



Ministry of **Transport**
TE MANATŪ WAKA

BRIEFING TO THE INCOMING ASSOCIATE MINISTER OF TRANSPORT

JANUARY 2013

Part two: Introduction to the New Zealand Transport system
and related issues



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Section 1: Purpose

The briefing is intended to serve as an input to help you to understand the transport portfolio. More detail will be provided to you on the specific issues you have responsibility for once decisions have been taken in relation to delegations.

1. This briefing provides you with an overview of the transport system and its importance to the New Zealand economy and society. It is focused on the key issues and trends in relation to the transport system and the government's interests in ensuring the system helps New Zealand thrive.
2. The information included in this briefing is mostly of a factual nature. An accompanying briefing, *Briefing for the Incoming Associate Minister of Transport — Introduction to the Transport Portfolio*, provides background to the Ministry, Vote Transport, and the land transport planning and funding system.
3. We will provide further information in due course related to the specific issues which are delegated to you by the Minister of Transport.

Section 2: The transport system and related issues

The importance of transport for growth

Transport is important for economic growth. A high performing transport system provides access to new and developing markets, lowers business costs, and provides access to and for skilled labour in major centres like Auckland.

4. A flexible and resilient transport system that offers greater accessibility, responds to changing patterns in demand, and provides improved journey times and reliability is a necessary condition for economic and social development. An effective transport system supports economic growth by:
 - (a) providing access to new and developing markets
 - (b) lowering delivery costs
 - (c) providing reliable delivery times essential for higher-value goods, and allowing firms to operate with minimum inventories
 - (d) increasing access to skilled labour, and attracting and retaining skilled people in production centres
 - (e) attracting investment as profitable business opportunities expand
 - (f) reducing the incidence of accidents, deaths and serious injuries
5. Efficient transport infrastructure can allow economies of scale in production¹. These economies of scale provide impetus for investment, further increases in production, and further increases in demand for transport services. Transport is also important to allow people to participate in society, and access social networks, education and training. Improving such access lifts skill levels and societal participation.

¹ For example, Fonterra operates the world's largest dairy ingredients manufacturing site in Whareroa, Taranaki; a facility that would be impossible without efficient transport infrastructure both to and from the plant.

Trade and international connections

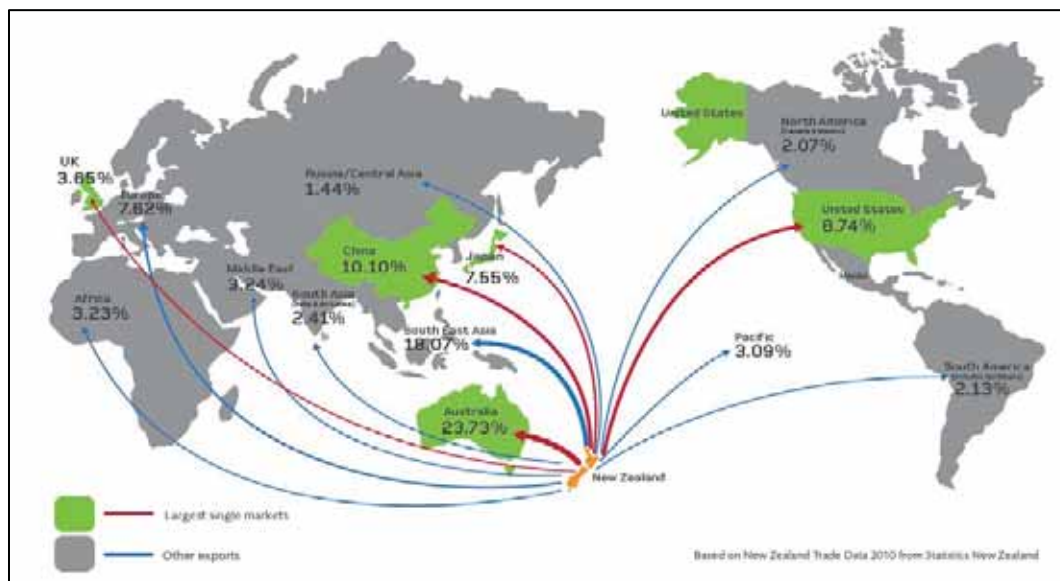
Export performance

Goods exports are increasing rapidly. Recent export growth has been dominated by the China and Australia markets. Domestic and international transport links need to work well to allow export growth to continue without congestion points or cost pressures emerging.

6. A high priority for recent governments has been to increase New Zealand's export performance.
7. Improving New Zealand's export performance will be more likely with domestic policy settings that:
 - (a) provide an operating environment for exporters and importers that promotes export growth
 - (b) lift productivity across the domestic economy
8. Transport is important for both of these dimensions — it is critical for exporters and importers, and it affects the performance of the domestic economy.
9. Transport services enable export growth, and need to respond to both export and import growth, and domestic growth pressures. Transport services also need to respond to strategic global trends.
10. Geographically, New Zealand is further away from the economic centres of the world than any other developed country. New Zealand's export markets are shown in Figure 1.

Figure 1: Where our exports go

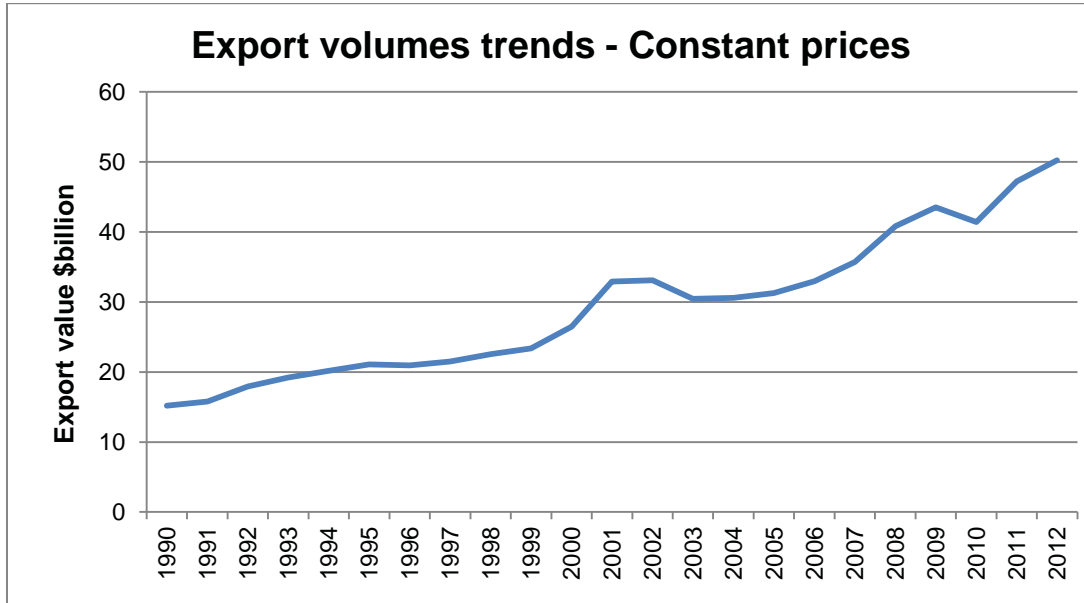
(Source: Statistics New Zealand)



11. Since 1990, exports of goods have grown strongly. Figure 2 shows export volumes over this period. This growth in exports generates demands on international shipping and air routes from New Zealand to key markets. The growth in goods exports also places demands on domestic transport services — road, rail and coastal shipping. Transport links between key manufacturing and production locations and domestic hubs and ports will need to be able to accommodate export growth.

Figure 2: New Zealand’s export volumes 1990–2012

(Source: Statistics New Zealand)



12. New Zealand’s export destinations are changing. There has been a shift away from Europe towards Asian markets. Recent export growth has been concentrated in China and Australia².
- (a) Growth in exports to China are dominated by dairy and timber products. Dairy products exports to China increased fourfold between 2008 and 2010 — from just over \$500 million to more than \$2 billion.
 - (b) Growth in exports to Australia has been much more diversified, covering a wider range of product groups.

² Minister of Finance, Paper for Economic Growth and Infrastructure Committee: *An internationally-focused growth strategy for New Zealand*, August 2011.

International shipping

The government has little influence over routing and pricing decisions by international shippers, but the government can play a major role in determining domestic transport costs through its investment and regulatory decisions.

13. New Zealand is heavily dependent on international shipping to move exports to markets. This is illustrated in Figure 3.

Figure 3: Exports and imports by mode, year ending June 2012

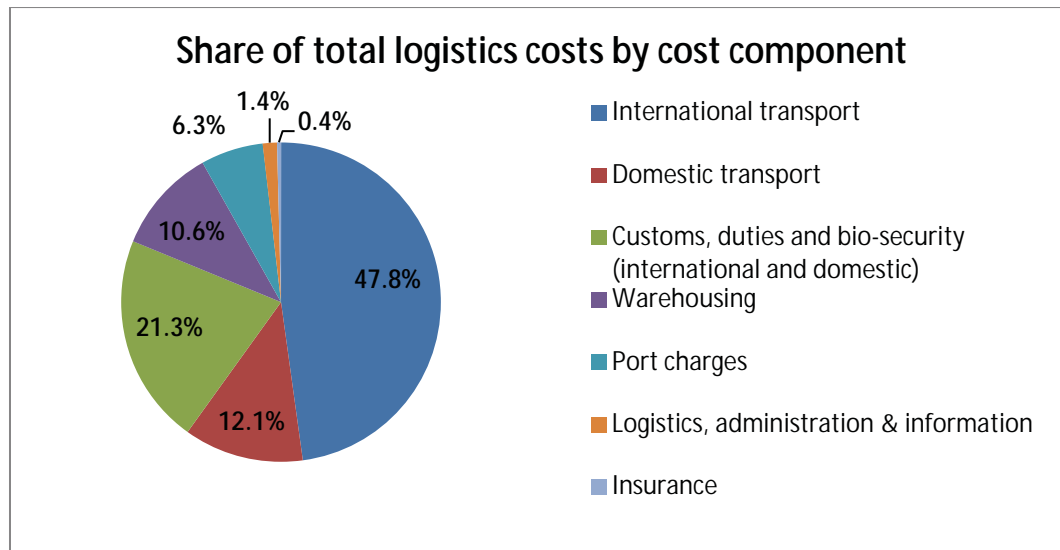
(Source: Statistics New Zealand)

| Mode | Exports | | Imports | |
|--------|---------------|----------------|---------------|----------------|
| | By value % | By weight % | By value % | By weight % |
| By sea | 82.5 | 99.7 | 78.9 | 99.5 |
| By air | 17.5 | 0.3 | 21.1 | 0.5 |

14. Results from a 2010 business survey³ of large volume importers and exporters conducted by the Ministry show, on average, logistics costs represented 8.4 percent of the value of traded products. Figure 4 shows the components of these logistics costs.

Figure 4: Understanding freight transport costs for business

(Source: Ministry of Transport, 2010)



³ Source: Ministry of Transport (2010), *Understanding Transport Costs and Charges Phase Two – Transport Costs in Freight Logistics*.

15. The relative burden of transport and logistics costs varies between exporters depending on:
 - (a) volume
 - (b) the characteristics of the exported goods
 - (c) the export destination
 - (d) the cost of the domestic component of the freight task, which can vary significantly across modes (coastal shipping, rail, road)

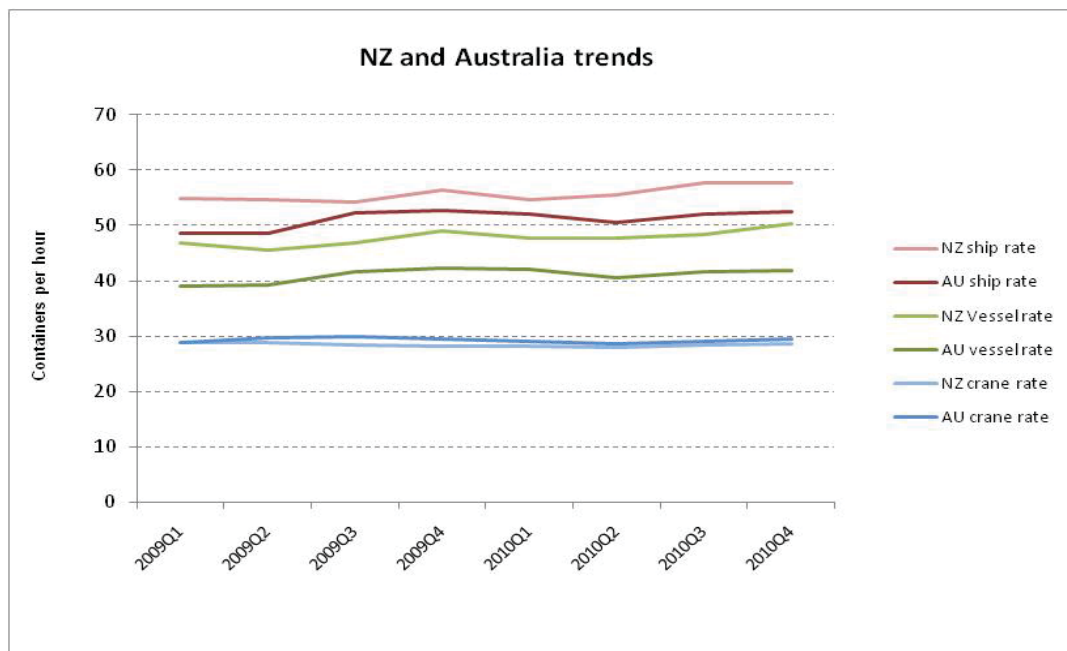
16. The government has little influence over routing and pricing decisions by international shippers. These routing decisions can impact on New Zealand's trade interests. The Ministry represents New Zealand at the International Maritime Organization where global decisions on pricing pollutants, like greenhouse gas emissions, are made to ensure New Zealand's economic trade interests are protected.

Port performance

Productivity and charges of container ports in New Zealand are comparable or better than container ports in Australia, but container ports in both Australia and New Zealand have lower productivity than many ports overseas.

17. Auckland and Tauranga account for over half (51.7 percent) of sea freight exports (by value). Most of the remainder are transported via New Plymouth (6.5 percent), Napier (8.4 percent), Lyttelton (13.5 percent) and Port Chalmers (8.9 percent). Auckland, Whangarei, and Tauranga account for over 76.4 percent of sea freight imports (by value)⁴.
18. Productivity and charges at the main container ports in New Zealand (Auckland, Tauranga, Lyttelton) are at least comparable — if not better than — main container ports in Australia (Brisbane, Sydney, Melbourne, Fremantle, Adelaide) as shown in Figure 5. However, container ports in Australia and New Zealand have lower productivity than many ports overseas⁵.

Figure 5: Port productivity: New Zealand and Australia average trends
(Source: Ministry of Transport, Container productivity at New Zealand ports, October 2011)



Ship rate the average number of containers handled per crane hour per ship
Vessel rate the average number of containers handled per labour hour per ship
Crane rate the average number of containers handled per crane hour

⁴ Source: Statistics New Zealand.

⁵ Australian Bureau of Infrastructure, Transport, and Regional Economics, Information Paper 65 — *Australian container ports in an international context*, 2009.

International air services

Air transport is the primary mode of transport for tourists, immigrants, and international business visitors. It maintains New Zealand's international connections and allows exports and imports of high value and time sensitive freight.

The importance of international air services will increase over the next few decades as more people and goods are transported by air in the Asia-Pacific region

19. Air transport is important to the economy as it is the primary mode of transport for tourists, immigrants, and international business visitors. Air transport is also important for maintaining international connections and for transporting high-value and/or time sensitive freight. Most goods exported by air are carried in the cargo holds of scheduled passenger air services rather than dedicated cargo aircraft. The importance of international air services will increase over the next few decades as more people and goods are transported by air in the Asia-Pacific region⁶.
20. Figure 6 overleaf shows changes to incoming passenger traffic across markets between 2001 and 2011. Emerging markets have grown strongly, and this will continue. This growth has implications for the focus of any efforts the government may wish to adopt to liberalise, and expand, international air services agreements. These are bilateral, inter-government agreements that must be in place before international airlines can operate scheduled services.

Figure 6: Trends in incoming passenger volumes (Source: Statistics New Zealand)

| | 2001 | 2011 | Change +/- | |
|----------------------|---------------|----------------|-------------|----------|
| Japan | 153,000 | 71,000 | -54% | MATURE |
| United States | 190,000 | 188,000 | -1% | |
| South Africa | 20,000 | 28,000 | 36% | |
| United Kingdom | 228,000 | 245,000 | 7% | |
| Germany | 53,000 | 66,000 | 25% | |
| Canada | 38,000 | 51,000 | 35% | |
| Australia | 643,000 | 1,171,000 | 82% | |
| South America | 13,000 | 31,000 | 135% | EMERGING |
| China | 64,000 | 153,000 | 138% | |
| India | 17,000 | 35,000 | 104% | |

⁶ The International Transport Forum (ITF) has forecast that air transport's modal share for OECD Pacific countries will increase from 13 percent in 2005 to 28 percent in 2030. *ITF, Transport Outlook 2011.*

21. Australia accounts for 44.4 percent of international passenger arrivals. Although passenger arrivals from Australia have consistently grown over the last decade, in recent years the highest growth has occurred in a number of emerging markets including India, China and South America. Many of New Zealand's traditional markets (Japan, the United Kingdom and United States) have been in decline since 2005.

International air services are important for the economy

22. New Zealand already has international air services arrangements with 50 other countries or territories⁷. These arrangements determine the frequency and routes that can be used by the airlines of the two parties.
23. Over time, it is likely that the traditional approach of using bilateral, government-level agreements to regulate the conduct of international aviation will be liberalised, reflecting general moves to liberalise international trade in goods and services. However, for now, New Zealand is likely to see incremental progress in air services liberalisation through the lifting of restrictions in bilateral arrangements as more countries adopt 'open skies'⁸ policies and join regional arrangements.
24. New Zealand's approach to air services negotiations is set out in the International Air Transport Policy Statement, which was issued in August 2012. The policy continues New Zealand's long standing 'open skies' approach. The policy has the objective of helping grow the economy and delivering greater prosperity, security and opportunities for New Zealanders. This will be achieved by seeking opportunities for New Zealand-based and foreign airlines to provide their customers with improved connectivity to the rest of the world, and to facilitate increased trade in goods and services (including tourism).

⁷ **Information withheld under section 9(2)(f)(iv) of the Official Information Act 1982.**

⁸ Open skies agreements are bilateral or multilateral agreements between governments that liberalise the rules for international aviation markets. They can include liberalising rules around pricing, routes, flight volumes, and airline ownership.

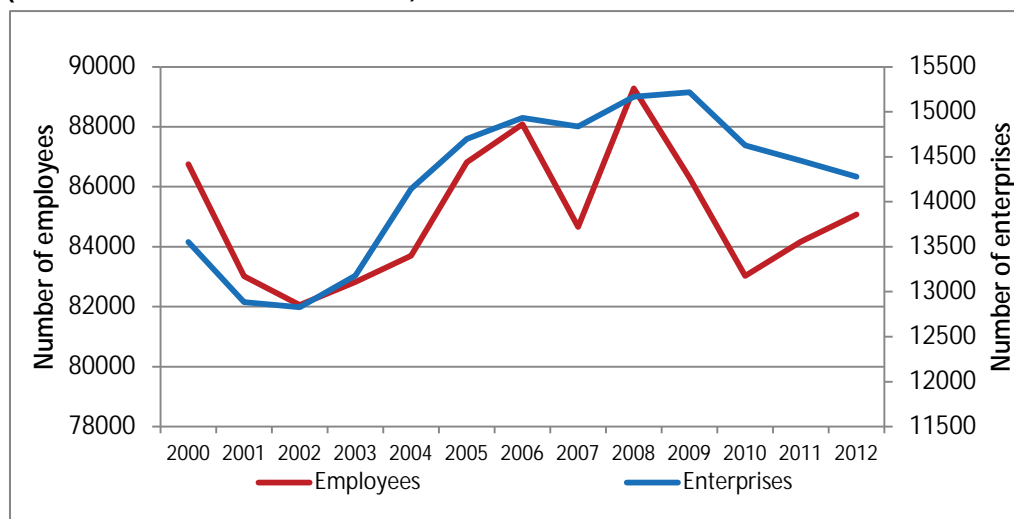
Transport and the domestic economy

The size of the transport sector

At 5.2 percent of gross domestic product, the transport and storage sector is an important part of the domestic economy.

25. New Zealand's transport infrastructure is generally well developed, and compares favourably with other developed countries. We have a transport network that includes:
- 11,000km of State highways and 80,000km of local roads
 - 7 international airports and 28 regional airports with scheduled services
 - 4,000km of rail track
 - 14 exporting sea ports
26. The transport sector employed 85,080 people in 2012. A total of 14,279 businesses provided transport services⁹. In 2011/12, transport, postal and warehousing accounted for around 5.2 percent¹⁰ of gross domestic product. It ranks as the eighth biggest sector in the economy, comparable in size to finance and insurance (5.2 percent), and higher than agriculture (4.4 percent) and retail trade (4.8 percent).
27. Figure 7 shows there has been a slight decline in transport-related employment in recent years, which mainly reflects economic conditions. There could also be a small substitution between labour and capital, for example, with the use of larger and heavier trucks or more automated logistics processing.

Figure 7: Number of enterprises and employees involved in the transport sector (Source: Statistics New Zealand)



⁹ Source: Statistics New Zealand. These measures exclude owner proprietors (such as truck owner drivers) who engage in the transport services industry and the contribution from businesses who make their own transport and logistics arrangements.

¹⁰ For the year ending June 2012. Source: Statistics New Zealand.

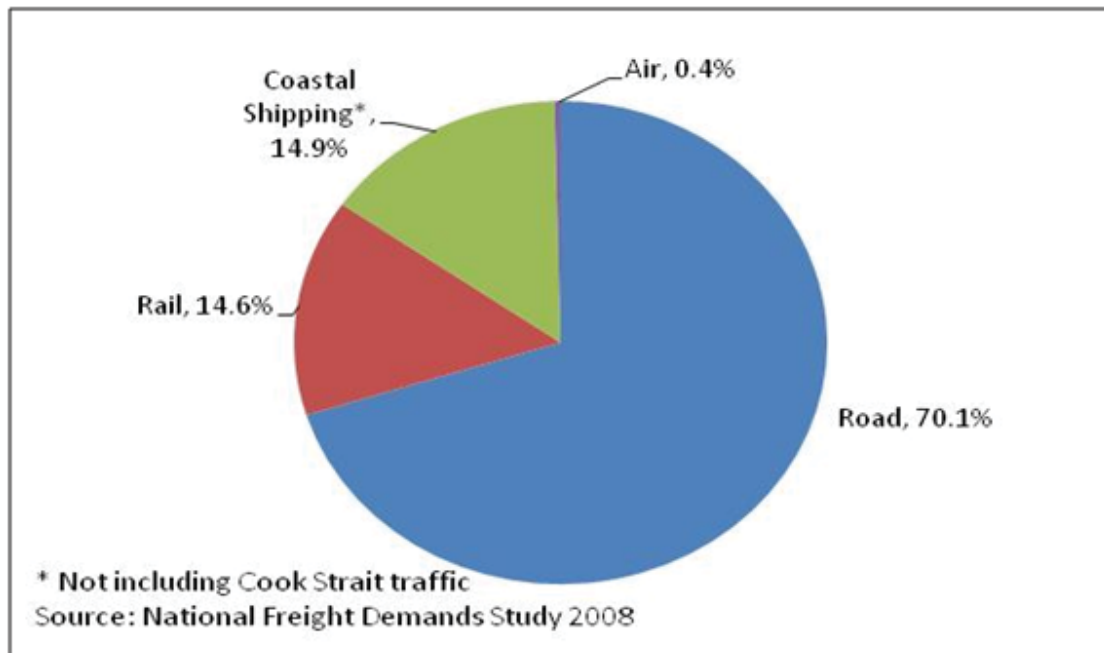
The importance of land transport

In the cities, cars remain the dominant means of people transport. Urban transport networks will need to become more effective through better use of infrastructure, urban planning, demand management tools and public transport increasing its role.

28. New Zealand's transport network is relatively mature and supports freight and people movements across the country in various modes. Currently 70 percent of freight tonne-kilometres¹¹ are on road, with 15 percent carried on rail. Most commuter travel is also on the road with a small amount of public transport being carried by rail or ferries in Auckland and Wellington.

Figure 9: Freight tonne kilometre by mode

(Source: National freight demands study 2008)



¹¹ Freight-tonne kilometres measure tonnes of freight times the distance travelled. For example, if a tonne of freight is moved 2km, then that constitutes 2 tonne-km.

29. Freight tonne-kilometres are forecast to increase by 24 percent over the next 20 years, with additional growth predicted if gross domestic product grows at a faster rate than current forecasts. To manage the demand for transport, all modes will need to play a part. Investment is being focused on transport corridors that support high population and traffic growth areas, and corridors to busy sea ports and airports.
30. Recent governments have been investing about \$3 billion annually in transport infrastructure with time horizons of 30–200 years.
31. New investment in State highways is evaluated by the NZ Transport Agency using three criteria.
 - (a) *Strategic fit* which considers national strategic objectives as specified in the Government Policy Statement on Land Transport¹².
 - (b) *Effectiveness* which considers how well proposed activity would achieve the Government Policy Statement on Land Transport Funding impacts identified in *strategic fit*.
 - (c) *Efficiency* which measures the benefit cost ratio¹³.
32. The National Infrastructure Plan 2011 and the NZ Transport Agency's Annual Report both comment that investment analysis could be further developed.
33. The major highway projects tend to score well on strategic fit. The benefit cost ratios for major improvements to the network have declined in recent years. These trends are shown in Figure 10 overleaf.
34. Benefit cost ratios are a blunt measure of returns on investment. There are wider economic impacts that cannot easily be estimated and considered in the traditional evaluation framework. While the NZ Transport Agency has gradually extended the conventional benefits approach with 'add-ons' to capture a broader range of impacts, the benefit cost ratio approach is still subject to certain criticism. For example, in New Zealand the current benefit cost ratio assessment is based on a relatively high discount rate (at 8 percent real¹⁴) and a 30-year horizon. This rate tends to discount away the benefits of long-life projects, such as motorways¹⁵.

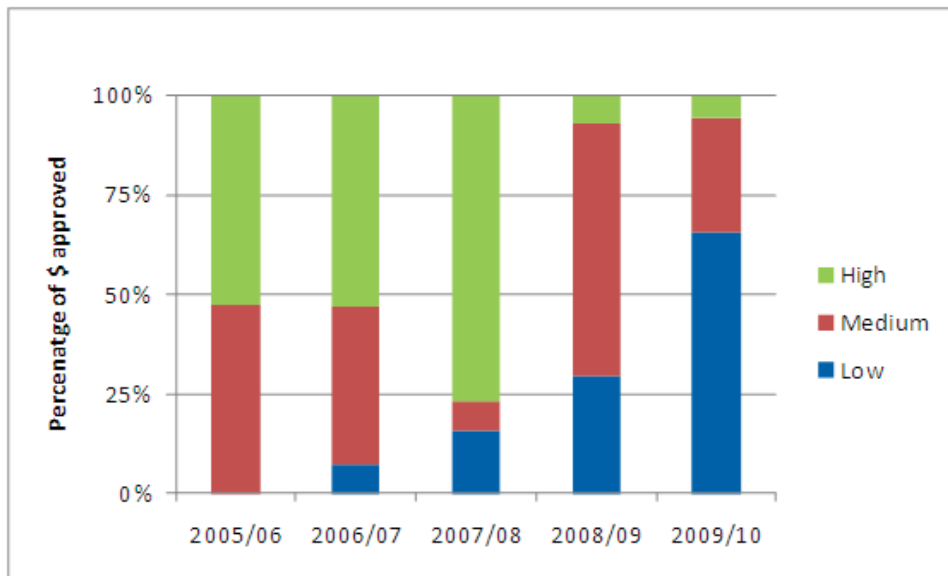
¹² See the accompanying paper for an explanation of the Government Policy Statement on Land Transport.

¹³ The NZ Transport Agency uses the benefit cost ratio as a measure of economic efficiency from a national perspective as defined in the NZ Transport Agency's *Economic Evaluation Manuals*. The ratio compares the benefits accruing to land transport users, and the wider community from implementing a project or providing a service, with that project or service's whole of life costs.

¹⁴ As a comparator, the discount rate used to assess investments in the United Kingdom is 3.5 percent for the first 30 years of costs and benefits, with a rate of 3 percent for costs and benefits beyond 30 years.

¹⁵ A higher discount rate will lead to greater value being placed on shorter-term benefits from an investment compared to longer-term benefits.

Figure 10: Benefit cost ratios of approved State highway projects
 (Source: Ministry of Transport, derived from NZ Transport Agency Data)

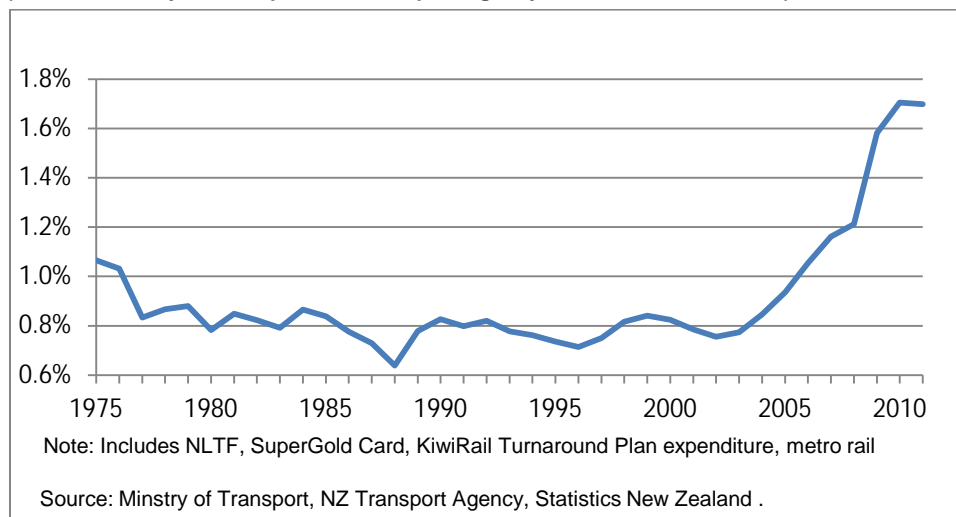


Expenditure trends

35. Government expenditure on transport has increased in recent years. This is illustrated in Figure 11. Recent governments have recognised the historical under-investment and addressed this with additional funding beyond that provided for roading through the National Land Transport Fund. This investment includes funding for rail freight through the KiwiRail Turnaround Plan of \$750 million, over \$2 billion on the metro rail networks of Auckland and Wellington, and social expenditure such as the SuperGold Card off-peak free travel scheme.

Figure 11: Government expenditure on transport as a percentage of gross domestic product

(Source: Ministry of Transport, NZ Transport Agency, Statistics New Zealand)



Investment in roads

Roads are critical to the efficiency of urban centres, with private motor vehicles and buses providing transport modes for most people. This importance will continue.

Rail's role is supplementary. It provides commuter rail travel in Wellington and Auckland and reduces road congestion.

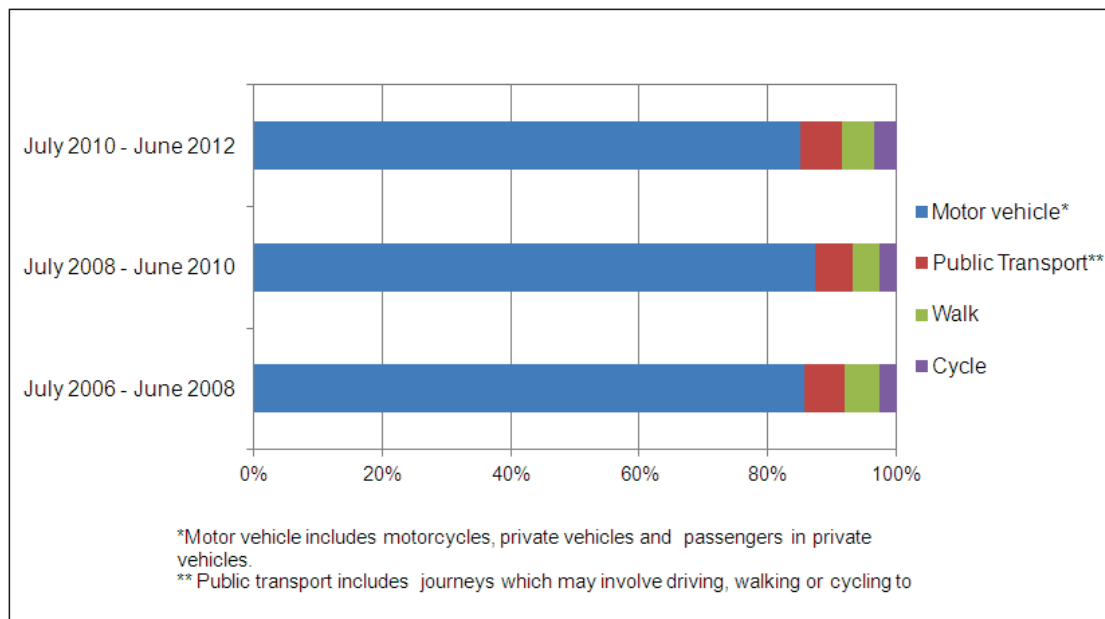
Rail provides about 15 percent of freight movements. This share is expected to remain about the same through to 2031.

In Auckland, commuter rail travel will account for about 4 percent of peak commuter trips in 2041 compared to less than 2 percent now.

36. Currently around 45 percent of products destined to become exports are moved around New Zealand by rail. Cars, however, remain the dominant people transport mode, by a large margin. This is illustrated in Figure 12.
37. Because the majority of New Zealand's growth will be in urban areas over the next 20 years (primarily in Auckland) urban transport networks will play an increasing role. This means they will need to become more effective through better use of infrastructure, urban planning, and demand management tools.

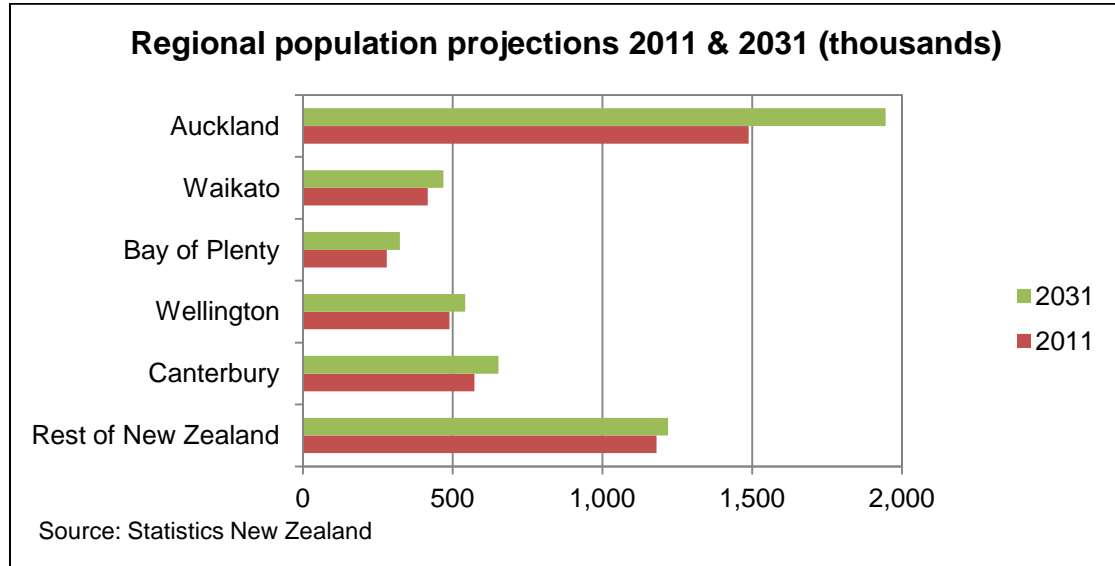
Figure 12: Mode share of journeys to work (full-time workers' travel 6–9.30am)

(Source: Ministry of Transport, New Zealand Household Travel Survey)



38. The forecast growth in population by region is shown in Figure 13. It is this growth which will drive changes in demand for personal travel and also contribute to the local demand for the carriage of freight.

Figure 13: Projected population growth across regions
(Source: Statistics New Zealand)



39. Roads provide a network that supports over 97 percent of domestic passenger movements¹⁶ and 70 percent of freight tonne-kilometre movements. Roads are critical to the efficiency of urban centres, with private motor vehicles and buses providing transport for most people.
40. The rail network provides a supplementary role in land transport in two areas. Firstly, it provides commuter rail travel in Wellington and Auckland, alleviating some road transport congestion in these urban centres¹⁷. Secondly, it provides about 15 percent of tonne-kilometres of freight movements, a share which is expected to remain constant to 2031¹⁸. Rail's mode share is limited by its suitability to certain types of freight and for the carriage of longer-distance freight.
41. Modal shares of the freight task are expected to be broadly stable through to 2030¹⁹. All modes of domestic freight movement — road, rail, and coastal shipping — will experience growth, but road freight will remain predominant through to 2030.

¹⁶ Ministry of Transport, *New Zealand Household Travel Survey*.

¹⁷ Rail commuting in Auckland accounts for only 1–2 percent of peak morning commuter trips. Bus travel provides the vast majority of public transport in Auckland.

¹⁸ Ministry of Transport, *National Freight Demands Study*, 2008.

¹⁹ Source: National Freight Demand Study, 2008.

42. Currently forecast economic growth would result in an increase in road passenger movements of 14 percent between 2009 and 2030. Road freight is projected to increase by 24 percent over the same period. A sustained additional 1 percent increase in annual economic growth over this period would increase the road passenger and freight growth rates, as shown in Figure 14 and Figure 15 (the 'high growth path').

Figure 14: Forecast passenger motor vehicle traffic growth to 2030

(Source: Ministry of Transport and National Infrastructure Plan 2011)

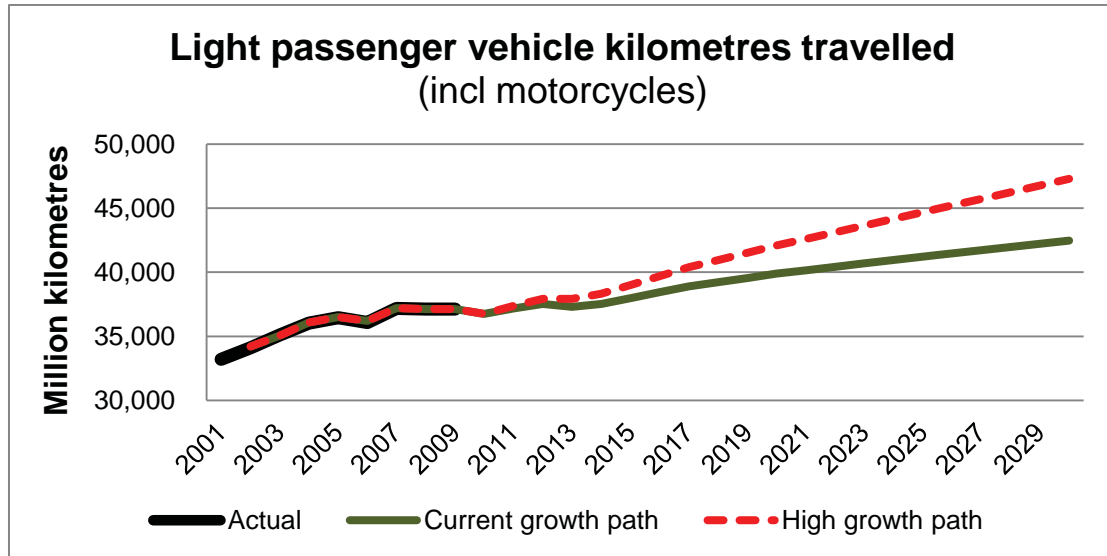
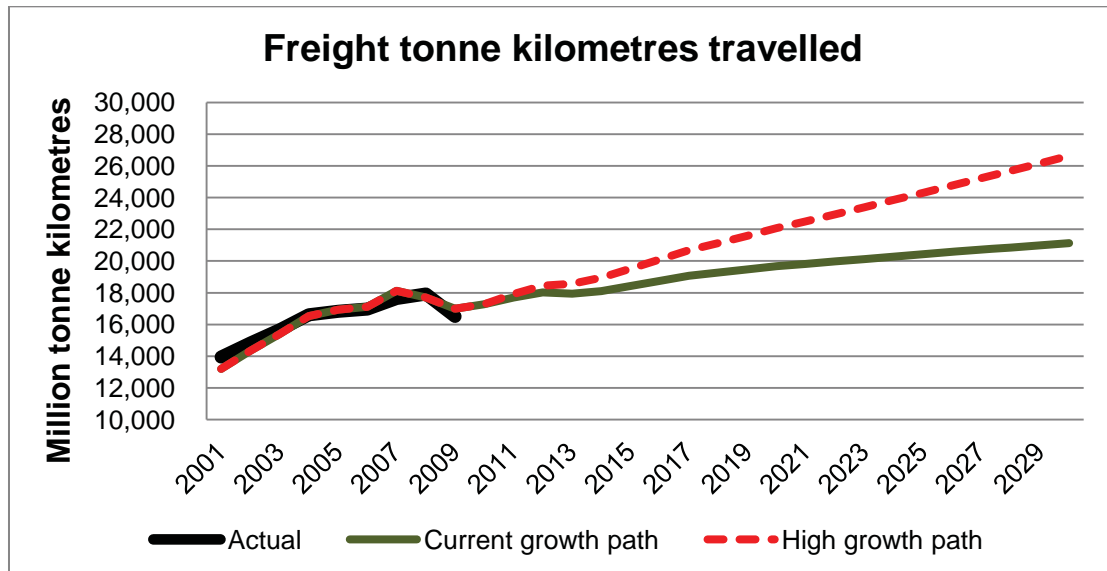


Figure 15: Forecast freight volumes growth to 2030

(Source: Ministry of Transport and National Infrastructure Plan 2011)

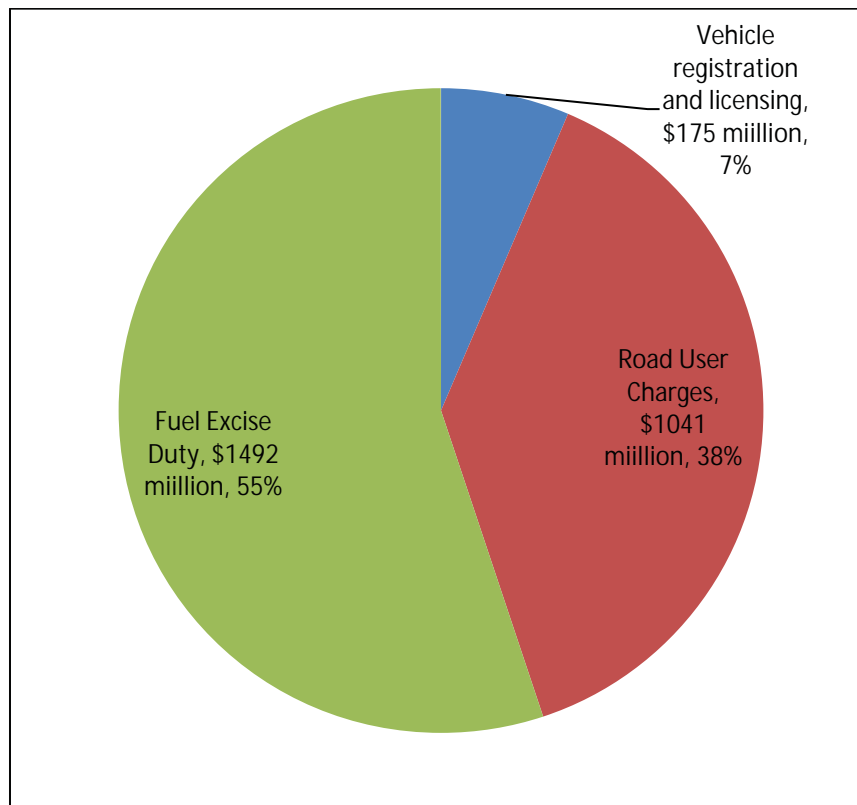


Revenue

43. The Crown's main source of funding for land transport is the National Land Transport Fund. Use of funds from the National Land Transport Fund is limited by law to land transport investments and services. It funds the full cost of the State highway system, the police's road safety activities and about half the cost of local roads and subsidies to public transport. Local authorities meet the remainder of the cost of local roads and public transport, primarily through rates.
44. Most of the revenue for the National Land Transport Fund is from taxes on road users. These comprise of fuel excise duty, road user charges, and vehicle registration and licensing fees. Fuel excise duty applies only to petrol, Liquefied Petroleum Gas and Compressed Natural Gas. Diesel-powered vehicles, and all heavy vehicles, pay their share of road taxes through road user charges. Figure 16 shows shares of revenue from these sources in 2011/12.

Figure 16: Source of National Land Transport Fund revenue in 2011/12

(Source: Ministry of Transport)



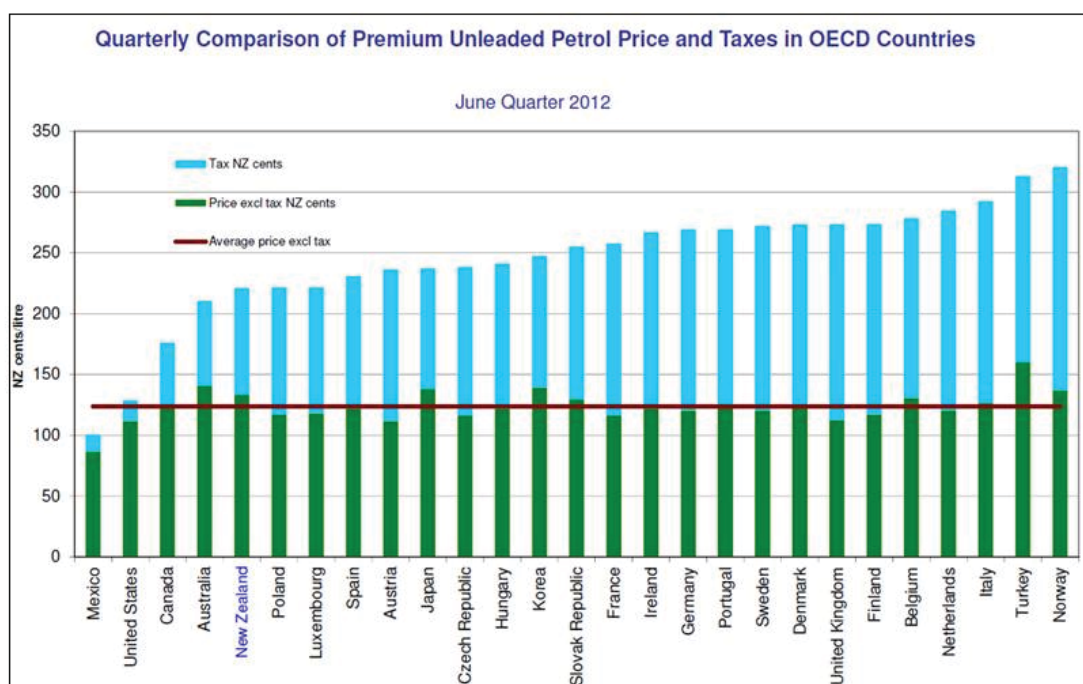
New Zealand has efficient revenue sources for road transport investment

New Zealand's petrol taxation is relatively low by international standards.

Fuel excise duty is an efficient tax. Road user charges is less efficient but is a better proxy for road usage.

45. As shown in Figure 17, New Zealand's rate of petrol taxation is relatively low compared to the Organisation for Economic Co-operation and Development average.

Figure 17: New Zealand's rate of petrol taxation compared to OECD average
(Source: Ministry of Business, Innovation, and Employment)



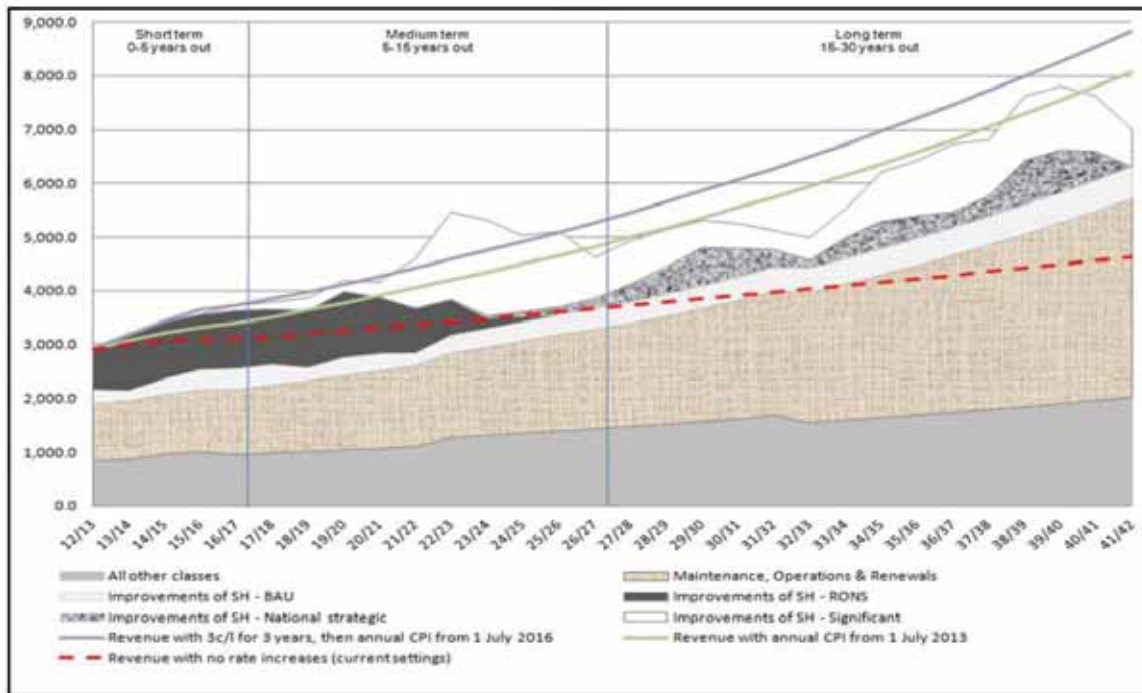
46. Fuel excise duty is an administratively efficient tax to collect. Road user charges is more complex and expensive to collect, but has the advantage of being a closer proxy for road usage. This is especially important for heavy vehicles, because it allows for differentiated pricing based on vehicle weight.
47. Future development of the road user charges system is expected to bring progressive improvements in its administrative efficiency and make it more convenient for light vehicle owners. In the longer term, progress in electronic technology will further reduce transaction costs and make it possible to implement charges that vary by location and time of day.
48. Road user charges has an advantage, in that it can be applied equally to vehicles powered by any form of energy. It provides an equitable and sustainable form of revenue collection for the long term. In contrast fuel excise duty, although likely to remain a major source of funding for the foreseeable

future, is increasingly subject to risks arising from changes in vehicle and fuel technology (for example, increases in engine efficiency leading to higher fuel economy) and volatility in oil prices.

Further increases are planned to ensure revenue continues to meet expenditure

- 49. In December 2012, Cabinet agreed to increase fuel excise duty by 3 cents per litre on 1 July 2013, 1 July 2014, and 1 July 2015 and road user charges by equivalent amounts at the same time. The increases were agreed so that the government’s ambitious programme of land transport investment, including the Roads of National Significance.
- 50. Figure 18 shows projected National Land Transport Fund expenditure projections to 2041/42, and two different revenue forecasts (one including the agreed increases, and one that assumes the current settings continue).

Figure 18: Projected annual expenditure and revenues, nominal \$ million, 2012/13 to 2041/42

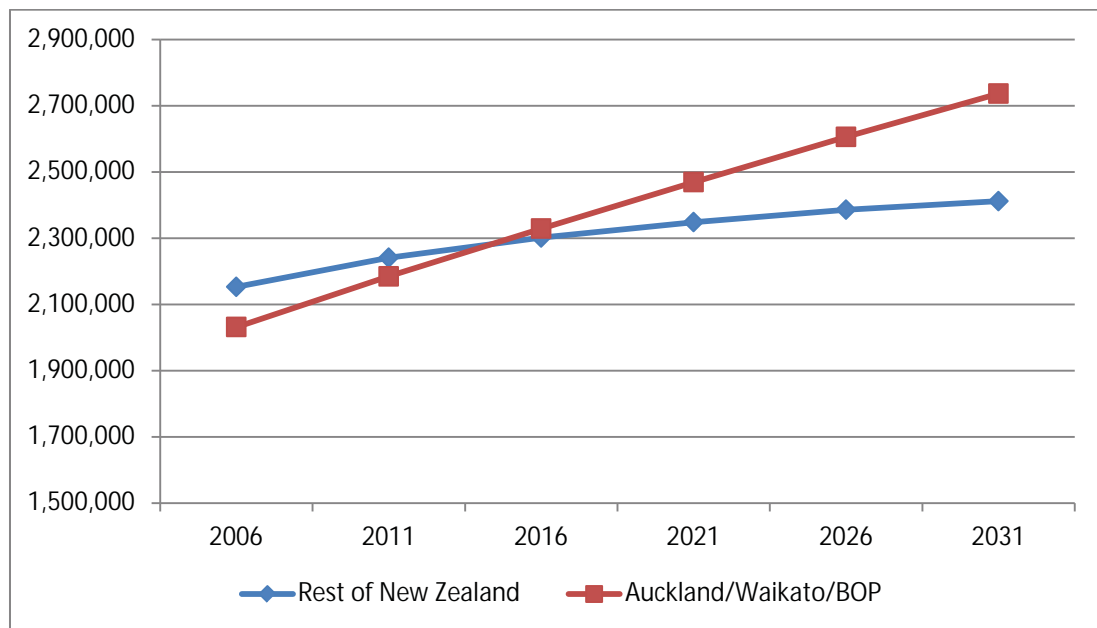


Dealing with growth in Auckland and the Upper North Island

51. The upper North Island will grow much faster than the rest of New Zealand to 2030 (see Figure 19 overleaf). Auckland alone is forecast to account for 60 percent of population growth to 2030. Freight-growth pressures will be concentrated in the Auckland, Waikato and Bay of Plenty regions.
52. Achieving an efficient transport system for Auckland is central to improving the contribution the city can make to the national economy. It will also need to address congestion and other economic, environmental and social goals. Key to this is ensuring adequate network capacity to accommodate the increase in demand for travel associated with population growth.

Figure 19: Auckland/Waikato/Bay of Plenty population growth projections — medium growth scenarios

(Source: Statistics New Zealand)



53. Since 2002, the government has undertaken a major programme of investment in Auckland's transport infrastructure. By 2016, this will see the completion of the Auckland motorway network and the upgrading and electrification of the commuter rail network. This investment programme is expected to deliver significant results, with regional modelling forecasting a reduction in congestion of around 14 percent by 2021, despite population growth of 22 percent²⁰.

²⁰ These figures come from the scenario modelling exercise undertaken by the Auckland council in preparation for the Auckland Plan, and based on a comparison to 2006, which was the last census update.

The Auckland Plan — projections and implications for transport

The Auckland Plan proposes about \$35 billion of capital spending (including some committed projects, such as the Western Ring Route Road of National Significance) on major Auckland transport projects over the next 30 years. The cost of the proposed investments exceeds forecast funding from existing sources. There is a \$10 to \$15 billion capital funding gap, including up to \$9 billion over the next 9 years.

54. Auckland Council is required by legislation to prepare a spatial plan covering the Auckland region. The Council approved its spatial plan (the Auckland Plan) in May 2012. The Plan follows a “compact city approach” and seeks to reverse Auckland’s historic growth trends by accommodating 60 to 70 percent of new development within Auckland’s current urban area.
55. The Auckland Plan emphasises a “transformational” shift to public transport to accommodate future trip growth and reduce congestion. It proposes over \$5 billion of new rail capital spending to support this goal. The proposed spending on rail is part of an ambitious capital plan which proposes some \$35 billion of capital spending on transport projects, predominantly roading related projects, over the next 30 years²¹. The Auckland Plan canvases new funding mechanisms, including charging drivers to use existing roads through road pricing, to fund this programme.

Analysis of the Plan

56. Modelling undertaken for the Plan suggests that the combination of compact urban form, and a greater emphasis on public transport and demand management, will mitigate, but not resolve, the challenges posed by population growth. Even with a more compact urban form and higher fuel prices, private vehicle travel on Auckland’s roading network is forecast to increase from around four million trips per day in 2006 to around 6.5 million trips per day in 2041. Car travel also remains the dominant mode, with 79 percent of daily trips and 68 percent of peak trips forecast to be made by private vehicles in 2041.
57. The modelling also indicates that, even with the Auckland Plan’s capital investment programme in place, the performance of Auckland’s road network is expected to deteriorate after 2021. The improvements achieved by the current investment programme would be eroded by around 2031. Congestion will increasingly spread from the commuter peak periods to throughout the working day, and therefore adversely affect business and freight travel, particularly after 2031.
58. Public transport and walking and cycling trips are forecast to increase substantially, but together are expected to account for around 30 percent of morning peak travel in 2041. Rail mode share for the morning peak period climbs from around 2 percent of trips at present to around 4 percent of trips in 2041.

²¹ This figure also includes some committed projects, such as the Western Ring Route Road of National Significance.

The Government's Response to the Plan

59. The *Government Response to the Auckland Plan* was provided to Auckland Council in June 2012. The Response expressed government concerns over the affordability, effectiveness and value for money of the Plan's proposed transport programme and encouraged the Council to review the programme.

Road safety

The current social cost of road crashes is approximately \$3.1 billion annually. Over the last 35 years, road deaths have fallen significantly in recent years. However, while we have improved, we still have some way to go compared to the best performing countries.

60. Road crashes place a substantial burden on the economy and the health system. The current annual social cost of crashes is approximately \$3.1 billion. Over the past 35 years, the road toll has dropped significantly, including a reduction in fatalities of 37 percent since the beginning of 2000 (see Figure 20).
61. Serious injuries and social costs have declined; by 22 percent and 34 percent respectively since 2000 (see Figure 21 and Figure 22). However, the death rate in New Zealand is higher than the best performing countries²². In 2010, New Zealand had a death rate of 1.2 deaths per 10,000 vehicles compared to under 0.7 deaths per 10,000 vehicles in the best performing countries (see Figure 23). Since 2010, New Zealand's death rate has dropped to 0.95 deaths per 10,000 vehicles.

Figure 20: Road deaths trend in New Zealand from 2000 to 2012

(Source: Ministry of Transport)



²² The international comparative data here is based on 2009 death and accident rates. Based on 2011 road fatalities to date, updated international comparisons for New Zealand are likely to be improved.

Figure 21: Trends in serious injuries (numbers)

(Source: Ministry of Health Data)



Figure 22: Trend in the social cost of injuries (\$billion – 2010 prices)

(Source: Ministry of Transport)

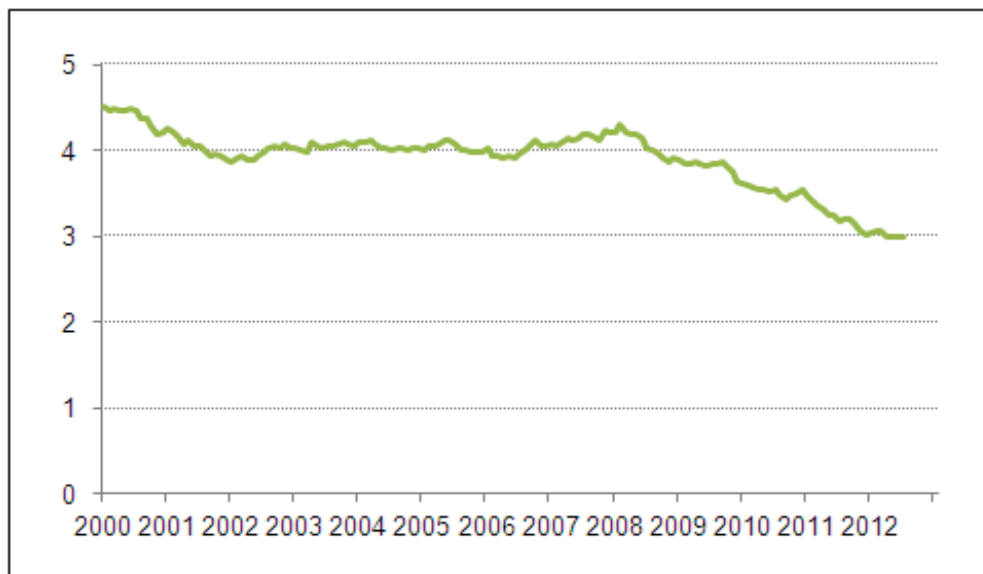
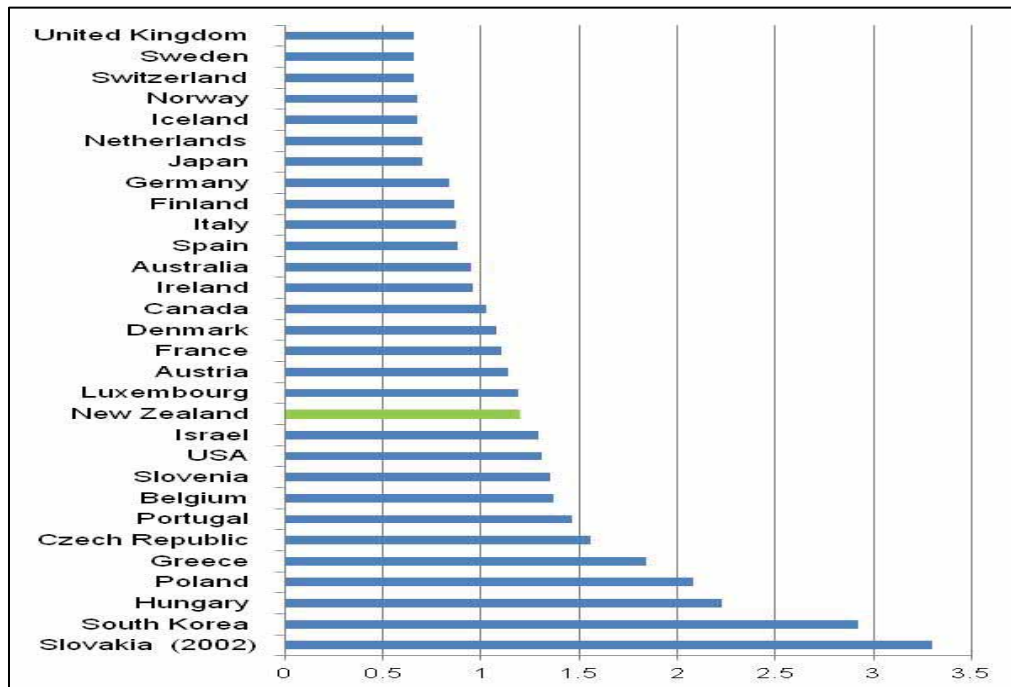


Figure 23: International comparisons of road deaths per 10,000 vehicles (2009)
 (Source: OECD International Transport Forum: International Traffic Safety Data and Analysis Group)



62. The Government Policy Statement on Land Transport Funding provides allocations for safety-related expenditure on State highways and local roads from 2012/13 to 2014/15. The Government Policy Statement on Land Transport Funding indicates an annual expenditure provision of \$150–\$240 million on State highways and \$80–\$120 million on local roads.
63. In 2010, the previous government introduced Safer Journeys, a new approach to road safety. The approach sought to improve safety by working across all elements of the road system — roads, speeds, vehicles and road use.
64. The actions to be taken were set out in the *Safer Journeys Action Plan 2011–2012*. Any further actions to follow this plan will need to be agreed by March 2013. In considering whether to take further actions to improve road safety the government will be able to choose from a number of cost-effective options. The following sections present some of the more likely options, based on what we see as the strength of the evidence for their cost effectiveness.

Other transport issues

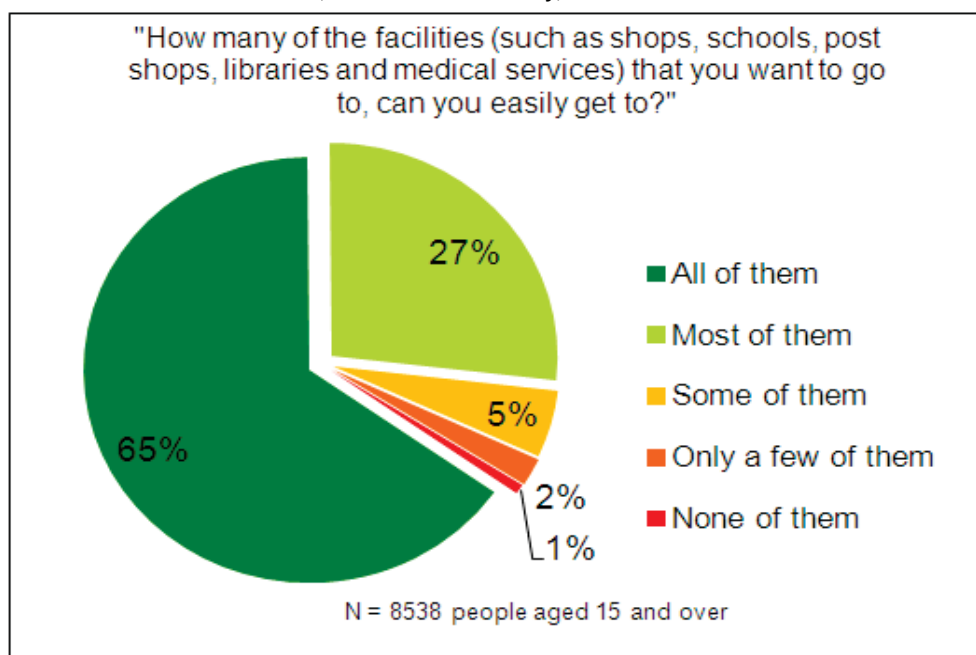
Transport and household spending

Private vehicles are central to personal mobility for most New Zealanders. Only a small proportion of people report persistent difficulty in accessing services and places they need to get to.

65. Expenditure on transport services in 2011/12 accounted for 12.4 percent of net household expenditure²³. Cross-country studies suggest that for most countries there is a strong relationship between household expenditure on transport and gross domestic product per capita²⁴. New Zealand household spending on transport fits this observation. New Zealand households seem to spend a similar proportion of income on transport as other countries with similar gross domestic product per capita.
66. There are only small differences between transport spending in urban and rural households. However, spending on transport services declines significantly in older age groups in the Organisation for Economic Co-operation and Development, especially for people over the age of 60.
67. Most New Zealanders report that they can travel to all, or most, of the facilities they need to get to in order to participate in society (see Figure 24).

Figure 24: Self-reported access to facilities

Source: Statistics New Zealand, General Social Survey, 2010



²³ Statistics New Zealand, *Household Economic Survey: Year ended June 2012*.

²⁴ Kauppila, J. *Ten Stylised Facts about Household Spending on Transport*, International Transport Forum Statistical Paper No.1/2011.

68. For many New Zealanders, particularly in rural areas, personal mobility is achieved using private motor vehicles. Access to public transport in rural areas is poor, and such services are not viable without significant public subsidy.
69. For New Zealand as a whole, 36 percent of people are dissatisfied with their access to public transport (see Figure 25). However, only 8 percent of people cannot regularly access most of the services and places they need to get to. This result is unsurprising. New Zealand's ownership of passenger motor vehicles per 1,000 population is the second highest in the world, second only to the United States of America.

Figure 25: Availability of public transport

Source: Statistics New Zealand, General Social Survey, 2010

| Proportion of survey respondents who report they are dissatisfied, very dissatisfied, or public transport is unavailable where they live. (Excludes people who do not use public transport for other reasons.) | | | | | | |
|--|------------|-----------------------------------|----------------------|------------|----------------------|--------|
| Auckland | Wellington | Northland Bay of Plenty/ Gisborne | Rest of North Island | Canterbury | Rest of South Island | All NZ |
| 23% | 13% | 52% | 54% | 30% | 69% | 36% |

70. The importance of private motor vehicles to personal mobility in New Zealand has implications for policies that affect the cost of motor vehicles. New Zealanders have benefited from policies that have made motor vehicle ownership more affordable, importantly, the removal of import tariffs on motor vehicles in the late 1990s.

Social transport

Demographic change in New Zealand will shift the demands for social transport over the next 20 years. These shifts could place pressures on the fiscal costs of social transport.

71. A minority of people are transport disadvantaged. These include some elderly people, some disabled people, and some young people, who have poor access to either private motor vehicles or public transport.
72. The government provides a range of services and assistance for the transport disadvantaged. Annual expenditure on social transport assistance is approximately \$144 million across eight programmes delivered through several portfolios, including Transport.

The importance of effective regulation

Transport regulation is designed to improve welfare — but regulation imposes compliance and fiscal costs. Poor transport regulation can raise business costs.

73. Effective regulation is necessary for a high-performing transport system in a developed country such as New Zealand. Good regulation:
- (a) promotes efficient markets
 - (b) ensures fair access
 - (c) supports interoperability between different aspects of the system
 - (d) facilitates the safe movement of people and goods
 - (e) minimises health and environmental impacts of the transport system
74. For much of the twentieth century, both in New Zealand and globally, a large body of transport regulation was designed to curb market power of providers, to promote particular sectors, or to regulate prices. Examples in New Zealand of this type of regulation include historic restrictions on road freight to promote rail, and historic regulation of prices and market entry in the taxi industry. These types of regulations have receded internationally, with more reliance on markets and competition to promote efficient delivery of services. Economy-wide regulation of anti-competitive behaviour, such as collusion on prices, protects consumers and businesses.
75. There is still much transport regulation in New Zealand, and globally. Typically, its focus is on managing the social costs of transport, and 'negative externalities'. For example:
- (a) Unlicensed drivers of unsafe cars kill other people, not just themselves.
 - (b) Unsafe airlines would endanger lives, and cause immense damage to New Zealand's trade interests, international connections, and reputation.
76. Transport regulation is designed to improve welfare. At the same time, regulation imposes compliance and fiscal costs. Poor transport regulation can stifle innovation and raise business costs, just like poor regulation in any other sector of the economy.
77. One way to improve the efficiency of the transport system is to assess the quality of transport regulation and identify opportunities to make regulation work better. In some cases this may involve better design of the regulations. In other cases it may be possible to identify regulatory tools other than formal rules or requirements that might achieve better outcomes, at a lower cost.

Oil prices

Almost all road transport is fuelled by petroleum products. This fuel source will persist over the next 20 years, but electric and plug-in hybrid vehicles will gradually become more widely used, as the real price of oil continues to increase. However, petrol and diesel will probably still fuel around 85-90 percent of vehicles in 2030.

In the short-term, people resist changing transport usage as costs increase. However, over longer time periods, oil price increases are more likely to induce changes in travel, lifestyle, and locational decisions.

78. Oil accounts for around 98 percent of New Zealand's transport fuels. Oil prices will almost certainly increase in real terms over the next 20 years. In the short term, the demand for petroleum transport fuels is highly inelastic, that is, demand does not tend to reduce very much as price increases.
79. New Zealanders have a range of preferences for how they arrange work, shopping, socialising, and participation in education. These lifestyle preferences usually require travel. In the short term, individuals are reluctant to make lifestyle changes when the cost of transport increases. However, sustained oil price increases are more likely to induce change in travel patterns over longer periods:
- In the medium term (say 2–5 years), people can purchase more fuel efficient vehicles and make greater use of public transport, cycling and walking, where those choices are feasible.
 - In the longer term (5–20 years), people will be more willing to make substantive and permanent changes to lifestyles in order to reduce their transport demand. For example changing patterns of social interaction, and living closer to places of employment and education.
80. Oil prices will almost certainly increase in real terms over the next 20 years. There are a range of forecasts. The Ministry of Business, Innovation and Employment's 2011 'reference oil price scenario' assumes that oil prices will be \$130 per barrel in 2030 (in real terms). This would translate to a petrol price of \$2.66 per litre (in real terms)²⁵. Under this scenario the market share of full electric and plug-in hybrid vehicles is expected to increase from a negligible level now to about 13 percent. There would also be an increase in the uptake of biofuels as a transport source.
81. The Ministry of Business, Innovation and Employment's 'high oil price scenario' assumes that international crude oil prices could reach \$US170 per barrel by 2030 (which would result in petrol pump prices of around \$2.50 per litre in real terms). Under this scenario we could expect to see the market share of electric and hybrid vehicles increase to about 17 percent. Annual transport demand in 2030 is only expected to be 2.5 percent less in the high price sensitivity case. Over three quarters of oil demand is for transport purposes.

²⁵ Ministry of Business, Innovation and Employment: *New Zealand's Energy Outlook 2011*.

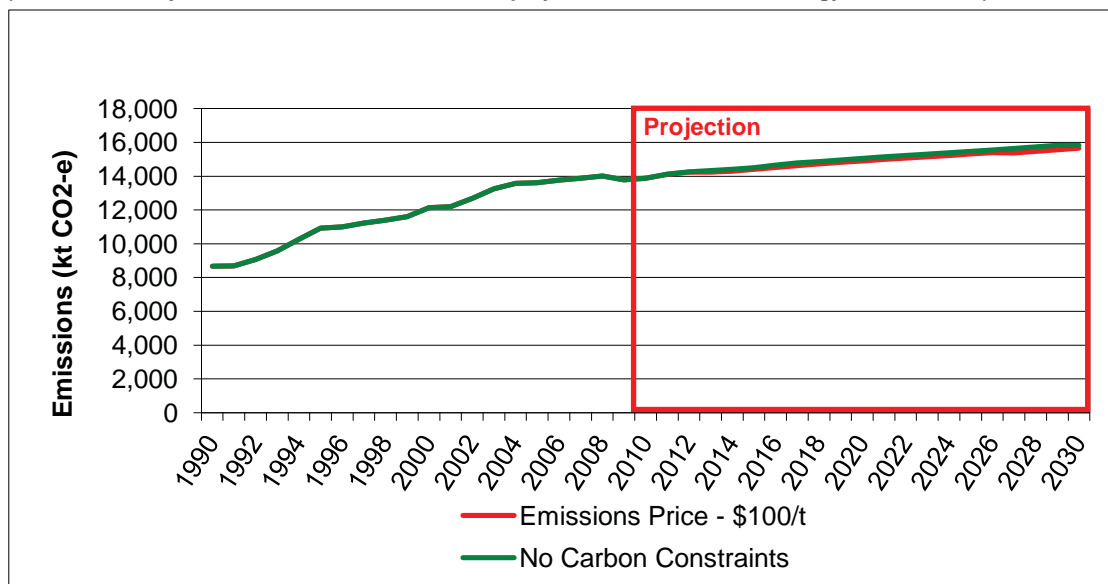
Transport and greenhouse gas emissions

Greenhouse emissions from transport will continue to increase because petrol and diesel will continue to be the primary transport fuel source, and economic growth will drive an increase in demand for freight and passenger transport services.

82. New Zealand's transport system is dominated by road transport and almost universally powered by petrol and diesel. Since 1990, greenhouse gas emissions from transport have increased by more than 60 percent.
83. Demand for transport has recently dipped, due to oil price volatility and the 2008 recession. Current forecasts are for a resumption in the growth of transport emissions over the next few years. The government's key policy to address greenhouse gas emissions is the Emissions Trading Scheme. The Emissions Trading Scheme currently prices carbon at up to \$12.50 per tonne and increases the price of fuel by about \$0.03 per litre. Price effects are forecast to have a very minor effect on transport emissions, compared to a situation where there was no carbon price.
84. The inelastic demand for transport services means that any likely carbon price in the medium term will only have a very minor impact on transport emissions. To illustrate, even at a carbon price of \$100 per tonne, the price effect at the pump would amount to around \$0.27 per litre, reducing the growth in emissions by about 1 percent in the period 2010 to 2030, compared to a situation where there was no carbon price. This is illustrated in Figure 8.

Figure 8: Forecast transport emissions

(Source: Ministry of Business, Innovation and Employment, New Zealand's Energy Outlook 2010)



Technology

New technologies in the transport sector offer opportunities to lift economic efficiency and improve services for consumers. The government has choices about how to influence the uptake of these technologies.

85. Information and communications technologies will improve the safety and functioning of the transport sector. For example:
- (a) Better traffic management using variable message signs, traffic signal optimisation, and lane-control systems will allow highly cost-effective investments to reduce congestion.
 - (b) Transport users will have much better information to help make choices on routes and modes.
 - (c) Freight management and logistics will achieve productivity improvements.
 - (d) Vehicles will be safer through the application of advanced in-vehicle safety features.
 - (e) Cost effective road charging by place and time will progressively become more cost effective.
86. New Zealand will primarily be a 'follower' on all of these technologies; for example, over time the vehicles arriving in New Zealand will incorporate advanced safety features. The speed with which these opportunities can be secured will be constrained by the turnover of our vehicle fleet as, at an average age of 13.2 years in 2012, New Zealand has one of the oldest light fleets in the developed world.

Concluding comment

The information provided in this briefing is designed to give you an overview of the Transport portfolio as Associate Minister of Transport. We look forward to engaging with you over the coming period.