 and 3,135 new lots respectively.

Urban sprawl leads to an increased dependence on private vehicle use, as subdivisions are often located away from public transport networks. Long cul-de-sacs, a common feature of new subdivisions can also require walking and cycling some distance to local or main amenities. Land use planning around existing and future transport nodes will provide more sustainable transport choices.

Sustainability/environment indices

Once further noise and air quality data are available an index for this category will be established. Of data currently available, regional fuel consumption has grown by 8% over the past six years.

Regional level

It is not possible to comment until regional information has been collected on all indicators in this category.

Sub-regional level

No currently available information is disaggregated at the sub-regional level.

Outlook

Fuel sales are likely to grow with more private vehicle ownership and use; this may be offset in the future by improved engine efficiency and the introduction of hybrid vehicles. Current (September 2005) high fuel prices may also encourage the use of transport modes alternative to the private vehicle.

Implications for transportation planning

Transport activity, especially private vehicle use, has detrimental effects on the environment. Measures to reduce overall car use and improve car travel efficiency will reduce fuel consumption, air and water pollution, and noise levels adjacent to arterial routes.

9 RLTS project and policy implementation progress

Context

To deliver the RLTS, the region's agencies must co-operate to deliver the best integrated transport network possible with limited resources.

This section reports on the progress key agencies have made in the year to 30 June 2005.

Responsibility matrix

Charts 1 to 4 identify RLTS policy and project proposals, and indicate the Wellington region agencies responsible for implementing them.

Chart 1: Responsibility matrix for Objective 1: Accessibility and economic development

KEY	GWRC	WCC	HCC	UHCC	PCC	KCDC	Wairarapa	Transit NZ	Bus Operators	Toll NZ
●	Lead Responsibility									
○	Secondary Responsibility									
	Project Completed									
A: Policies										
1.1.1: Improve accessibility of public transport Extensions of bus/ rail services where reasonable demand exists Provide facilities for parking and carrying cycles where demand exists Enhance physical access onto buses and trains	●	○	○	○	○	○	○		●	●
1.1.2: Maintain urban rail as an arterial priority in the public transport network	●									●
1.1.3: Allow commercial bus and ferry services on parallel routes to rail services where they complement and increase overall public transport use	●									
1.1.4: Enhance the quality, reliability and priority of public transport facilities and services Refurbishment/ renewal of bus/ rail units Bus services given priority in congested areas	●								●	●
1.1.5: Improve the interchange between bus, rail, car and cycle Improve Wellington rail/ bus interchange Provide commuter car and cycle parks at rail stations	●	●	●	●	●	●	●		○	○
1.1.6: Improve pedestrian and cycle access to key public transport nodes Provide safe, convenient and sheltered pedestrian access to/ from public transport	●	●	●	●	●	●	●			
1.2.1: Improve the existing road network to attain inter-peak efficiency	○	●	●	●	●	●	●	●		
1.2.2: Provide heavy traffic bypasses of local communities on the strategic roading network	○	●	●	●	●	●	●	●		

Chart 1: Responsibility matrix for Objective 1: Accessibility and economic development

KEY		GWRC	WCC	HCC	UHCC	PCC	KCDC	Wairarapa	Transit NZ	Bus Operators	Toll NZ
●	Lead Responsibility										
○	Secondary Responsibility										
	Project Completed										
1.2.3: Increase the flexibility of the strategic roading network											
Provision of strategic links		○	●	●	●	●	●	●	●		
Traffic management		○	●	●	●	●	●	●	●		
1.2.4: Provide for freight movement		○	●	●	●	●	●	●	●		
1.2.5: Promote the need to provide for increased tourist movement		●	●	●	●	●	●	●	●		
1.3.1: Promote land development that minimises the total demand for travel		●	●	●	●	●	●	●			
1.3.2: Promote land development that ensures that public transport, walking and cycling are convenient and safe alternatives to the private car		●	●	●	●	●	●	●			
1.4.1: Develop and enhance safe and attractive walking and cycling routes		○	●	●	●	●	●	●	●		
B: Projects											
Construct the first stage of the Kapiti Western Link Road		○					●		●		
Implement the Active Traffic Management System at Ngauranga Gorge									●		
Construct improvements on the Kaitoke Hill Road		○							●		
Maintain continuous improvements on the Rimutaka Hill Road		○							●		
Construct the Ngauranga – Aotea tidal flow system		○							●		
Design and construct an upgrade of the Korokoro/Dowse intersections on SH2				○					●		
Construct next phase of the inner-city bypass through Buckle and Arthur Streets		○	●						●		
Enhance traffic management to improve pedestrian, cycle and vehicle flows		○	●	●	●	●	●	●	●		
Upgrade the route through Newtown on Adelaide Road from the Basin Reserve to John Street		○	●						○		
Develop a Western Corridor Implementation Plan (Otaki – Ngauranga Merge). The Western Corridor Transportation Study is updating this.		●	●			●	●		●		

Chart 1: Responsibility matrix for Objective 1: Accessibility and economic development

KEY		GWRC	WCC	HCC	UHCC	PCC	KCDC	Wairarapa	Transit NZ	Bus Operators	Toitū NZ
●	Lead Responsibility										
○	Secondary Responsibility										
	Project Completed										
	Continue land purchase on the Transmission Gully route	○							●		
	Provide additional commuter car and cycle parks at major railway stations	●	○	○	○	○	○	○			●
	Build a new railway station at Raumati	●					○				●
	Extend the urban electric rail service to Waikanae	●					○				●
	Increase weekday urban rail service frequency from the Kapiti Coast, Hutt Valley and Wairarapa to Wellington	●									●
	Allow commercial commuter bus and ferry services to operate from Porirua and the Hutt Valley to Wellington CBD	●								●	
	Increase local bus services to connect with increased rail services	●								●	●
	Improve bus/rail connection at Porirua railway station	●				●				●	●
	Investigate the construction of a bus lane from Petone to Ngauranga on SH2 without compromising cycling on this route, construct if possible	●		○					●		
	Improve bus priority through CBD traffic	●	●	●							
	Enhance bus/rail interchange at Wellington railway station	●	●							●	●
	Establish priority routes for Newtown buses servicing the southern and eastern suburbs	●	●							●	
	Establish an integrated ticketing system	●								●	●
	Improve pedestrian linkages from Wellington railway station to the CBD	●	●								
	Establish additional cycle parks at major railway stations	●									●
	Enhance traffic management to improve pedestrian, cycle and traffic flow	○	●	●	●	●	●	●	●		

Chart 2: Responsibility matrix for Objectives 2 and 3: Economic efficiency and affordability

KEY		GWRC	WCC	HCC	UHCC	PCC	KCDC	Wairarapa	Transit NZ	Bus Operators	Toll NZ
●	Lead Responsibility										
○	Secondary Responsibility										
	Project Completed										
A: Policies											
2.1.1: Provide for additional pricing for the use of the roading network as a step towards ensuring all users pay the cost of their use, including externalities		●							●		
2.1.2: Provide for pricing on major new roads to manage the demand on the road network and to help pay for additional projects and services		●							●		
2.1.3: Advocate for levies on the price of long stay parking in publicly and privately owned facilities in the Wellington CBD		●	●								
2.1.4: Undertake a more detailed investigation of the role of road pricing in the region		●									
2.2.1: Balance the capacity of the existing strategic transport network		●	○	○	○	○	○		●		
2.2.2: Influence management of the number and distribution of long stay parking spaces in major urban centres and encourage short stay parking		●	●	●	●	●	●				
2.2.3: Provide for pricing at peak times to manage road demand and reduce road congestion		●							●		
2.2.4: Promote supporting measures which will help reduce peak road demand		●	○	○	○	○	○		○	○	○
2.2.5: Investigate and plan for the growth in major recreational traffic flows		●	○	○	○	○	○		○		
2.2.6: Introduce traffic calming in residential areas		○	●	●	●	●	●	●			
B: Projects											
Detailed investigation of road pricing in the region		●							○		

Chart 3: Responsibility matrix for Objective 4: Safety

KEY		GWRC	WCC	HCC	UHCC	PCC	KCDC	Wairarapa	Transit NZ	Bus Operators	Toll NZ
●	Lead Responsibility										
○	Secondary Responsibility										
	Project Completed										
A: Policies											
4.1.1: Develop programmes that improve skills and behaviour of people using the transport system		○	●	●	●	●	●	●			
4.1.2: Plan development and design to improve road infrastructure and safety		○	●	●	●	●	●	●	●		
4.1.3: Develop a safety culture with respect to travel assisted by more effective co-ordination of the planning and implementation of road safety programmes		●	●	●	●	●	●	●			
4.1.4: Encourage greater use of cycling and walking for local trips		●	○	○	○	○	○	○	○	○	○
B: Projects											
Complete safety improvements at MacKays Crossing									●		
Complete safety improvements on SH1 north of Paremata									●		
Provide safety improvements to SH58									●		

Chart 4: Responsibility matrix for Objective 5: Sustainability

KEY		GWRC	WCC	HCC	UHCC	PCC	KCDC	Wairarapa	Transit NZ	Bus Operators	Toll NZ
●	Lead Responsibility										
○	Secondary Responsibility										
	Project Completed										
A: Policies											
5.1.1: Promote environmentally benign transport mechanisms		●	○	○	○	○	○	○	○	●	●
5.1.2: Make cycling and walking more attractive		●	●	●	●	●	●	●	●		
5.1.3: Price at peak times on the road network to mitigate adverse impacts of road use		●	○						●		

Project status explanation

Explanation	Status				
	1	2	3	4	5
Work has not begun on this project					
Initial Design Stage – Initial groundwork conducted (several variations of the project being considered)					
Detailed Design Stage – Preferred option selected and agreed on by transport technicians					
Public Consultation Stage – Project presented to public					
Project Implementation Stage – Work has begun on the project					
Project fully implemented (Year completed)					2003/04

Greater Wellington Regional Council

The chart below reports GWRC progress in implementing its own areas of responsibility.

Project	Status				
	1	2	3	4	5
Western Corridor Transportation Study					
Western corridor	Packages of options were prepared for presentation to the RLTC in August 2005.				
Provide additional commuter carparks at major railway stations.					
All rail corridors	40 new carparks were built at Carterton Station in 2003/04. Extended Woodside Station (Greytown) carparks by approx. 35; extended Crofton Downs by approx. 10 carparks; installed lighting and security cameras at Porirua Station; installed lighting and approx. 10 carparks at Takapu Station. Project ongoing.				
Build new railway stations at Raumati and Lindale.					
Western corridor	This project has been suspended until a long-term contract has been established with the new urban rail provider, Toll NZ.				
Extend the urban electric rail service to Waikanae					
Western corridor	Being reviewed as part of the Western Corridor Transportation Study.				

Project	Status				
	1	2	3	4	5
<p>Increase weekday urban rail service frequency from the Kapiti Coast, Hutt Valley and Wairarapa to Wellington</p> <p>All rail corridors</p>					
	<p>New increased urban rail services started on 5 August 2001 on the Paraparaumu, Hutt and Melling lines. A third peak Masterton to Wellington service commenced on 13 October 2002. An interpeak service on the Melling line was introduced in October 2004 (Trans Metro). Investigations into increasing the Paraparaumu service frequency to 15 minutes are pending decisions on infrastructure improvements and outcomes of the long-term rail contract with Toll NZ. Project ongoing.</p>				
<p>Improve bus/ rail connection at Porirua railway station</p> <p>Western corridor</p>					
	<p>Being reviewed as part of the Western Corridor Transportation Study.</p>				
<p>Integrated ticketing and integrated fares</p> <p>All corridors</p>					
	<p>Hutt Plus monthly train/ bus tickets were introduced in November 2003. Developing a strategy for implementing both integrated fares and integrated smart ticketing for the region.</p>				
<p>Promote additional cycle storage facilities at major railway stations</p> <p>All rail corridors</p>					
	<p>Currently 100 cycle lockers are installed at 11 stations with over 90% occupancy. A review to assess cycle commuters' needs and the provision of accessible cycle racks and lockers is underway. 2004: additional cycle lockers provided at Wellington; new lockers added at Petone and Upper Hutt stations. 2005/06: additional lockers at Waterloo and Paraparaumu stations.</p>				
<p>Detailed investigation of road pricing in the region</p> <p>All corridors</p>					
	<p>Stage 1 of study complete: a road pricing scheme for the greater Wellington region is economically and financially viable and has the potential to generate social, economic and environmental benefits. Stage 2 commenced, to be completed 30 June 2006: optimise the benefits above and produce a road pricing model for the region.</p>				
<p>Develop proposals for the future of the existing state highways with appropriate agencies, should Transmission Gully be constructed.</p> <p>Western corridor</p>					
	<p>Being reviewed as part of the Western Corridor Transportation Study.</p>				
<p>Porirua/Tawa bus service review</p> <p>Western corridor</p>					
	<p>Implemented bus service improvements: Eastern Porirua (completed 2004); Whitby (October 2005); Porirua City centre and Titahi Bay (planning 2005/06, implementation 2006/07).</p>				

Project	Status				
	1	2	3	4	5
Increase rail feeder services					2003
Hutt Corridor	The improved bus services in the Hutt Valley have significantly increased bus service kilometres.				
Refurbish Petone railway station					2004
Hutt Corridor	The new Petone station and associated bus access area were opened in May 2004.				
Improve bus priority through CBD					
Wellington CBD corridor	The bus priority measures previously put in place have been confirmed as successful. This has led to overhead trolley wire upgrades and bus lane refinements in 2004. Further bus lane prioritisation is planned for other corridors.				
Upgrade Upper Hutt railway station building					
Hutt corridor	The Upper Hutt railway station upgrade is on hold pending settlement of the Toll NZ contract.				
Develop a Wairarapa Corridor Implementation Plan					2003
Wairarapa corridor	A Wairarapa Corridor Plan was adopted by the RLTC in November 2003.				
Develop a Hutt Corridor Implementation Plan					2003
Hutt corridor	A Hutt Corridor Plan was adopted by the RLTC in November 2003.				
Develop a Wellington CBD Corridor Plan					
Wellington CBD corridor	A steering group was established in 2004 to investigate the development of a plan.				
Development of rail business plan					
All rail corridors	A business plan is being agreed between GWRC and Toll NZ which includes significant rolling stock, track work, signals and systems; expected completion 2005/06.				

Wellington City Council

The chart below reports progress Wellington City Council has made towards implementing actions for which it is responsible.

Project	Status				
	1	2	3	4	5
Enhance bus/rail interchange at Wellington railway station					2003
	The Lambton interchange became operational in March 2003 and was officially opened in April 2003.				
Improve bus priority through CBD traffic					
	In November 2003 new bus priority measures were implemented in Dixon, Victoria and Manners Streets. In August 2004 the three bus lanes in Adelaide Road, Kaiwharawhara Road and Chaytor Street were extended and a new evening peak lane in Glenmore Street between the Rigi and Upland Road added. Further bus lanes are under investigation.				
Wellington CBD Corridor study					
	A study is underway looking at the transport improvements required following the opening of the inner-city bypass.				
Establish priority routes for Newtown buses servicing the southern and eastern suburbs					
	The morning peak bus lane, northbound on Adelaide Road, was extended to John Street in August 2004. An evening peak bus lane southbound is currently being investigated.				
Enhance traffic management to improve pedestrian, cycle and vehicle flows					
	This is currently part of a joint Wellington City Council/ GWRC investigation.				
Improve pedestrian linkages from Wellington railway station to the CBD					
	Pedestrian shelters were completed in the railway station forecourt, along Stout St and on corners between the CBD and railway station following Lambton Quay and Waterloo Quay in 2003. Further work is envisaged on these routes as work on the Central City Urban Design Strategy is complete. Improvements to the Featherston Street route are expected to come from the completion of a development on the old Defence site between Bunny Street and Whitmore Street.				
Upgrade the route through Newtown on Adelaide Road from the Basin Reserve to John Street					
	This is currently part of a joint Wellington City Council/ GWRC investigation and awaiting the Wellington CBD Corridor Plan.				

Hutt City Council

The chart below reports progress made by Hutt City Council on implementing actions for which it is responsible.

Project	Status				
	1	2	3	4	5
Valley Floor Connector Study					2003/04
	Study completed in 2003/04.				
Traffic calming schemes					2004/05
	One scheme was installed in Raymond Terrace in 2003/04; one scheme has been installed in Boulcott Street.				
Improve cycle linkages					2004/05
	\$100,000 has been invested in a 450m cycleway on Marine Parade between Port Rd and Point Howard Wharf.				
Upgrade existing pedestrian crossing					2004/05
	Ten crossings were upgraded in 2003/04. Two crossings have been upgraded and two new crossings installed.				
Install Kea crossings					2004/05
	22 Kea crossings were installed in 2003/04; four Kea crossings have been installed.				
Street lighting					2004/05
	Main road street lighting was upgraded in Marsden, Mitchell, Myrtle, Birch and Jessie Streets in 2003/04; Wainuiomata and partial central Hutt minor road lighting was upgraded in 2003/04. Main road street lighting has been upgraded in Normandale Rd and Clendon Street. Minor road lighting has been upgraded in Tirohanga, Korokoro, Kelson and Belmont.				

Porirua City Council

The chart below reports progress made by Porirua City Council on implementing actions for which it is responsible.

Project	Status				
	1	2	3	4	5
Porirua City centre public transport review					
	Working with Mana Coach Services and GWRC on revised bus routes.				
Countdown bus shelter extension					
	This has been deferred pending a city centre traffic study that may influence the position of the bus shelter extension.				
New bus shelters					2004/05
	Eight new shelters were built in 2003/04. Five new shelters constructed and two refurbished.				
Infrastructure for new bus routes					2003/04
	Infrastructure was provided for the Ranui bus route in 2003/04.				
Lighting improvements to Porirua Station bus shelters					2004/05
	Completed.				
Plimmerton station carpark upgrade					
	The project is delayed owing to difficulties with land definition. GWRC's property consultants are addressing this.				
Bus/Rail interchange Mungavin Bridge					
	A consultancy brief to undertake a review of the future options for Porirua station is being developed. Delayed due to lack of funding and awaiting outcome of the Western Corridor Transportation Study.				
Promote cycle storage facilities at major railway stations					2003/04
	Cycle lockers were installed at Porirua, Paremata and Plimmerton stations.				
Pukerua Bay Cycleway Bridge (over railway)					2004/05
	Completed.				
Pukerua Bay Cycleways: - Paremata Bridge to Pascal Avenue - Cycleway Bridge to shops					2004/05
	Both completed.				
Porirua station carpark lighting and installation of security cameras.					2004/05
	Completed.				
Porirua Integrated Transport Study					
	Stage 1 completed (preliminary collation of existing information). On hold pending outcome of Western Corridor Transportation Study.				

Kapiti Coast District Council

The chart below reports progress made by Kapiti Coast District Council on implementing actions for which it is responsible.

Project	Status				
	1	2	3	4	5
Western Link Road					
Western corridor	The High Court overturned three appeals against the Environment Court confirmation of the Western Link Road designation in October 2004. There were no appeals against the High Court decision. Conditions of the designation are still to be agreed and Environment Court facilitated mediation is in progress.				

Upper Hutt City Council

The chart below reports progress made by Upper Hutt City Council on implementing actions for which it is responsible.

Project	Status				
	1	2	3	4	5
Silverstream Bridge seismic strengthening					
	Initial investigations complete; design progressing.				
Cycle network review					
	UHCC has Cat 2 approval from Land Transport New Zealand for funding in 2005/06.				
River Road Transportation Study					2004/05
	Completed.				
Land Transport Strategy					
	UHCC has Cat 2 approval from Land Transport New Zealand for funding in 2005/06.				
Akatarawa Road economic development study					
	The study is complete and public comment has been received. It has been considered by Council but is on hold pending results of a more detailed investigation into upgrading the road to two lanes between SH1 and SH2. Funding for the investigation has been approved as a Cat2 project by Land Transport New Zealand in 2005/06.				
Hillside Drive traffic calming					
	Approved by UHCC but construction delayed to 2005/06 owing to the need to fund flood damage.				
Norana Road traffic calming					2003/04
	Completed 2003/04.				

Masterton District Council

Project	Status				
	1	2	3	4	5
Masterton Bypass and Forestry Roading Impacts Study					
	To review harvesting projections and forecast the impact on the pavements on the various logging routes; to investigate options for heavy vehicles to bypass the Masterton urban area, with logging traffic particularly in mind. Work has not yet begun on this project.				
Cycle Strategy					
	A statement of actions on encouragement, education, engineering and enforcement for cycling in Masterton District. A draft strategy has been prepared and public consultation undertaken. The final strategy and implementation plan is anticipated by December 2005, and Stage One of its implementation by June 2006.				

Transit New Zealand

The chart below reports on progress made by Transit New Zealand on implementing actions for which it is responsible.

Project	Status				
	1	2	3	4	5
Construct improvements on the Kaitoke Hill Road Wairarapa corridor					
	Construction of the new road began in late October 2002. Work is well underway and expected to be completed between March and July 2006, with the most likely date being April 2006.				
SH2 Rimutaka corner easing (Muldoon's) Wairarapa corridor					
	The Transit Board has approved a scheme to provide a 60km/h speed environment along this section of the highway. This has proved to be considerably more expensive than originally expected. The project has been put on hold until the strategy for the Rimutaka Hill has been confirmed.				
Construct the Ngauranga-Aotea tidal flow system Wellington CBD corridor					
	Included as a potential project in Transit New Zealand's 10-year plan.				
SH2 Dowse to Petone upgrade Hutt corridor					
	All appeals have now been resolved. Design work is complete. All properties have been purchased. An application for construction funding is expected to be made in 2005/06.				
SH1 Wellington inner-city bypass Wellington CBD corridor					
	Construction commenced in September 2004 and work is well underway.				

Project	Status				
	1	2	3	4	5
Transmission Gully motorway Western corridor					
	Transit is continuing planting along the motorway corridor in advance of construction to help mitigate adverse environmental effects associated with large earthworks, and as a condition of the designation. Three property acquisitions are required before all planting can be completed. The land owners are currently unwilling to sell, but it is anticipated that two of the three will be acquired to allow planting in Spring 2006. The designation has been cleared of appeals.				
Complete the safety improvements at MacKays Crossing junction Western corridor					
	Construction commenced in October 2004 and is now well underway. Completion is expected between September 2006 and January 2007 with the most likely date being December 2006.				
SH1 Plimmerton to Paremata Western corridor					
	All physical works are now underway. The project is expected to be fully operational in November 2005.				
SH1 Kapiti Western Link Road Western corridor					
	This is a joint project with KCDC. The designation is now clear of appeals. Work is currently underway to review the design. KCDC is proceeding with property acquisition.				
SH1 Otaihanga Road intersection improvements Western corridor					
	This intersection will be reconsidered as part of the Western Corridor Transportation Study: Peka Peka to Ngauranga.				
SH1 Lindale to Nikau Palms Drive Western corridor					
	Construction due for completion in August 2005.				
SH2 Te Marua curve improvements Hutt corridor					
	Not currently on Transit's 10 Year Forecast.				
SH2 Waiohine Bridge replacement Wairarapa corridor					
	Construction contract to be re-advertised in August 2005; tenders close in September 2005. Construction is expected to start between January and April 06 with the most likely date on February 06				
SH2 intersection improvements and SH58 summit to SH2 four-laning Porirua to Hutt Valley corridor					
	Both the intersection improvements and four-laning projects are clear of appeals on their resource consents and notices of requirements. Property acquisition is almost complete on the intersection improvements project. Neither project is included in Transit's 10-year forecast.				

Transit New Zealand reports good progress in implementing RLTS projects, although long Environment Court delays and property acquisition processes pose a major risk. These projects implement the RLTS by ensuring a balanced provision of increased capacity.

10 Strategy implementation

Overall progress achieved

RLTS implementation continues to be slower than anticipated. Uncertainty and delays result from issues over the long-term rail contract with Toll NZ and financial constraints.

Highlights of the 2004/05 year include:

- completion of the Wellington Transport Project which sought funding to address the region's transport needs and resulted in an additional \$885 million over the next 10 years
- launch of Journey Planner on GWRC website
- commencement of the Western Corridor Transportation Study
- implementation of the action programmes of the regional Pedestrian, Cycling and Road Safety Strategies
- hosting the very successful Bike the Bays (Miramar Peninsula) and Bike the Trail (Hutt River Trail) – annual events organised by the Regional Cycling Coordinator
- resolution of appeals lodged against the Western Link Road proposal (Kapiti).

Major 2005/06 actions programmed

Major programmes and projects anticipated to be **completed** in 2005/06 include:

- Kaitoke to Te Marua realignment
- Plimmerton to Mana improvements
- RLTS review, coordinated with the Wellington Regional Strategy development
- determination of a package of improvements for the Western Corridor
- adoption of a Regional Travel Demand Management Strategy
- adoption of a Regional Passenger Transport Plan
- launch of 'Metlink', the new name for greater Wellington's public transport network

- passenger transport user information improvements, e.g. 'txtBUS' available region-wide (launched in Hutt Valley July 2005)
- construction and deployment of two mobile air quality monitoring stations to monitor land transport emissions around the region
- commitment to the replacement of Wellington's trolley bus fleet.

Major programmes anticipated to **commence or continue** in 2005/06 include:

- construction of the Dowse to Petone interchange
- passenger transport: integrated ticketing and integrated fares; real time information; further service improvements
- continuation of the Wellington CBD Corridor Study
- continuing construction of the Wellington inner-city bypass
- continuing construction of the MacKays Crossing overbridge
- Waiohine Bridge replacement.

Obstacles to implementing the RLTS

Rail service improvement impediments

Some improvements to the regional rail service risk being delayed as the negotiation of a long-term rail contract with Toll NZ is currently delayed due to a review by Land Transport New Zealand.

Legislative/institutional impediments

There is a requirement for agencies to 'take into account' the relevant RLTS (LTMA, 2003) when preparing land transport programmes. This is a weak requirement which results in little commitment by some agencies to RLTS provisions and priorities.

This report's main conclusions are:

- The greater Wellington region showed economic growth of 5.5% over the past year; higher than the New Zealand average (3.4%) and that of the Canterbury (5.0%) and Auckland (1.8%) regions.
- Greater Wellington's congestion levels continue to rise across all periods of the day; all-day average congestion increased 8% or from 23 seconds to 25 seconds delay per kilometre travelled between 2004 and 2005.
- Regional public transport patronage continues to grow; in the 2004/05 year peak passenger trips increased by 200,000 mainly due to increased bus patronage, with rail patronage remaining relatively static. Off-peak passenger trips by all public transport modes significantly increased during 2004/05, by over 5% or 800,000 trips.
- Road crash numbers continue to increase in general throughout the region; there has been an increase in total recorded casualties for all vehicle types since 2001 and total crash numbers have trended upwards from the year 2000. Regional casualties per 100,000 population figures remain lower than those of Auckland and Canterbury regions.
- Regional fuel consumption increased by 1.6% between 2003 and 2004 (compared with a decrease in fuel sales of a similar amount the year previous). Consequently transport related greenhouse gas emissions have also increased.
- Total Mobility passenger numbers have increased 13.5% in the 2004/05 year.
- Total inter-island ferry freight movements continue to grow (45% between 2002 and 2005) while rail freight continues to decline.
- Heavy vehicle movements over the Rimutaka Hill Road increased by 9% on weekdays last year; this continuation of growth is due to the harvesting of Wairarapa forestry blocks with logs transported by truck to the port of Wellington. A proposed road to rail log transfer station will offer an alternative to road transport from the Wairarapa.
- The private car continues to be the dominant mode of transportation.

Glossary

AADT	Annual average daily traffic	LTMA 2003	Land Transport Management Act 2003
AMR	Annual Monitoring Report	MDC	Masterton District Council
ARC	Auckland Regional Council	NES	National Environmental Standard
CBD	Central business district	PCC	Porirua City Council
CDC	Carterton District Council	Police	New Zealand Police
c.f.	Compared with	RHS	Right Hand Side
CGI	Congestion indicator	RLTC	Regional Land Transport Committee
FEPI	Farm Expenses Price Index	RLTS	Regional Land Transport Strategy
Golden Mile	Lambton Quay to Courtenay Place	SH	State highway
GWRC	Greater Wellington Regional Council	SWDC	South Wairarapa District Council
HCC	Hutt City Council	TAMS	Transport Air Quality Monitoring Station
KCDC	Kapiti Coast District Council	UHCC	Upper Hutt City Council
LOS	Level of service	VKT	Vehicle kilometres travelled
LTCCP	Long-Term Council Community Plan	WCC	Wellington City Council
LTCCP Target	GWRC 2013 sustainability targets	WTSM	Wellington Transport Strategic Model
LTAA 2004	Land Transport Amendment Act 2004		

Water, air, earth and energy: elements in Greater Wellington's logo combine to create and sustain life. Greater Wellington promotes **Quality for Life** by ensuring our environment is protected while meeting the economic, cultural and social needs of the community.

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