



greater WELLINGTON
REGIONAL COUNCIL

Draft Regional Travel Demand Management Strategy

May 2005

Draft

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Executive summary

Vision

The vision of the Regional Travel Demand Management Strategy is “to use Travel Demand Management initiatives in achieving sustainable outcomes for the greater Wellington land transport system”.

Process

This strategy has been developed from the policies of the Regional Land Transport Strategy and in conjunction with a technical group comprised of representatives from the Greater Wellington Regional Council Access Planning and Strategic Direction Groups, the region’s Territorial Authorities, Transit New Zealand (Wellington Region and National Office), Land Transport New Zealand (Wellington Region and National Office), the Ministry of Transport, The Energy Efficiency and Conservation Authority and Regional Public Health.

Problem framing

An extensive problem framing exercise was undertaken in the preliminary stages of strategy development. It showed that trips by private car currently dominate all modes used, and is the mode of choice for 74% of all peak trips. Furthermore, peak trips are generally longer than interpeak trips, primarily driven by longer home to work commuter trips. If this type of trip making is to be influenced, policies need to target the initial mode choice decision made each day.

Statistics NZ 2002 medium population growth¹ and economic projections show that the greater Wellington region is expected to grow into the future with an associated increased demand for transport. By 2016, the greater Wellington region is expected to have:

- 26,000 more people than in 2001
- 44,000 more cars
- making 37,000 more personal peak time trips as a driver.

This increased activity will result in:

- an additional 558 million vehicle kilometres travelled per annum, contributing to an additional 275,000 tonnes of CO₂ greenhouse gas entering the region’s airshed annually, and
- a 25%² increase of peak period journey times reflecting increased congestion.

Even with network capacity improvements such as eight-laning between Ngauranga and Aotea Quay, increasing travel will lead to a significantly lower level of service on the strategic road network by 2016 during peak periods. This emphasises the importance of developing a cohesive Travel Development Management Strategy, as increases in supply only will not be sufficient, demonstrating that we cannot build our way out of the problem.

¹ Further Statistics NZ medium projection refinements published in February 2005 suggest the region’s population will increase by 40,000 people by 2016. This new population forecast was unable to be taken into account in the analysis, although increased population will only exacerbate the effects reported

² Southern Strategic Network, southbound PM peak

The Strategy

The objectives of the strategy (in no particular order) are:

- ensure the most efficient use of existing transport infrastructure and services
- increase public awareness of Travel Demand Management and individual travel choices
- encourage integrated land use and transport planning that seeks to maximise transport efficiency
- encourage proactive advocacy that facilitates coordination among lead agencies.

Travel demand is influenced by a number of agencies at local, regional and national levels. The strategy seeks to continue enhancing the proactive and interactive best practice culture which exists among agencies in the greater Wellington region. It does so by clarifying the roles of these agencies in the action programme in working toward the vision, objectives and outcomes.

The strategy action programme is an integrated package of interventions. Greater Wellington Regional Council has a clear role in facilitating and monitoring strategy implementation, however the effectiveness of the strategy relies on commitment from all key agencies.

The strategy action programme extends to 2014/15 and will be monitored against performance measures linked to specific interventions. An annual monitoring programme is also in place to measure system wide indicators for travel demand. The strategy will be reviewed by June 2009.

Part One

Introduction

The Regional Land Transport Committee (RLTC) recognises the potential of Travel Demand Management (TDM) to positively influence travel efficiency in the greater Wellington region. This strategy sets out a vision shared by the region's key agencies involved in TDM and sets objectives for the development and promotion of TDM.

TDM is a general term for various strategies that increase transportation system efficiency thereby helping create more sustainable transportation. It was coined almost 20 years ago when government agencies realised the 'predict and provide' transport planning model was unsustainable, and some way of managing travel demand was required.

TDM treats mobility as a means to an end, rather than an end in itself, and so helps individuals and communities meet their transport needs in the most efficient way, which often reduces total vehicle traffic. The ultimate objective of most transportation is 'access'; the ability to reach desired goods, services and destinations, with motor vehicles being just one means of achieving such access (Litman, 2002).

TDM encompasses a range of mechanisms that aim to manage the "impacts of car travel through reducing single occupant vehicle (SOV) use, shifting to more sustainable travel modes (cycling, walking, passenger transport) and reducing or removing the need to travel" (International Council for Local Environmental Initiatives, 2003 in Cregan, 2003). Thus, TDM doesn't compromise access; rather it provides a greater choice of accessibility options.

TDM prioritises travel based on the value and costs of each trip, giving higher value trips and lower cost modes priority over lower value, higher cost travel, when doing so increases overall system efficiency. It emphasises the movement of people and goods, rather than motor vehicles, and so gives priority to public transport, ridesharing and non-motorised travel, particularly under congested urban conditions.

Individual TDM programmes can be implemented to address specific transport problems, or a comprehensive TDM strategy can be undertaken to impact on all aspects of the transportation system. Although most individual TDM programmes only affect a small portion of total travel, the cumulative impacts of a comprehensive TDM strategy can be significant (VTPI, 2004). TDM reflects sustainability principles of efficiency and integration, and can help achieve sustainability objectives including resource conservation, equity, environmental protection, efficient land use, and public involvement (Litman, 2002).

Many cities throughout Australasia have implemented comprehensive TDM strategies to address metropolitan-wide transportation issues. Given these strategies encompass supply, demand and pricing mechanisms a broad definition of TDM is appropriate. The one most commonly adopted is:

"Travel Demand Management is intervention (excluding provision of major infrastructure) to modify travel decisions so that more desirable transport, social, economic and/or environmental objectives can be achieved, and the adverse impacts of travel can be reduced" (Austroads, 2002).

Vision

To use Travel Demand Management initiatives in achieving sustainable outcomes for the greater Wellington land transport system.

Strategy purpose

The purpose of this strategy is to signal key regional intentions for travel demand management; setting out a blueprint for improving regional travel efficiency.

This strategy seeks to enable a proactive and interactive culture among agencies for the development and advancement of TDM in the greater Wellington region. It intends to clarify and coordinate the roles of Territorial Authorities, Land Transport New Zealand, the Ministry of Transport, the Energy Efficiency and Conservation Authority, Transit New Zealand, health authorities and Greater Wellington Regional Council in working toward the vision and objectives.

This strategy frames demand management issues from a regional perspective and identifies key objectives and actions that are:

- directly aimed at resolving regional issues
- achievable at regional and local levels; and
- measurable, to enable an adaptive and ongoing strategy for demand management.

When adopted, this strategy will form a chapter of the Regional Land Transport Strategy (RLTS) and meet the obligations set out in the Section 175(2) of the Land Transport Management Act 2003 (LTMA). The Act states that the RLTS must:

- (c) take into account any national land transport strategy and National Energy Efficiency and Conservation Strategy; and*
- (o) include a demand management strategy that has targets and timetables appropriate for the region.*

Strategy development

This strategy has been developed from the policies of the RLTS and in conjunction with a technical group comprised of representatives from the GWRC Access Planning and Strategic Direction Groups, the region's Territorial Authorities, Transit New Zealand (Wellington Region and National Office), Land Transport New Zealand (Wellington Region and National Office), the Ministry of Transport, The Energy Efficiency and Conservation Authority and Regional Public Health.

The RLTC has approved the draft to be released for public consultation. The final date for submissions is 4 July 2005. Submissions will be considered by the TDM technical working group and appropriate recommendations for revisions made to the RLTC.

If you would like the opportunity to be heard please indicate this in your submission. The final strategy is expected to be released in August 2005. Please forward all submissions by 4 July 2005 to:

Natasha Hayes
Policy Advisor
Greater Wellington Regional Council
PO Box 11646
Wellington
natasha.hayes@gw.govt.nz

Please include full reply contact details in your submission.

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Roles and responsibilities

Regional Land Transport Committee (RLTC)

The Land Transport Act 1998³ requires every regional council to establish a Regional Land Transport Committee comprised of representatives as stated in s178(2) of the Act. The RLTC is to prepare a Regional Land Transport Strategy for approval by the council.

The Land Transport Management Act 2003 further specifies that the RLTS must take into account any national land transport strategy and National Energy Efficiency and Conservation Strategy and include a demand management strategy that has targets and timetables appropriate for the region.

Greater Wellington Regional Council (GWRC)

GWRC participates in planning and monitoring the regional transport network via the RLTC and subsequent RLTS. GWRC also monitors progress toward implementation of the RLTS, as required by the Land Transport Act 1998. GWRC relies significantly on transport agencies to progress RLTS policies and provisions. This Regional Travel Demand Management Strategy stems from the policies contained in the current RLTS (WRC, 2000) which establishes a direction for improving travel demand management in the region.

Whilst GWRC's major role is planning and funding non-commercial passenger transport services, as a result of funding made available in the Wellington Transport Project, GWRC also has a role in coordinating and funding travel planning and promoting travel cost awareness to the public.

Ministry of Transport (MoT)

As the government's principal transport policy adviser, the MoT both leads and generates policy, including the government's New Zealand Transport Strategy (NZTS), which provides the framework within which New Zealand transport policy is developed.

The MoT acts as the Minister of Transport's agent for managing the interface with the transport Crown entities to give effect to the government's vision of an affordable, integrated, safe, responsive and sustainable transport system. This vision is outlined in the NZTS released in December 2002 (MoT, 2002).

Land Transport New Zealand (LTNZ)

LTNZ is a new government agency formed on 1 December 2004 from the merger of Transfund New Zealand and the Land Transport Safety Authority. LTNZ's objective is to contribute to an integrated, safe, responsive and sustainable land transport system and intends to work in partnership with central, regional and local government and other stakeholders to help develop land transport solutions with a focus on optimal use and development of New Zealand's land transport system. (LTNZ, 2005).

Promotion of TDM is an activity class identified in the National Land Transport Programme (NLTP) and provides financial assistance to approved organisations for related activities. This activity class was further refined, with a specific Travel Behaviour Change (TBhC) output group being developed in late 2004 (LTNZ/EECA, 2004).

³ As amended by the Land Transport Management Act 2003

Energy Efficiency and Conservation Authority (EECA)

EECA works to improve energy choices, both by raising the awareness of energy efficiency issues in the community and by providing businesses and individuals with the tools to make changes. EECA designs and develops programmes to meet the needs of specific markets, often working in partnership with other organisations and is the principal body responsible for helping deliver the government's extensive energy efficiency agenda (EECA, 2001).

EECA's function is to encourage, promote and support energy efficiency, energy conservation and the use of renewable energy sources. EECA has developed the National Energy Efficiency and Conservation Strategy in conjunction with the Ministry for the Environment, which must be taken account of when preparing the RLTS. EECA has developed valuable tools for use when developing travel plans.

Road Controlling Authorities (RCAs)

RCAs are responsible for identifying transport needs (including TDM) and implementing remedial measures as necessary on their respective networks. RCAs include Transit New Zealand and Territorial Authorities.

Territorial Authorities (TAs)

Territorial authorities have a number of regulatory, road safety and planning roles, and ownership interests in transport, largely set out in the Local Government Act 1974. The Local Government Act 2002 also sets out their role in providing for sustainable development in local communities. District and city councils own and operate the local road network which includes the provision of high quality infrastructure that facilitates use by active modes. Their land transport decisions are required to take into account the RLTS relevant to their area. Travel Demand Management needs represent an integral part of the current RLTS.

Transit New Zealand (Transit)

Transit is responsible for managing the state highway network, and in a similar manner to TAs, must take into account the current RLTS. Travel Demand Management is an essential component of Transit New Zealand's Transport Strategy, and Transit recognises that its design and implementation of a nationally integrated travel demand strategy will contribute towards sustainable management of the state highway network. (Transit, 2005).

Regional Public Health Service (RPH)

Regional Public Health promotes positive health outcomes by supporting healthy public policy, community action, healthy environments and the development of individual skills for wellbeing.

Strategy structure

Part One of this report frames the regional context for TDM, including agency roles, policy context and travel demand issues. Part Two presents the Strategy, including the vision and objectives. A detailed action plan describes more specifically how the objectives are to be achieved. The anticipated strategy cost is also outlined. Performance measures are specified to enable monitoring and review of the Region's progress toward its objectives and ultimately the vision. Appendices provide further context to the strategy.

Strategy context

Policy context

New Zealand Transport Strategy (NZTS)

Released in December 2002, the NZTS guides New Zealand transport policy at all levels to create a sustainable, affordable, integrated, safe and responsive transport system. The NZTS specifically supports TDM initiatives through all of its objectives:

- Economic development
- Safety and personal security
- Access and mobility
- Public health; and
- Environmental sustainability (MoT 2002).

National Energy Efficiency and Conservation Strategy (NEECS)

Released in September 2001, the NEECS purpose is to promote energy efficiency, energy conservation and renewable energy while moving New Zealand towards a sustainable energy future that will provide all New Zealanders with economic, social and environmental benefits. Travel Demand Management initiatives can help achieve such a sustainable energy future, particularly in CO₂ transport emission reductions that help achieve Kyoto Protocol CO₂ emission targets (EECA, 2001).

Draft Transit New Zealand Travel Demand Management Strategy (TTDMS)

Submitted to the March 2005 meeting of the Transit New Zealand Board, the TTDMS purpose is to set out Transit's goals and objectives, policies and plans, and priorities for managing travel demand on the state highway network. The strategy provides a basis for Transit to consult and work with other transport agencies (especially local authorities), on measures for managing travel demands. These measures include reducing road traffic growth and actively managing the use of the road network to balance supply and demand (thereby achieving sustainable levels of service) (Transit, 2005).

It is intended that the principles of this strategy and the above work are consistent.

Regional Land Transport Strategy (RLTS)

The Land Transport Act 1998 requires regional authorities to produce regional land transport strategies that contribute to the overall aim of achieving an integrated, safe, responsive, and sustainable land transport system. The RLTS must also include a demand management strategy that has targets and timetables appropriate for the region.

The RLTS has responded to these needs in all of its objectives and are further detailed in subsequent policy themes.

Objective 1	Accessibility and economic development
Theme 1.1	Expand and enhance urban public passenger transport
Theme 1.2	Improve the effectiveness of the strategic road network
Theme 1.3	Influence total travel demand by well considered land use
Theme 1.4	Expanding and enhancing walking and cycling routes
Objectives 2 & 3	Economic efficiency and affordability
Theme 2.1	Price the strategic transport network to encourage its efficient use
Theme 2.2	Contain the growth of commuter road traffic
Objective 4	Safety
Theme 4.1	Improve the safe operation of the transport network
Objective 5	Sustainability
Theme 5.1	Minimise the impact of transport on the environment

Additional TDM related policies being considered in the 2005 RLTS review include:

- Policy 1** Reduce the reliance on private motor vehicles, particularly single occupancy vehicle use, for short trips.
- Policy 2** Encourage high quality and appropriately located land development and ensure integration with transport planning.
- Policy 3** Encourage the development of travel plans for key institutions and educational facilities.
- Policy 4** Advocate for government policy to allow road pricing.
- Policy 5** Encourage the uptake of cycling and pedestrian travel, particularly for short trips.
- Policy 6** Encourage increased use of passenger transport.
- Policy 7** Ensure the availability of reliable information on the transport system and choices available.

A number of GWRC documents have been developed which also assist the implementation of the TDM Strategy. The documents are the regional:

- Passenger Transport Plan
- Cycling Strategy
- Pedestrian Strategy
- Road Safety Strategy; and
- Policy Statement.

The above documents rely on modal shift to achieve improved road conditions, whereas the activities in this strategy seek to manage regional travel demands.

This strategy intends to develop and respond to the needs, objectives and themes detailed above. The strategy's action plan highlights the fact that behavioural approaches along with developing information and communication technology now play a significant role in TDM (Austroads, 2002).

Wellington Transport Project

During 2004, officers from the MoT, Treasury, LTNZ, the Ministry of Economic Development, Transit, GWRC and the region's Territorial Authorities met to discuss the apparent greater Wellington region funding gap. A sub-group of the project specifically discussed issues pertaining to TDM in the greater Wellington region. The January 2005 Wellington Transport Project final report announced a \$225 Million boost for regional land transport over ten years, with approximately \$30 Million specifically allocated for the implementation of TDM initiatives (including walking and cycling).

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Framing regional demand management issues

An extensive issue framing exercise was undertaken in the preliminary stages of strategy development by GWRC. Key sources of data included the Household Travel Survey (WRC, 2001), undertaken as part of the 10 yearly calibration of the Wellington Transport Strategic Model (WTSM), which surveyed 2000 households and analysed 7000 trips. The data has been used to build an accurate, up to date picture of the region’s travel demand.

Using WTSM, further analysis was undertaken to build a picture of the likely regional travel demand in the future. *Wellington Region’s Travel Demand Profile* (GWRC, 2005) provides a detailed report on the regionally significant TDM issues that were identified, while a summary is outlined below.

The GWRC Household Travel Survey (2001) shows that currently in the greater Wellington region.

- Trips by private car dominate all modes used, and is the mode of choice for 74% of all peak trips.
- Active modes (primarily walking) account for approximately 40% of all very short peak trips up to 1km in length trips and 50% of all very short peak commuter trips.
- Passenger transport market share is minor, accounting for 10% of all peak period trips and 6% of all interpeak period trips. Despite this, passenger transport mode share on the critical strategic corridors is approximately 30% in the AM peak, and is the highest passenger transport mode share seen in any region in the country.

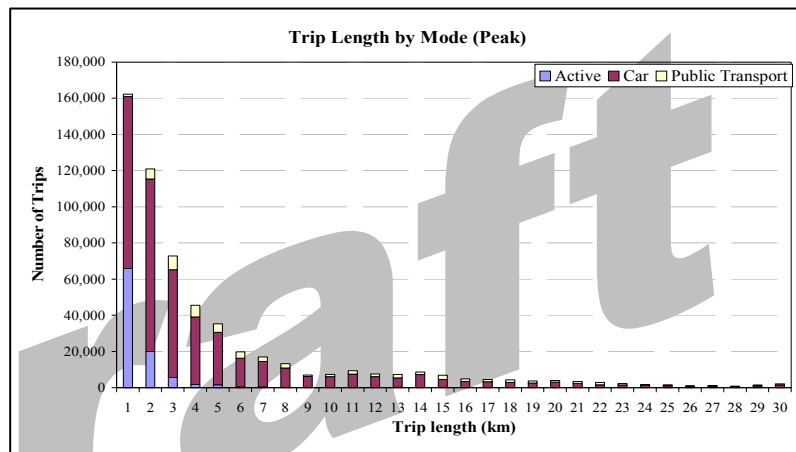


Figure 1: Personal peak trip length by mode. Source: GWRC Household Travel Survey 2001

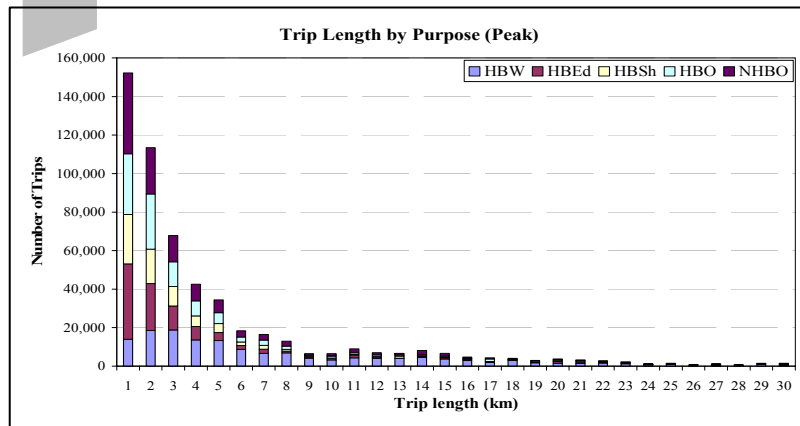


Figure 2: Personal peak trip length by purpose. Source: GWRC Household Travel Survey 2001

- The region’s average and 85th percentile peak trip lengths are 2–3km and 8–9km respectively while the region’s interpeak average and 85th percentile trip lengths are 1–2km and 5–6km respectively. This indicates existing efficient travel patterns and compact land use, and
- That peak trips are generally longer than interpeak trips, primarily driven by longer commuter trips.

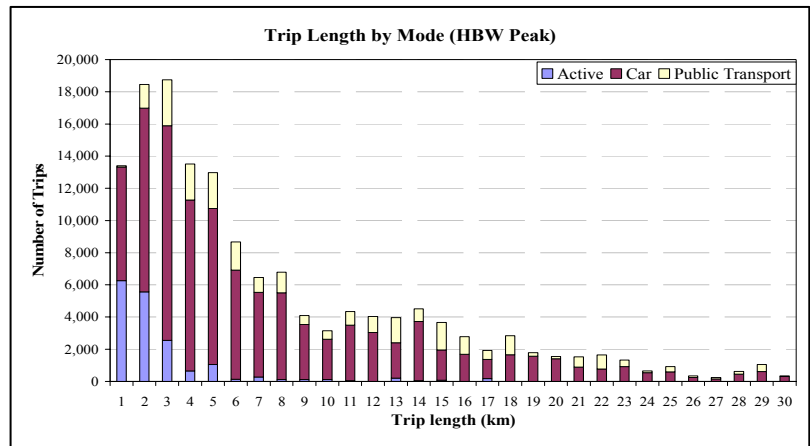


Figure 3: Personal peak trip length by mode (home - work). Source: GWRC Household Travel Survey 2001

Statistics New Zealand (2002) medium growth population and economic projections (BERL, 1997) show that the greater Wellington region is expected to grow into the future with an associated increased demand for transport. Further Statistics NZ medium projection refinements published in February 2005 suggest the region’s population will increase by 40,000 people by 2016. This new population forecast was unable to be taken into account in the analysis, although increased population will only exacerbate the effects reported.

This and other data entered into the Wellington Strategic Model forecasts that by 2016, the greater Wellington region is expected to have:

- 26,000 (6%) more people than in 2001
- 44,000 (20%) more cars
- making 37,000 (14%) more peak time trips as a driver.

This increased activity will result in:

- An additional 558 million (18%) vehicle kilometres travelled per annum, contributing to an additional 275,000 tonnes (26%) of CO₂ greenhouse gas entering the region’s airshed annually, and

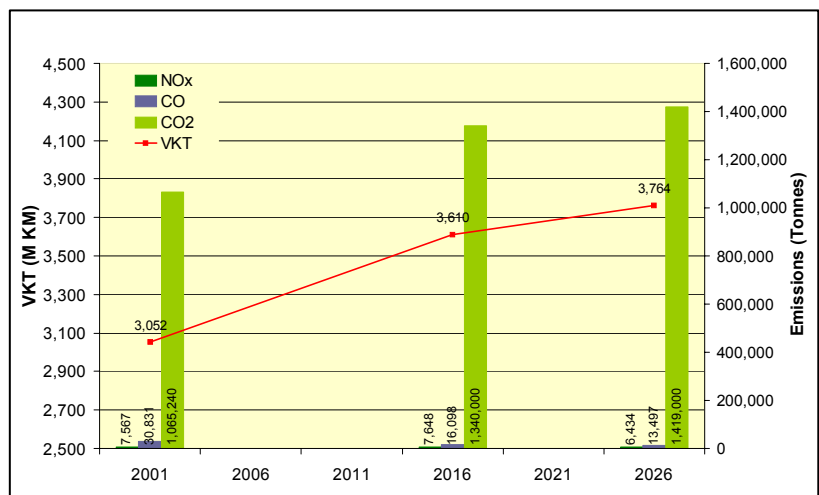


Figure 4: Projected regional air quality (NO_x, CO and CO₂) versus vehicle kilometres travelled. Source: GWRC WTSM, MOT vehicle fleet emission model

- An increase of peak period journey times reflecting increased congestion, with a resulting decrease in network level of service.
- For example, the Southern Strategic Network section of the network which runs from the Basin Reserve can be expected to attract almost 25% more travel time delay than 2001 as a result of the increased congestion levels.

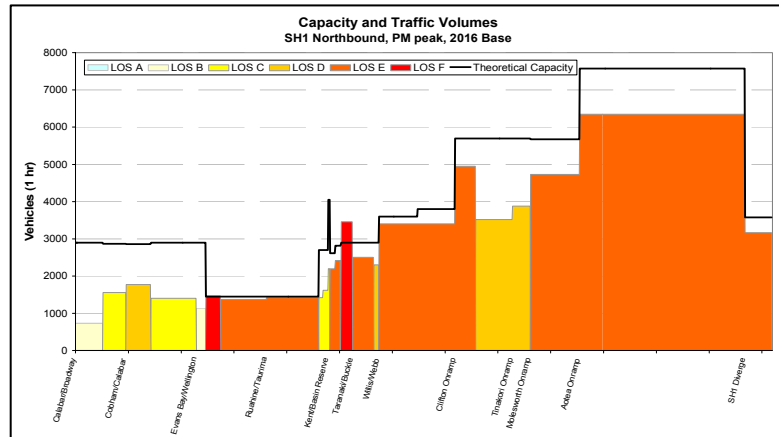


Figure 5: Southern Corridor strategic network capacity and traffic volumes (2016 northbound, PM peak). Source: GWRC WTSM

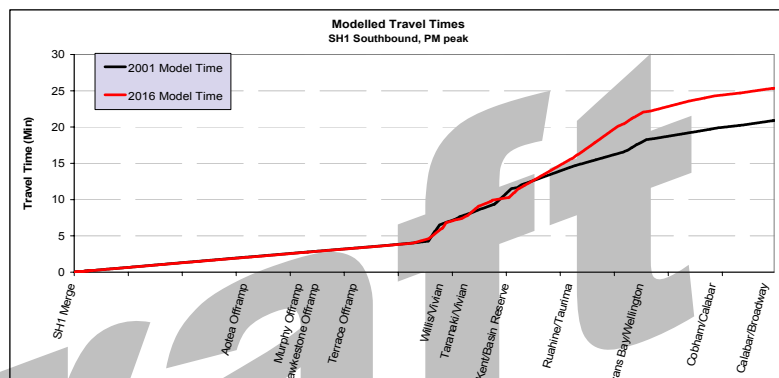


Figure 6: Southern Corridor strategic network modelled travel times (2001 and 2016 southbound, AM peak). Source: GWRC WTSM

Strategy implications

Despite network capacity improvements such as eight-laning between the Ngauranga Gorge interchange and Aotea Quay and an upgrade of the Basin Reserve, increasing travel will lead to a significantly lower level of service on the strategic road network by 2016 during peak periods, demonstrating that we cannot build our way out of the travel demand problem.

Four regionally significant TDM issues have been identified:

- excessive travel demand problems (particularly congestion at peak periods)
- low car occupancy (particularly for the traditional commuter home to work trips)
- inefficient trips
- transport emissions loading on the region's airshed

Trips by private car are also of concern, as personal private car trips dominate all transport modes used in the region, and is the mode of choice for 74% of all peak trips. It is clear that if this type of trip making is to be influenced, interventions need to target the initial mode choice decision each day.

The issues identified above are addressed in the action programme section of the strategy.

Part Two

The Strategy

Vision

To use Travel Demand Management initiatives in achieving sustainable outcomes for the greater Wellington land transport system.

Outcomes

The main outcomes sought from the Regional Travel Demand Management Strategy are as follows (in no particular order):

- reduced traffic demands (particularly single occupied vehicles at peak periods)
- reduced congestion
- improved access and mobility
- reduced land transport loading on regional air quality
- reduced CO₂ emissions
- reduced non-renewable fuel use
- minimised undesirable social, environmental and safety impacts
- improved economic efficiency; and
- no adverse impact on economic activity.

Appendix 1 illustrates the linkages between the strategy's outcomes and actions.

Objectives

The objectives of the strategy (in no particular order) are:

- ensure the most efficient use of existing transport infrastructure and services
- increase public awareness of TDM and individual travel choices
- encourage integrated land use and transport planning that seeks to maximise transport efficiency
- encourage proactive advocacy that facilitates coordination among lead agencies.

System Wide Performance Indicators and Targets

To meet the obligations set out in Section 175(2) of the Land Transport Management Act 2003, the Regional Land Transport Strategy (and any subsidiary Strategy's like the draft Regional Travel Demand Management Strategy) must:

- (c) *take into account any national land transport strategy and National Energy Efficiency and Conservation Strategy; and*
- (o) *include a demand management strategy that has targets and timetables appropriate for the region.*

The Draft Travel Demand Management Strategy's system-wide performance indicators and targets first identify desired outcomes which take account of (c) above, with the desired outcomes for vehicle kilometres travelled (VKT), CO₂ and fuel consumption in line with Kyoto Protocol targets at a regional level.

According to the National Energy Efficiency and Conservation Strategy, New Zealand is aiming for a 20% improvement in *economy-wide* energy efficiency (as well as reducing CO₂ emissions to 1990 levels), but does not require that any one particular industry or sector reach these targets in its own right.

It should be noted that the desired outcomes related to greenhouse gas emissions are ambitious and would undoubtedly have adverse impacts on the regional economy if Wellington was out of step with the rest of New Zealand's transport industry.

Taking account of this, and (o) above, the strategy sets a series of targets that are not as ambitious as reaching Kyoto Protocol levels. A major review of non-pricing TDM initiatives in the United Kingdom (UK DfT, 2004) found that a 10-15% improvement in related indicators could be achieved. The strategy targets optimistically seek to hold the line at the 2001 base levels. In some cases this would require an improvement of the Strategy's indicators of more than 15% compared with the 2016 forecasts.

The following table sets out the Strategy's system performance indicators, forecast outcomes, desired outcomes and targets. Highlighted is the strong interdependent relationship between vehicle kilometres travelled, fuel use and CO₂ emissions. The dramatic predicted increase in diesel usage, identified in the table, means that even with improvements in vehicle fuel efficiency, the impact of increasing VKT and fuel consumption will have an increasing adverse impact on CO₂ emission levels.

System performance indicator	2001 base	Forecast outcome by 2016	Desired outcome	Strategy target
Reduced traffic demand Strategic roading network VKT (annual million kilometres)	1,008	1,192	900 ⁴	1,008
Reduced greenhouse gas emissions CO ₂ (annual kilotonnes)	1,065	1,345	877 (1990 level ⁵)	1,065
Reduced fuel consumption Petrol sales (million litres per annum) Diesel sales (million litres per annum)	300 142	304 245	293 ⁶ 77 ⁶	300 142
Reduced road congestion Strategic roading network travel time (annual million hours) Strategic roading network average speed (PM peak, kilometres per hour)	16.7 49	20.1 46	Better than now Better than now	16.7 49
Improved journey to work mode share Active Passenger transport Car	10% 17% 73%	9% 18% 73%	More active and passenger transport	Maintain current mode split
Increased vehicle occupancy Vehicle occupancy (Wellington CBD cordon)	1.4	1.4	Increased	1.5
Increased resident satisfaction Perception of congestion	2004: 62% felt congestion had got worse	Significantly worse than now	Better than now	60%
More efficient land use	N/A	Awaiting WRS	Higher density, especially near PT nodes	To be determined
Economic development	N/A	Awaiting WRS	Outside scope of TDM Strategy	To be determined

Note: The data given in the above table are best estimates based on the best information available to GWRC's Transport Division, and due to the methodologies used to derive many of the numbers, they are best seen as estimates rather than firmly established figures.

The demand management initiatives set out within this strategy aim to achieve improvements in the forecasted levels of CO₂ emissions and road congestion by influencing the above indicators in a positive way.

⁴ Calculated from fuel use, using standard conversion factors, driven by CO₂ target.

⁵ As per Kyoto Protocol. 1990 baseline CO₂e target being the average of emissions during the 1998-2012 commitment period.

⁶ Calculated fuel use, driven by CO₂ target. Estimated by back casting from 1998 – 2003 sales data.

Action programme

The following section details the strategy action programme which is an integrated package of interventions to achieve the outcomes and objectives stated above. Regional travel demand is affected by a number of agencies and the strategy seeks to continue and enhance the proactive and interactive culture which exists among agencies in the greater Wellington region as well as clarifying the roles of these agencies in working toward the vision and objectives.

Actions associated with regional passenger transport, active modes and road safety (all of which are essential elements for TDM) are detailed in the Regional Passenger Transport Plan and Regional Cycling, Pedestrian and Road Safety Strategies, respectively. Similarly, an action identified by the technical working group during the strategy's development was one of investigating rationalisation of fringe benefit tax rules. This has not been included in this strategy, as such an action sits at a national level, and as such, is better dealt with by government agencies such as the MoT and EECA.

This strategy has a specific action in the action programme related to advocating for road pricing on existing routes. Non-pricing "carrot" TDM mechanisms, such as Travel Planning are only anticipated to influence travel demand at the margins. If we are to send strong signals to the community that the use of private cars (particularly single occupied cars) for commuter trips is an inefficient use of the network, it is essential to introduce "stick" TDM mechanisms in the form of road pricing, in conjunction with soft TDM measures. Once introduced, it is anticipated that road pricing would significantly influence peak travel demand on the region's road network, with the added benefit of generating revenue for transport improvements.

We expect to see positive outcomes over all indicators discussed above, as a result of successful implementation of the interventions detailed in the action programme. However, several issues make a comprehensive evaluation of the effects of the TDM initiatives challenging. These include:

- Many TDM initiatives are designed to influence small portions of the population. Such small-scale initiatives mean it can be difficult to measure the success of these initiatives at a strategic level, and often changes can be so minor that they are within the statistical margin of error.
- It is hard to separate out external travel demand influences, such as changes in the price of fuel and changes in economic conditions.
- Many TDM initiatives involve multiple TDM measures which make it problematical to isolate the effects of any one measure.

Objective: Efficiency

Ensure the most efficient use of existing transport infrastructure and services

Actions	Responsibility & role	Timing	Cost	Funding	Target	Individual action performance measure
Transit New Zealand TDM Strategy Support the implementation of Transit's Travel Demand Management Strategy	Transit NZ (lead) GWRC Access Planning TAs	Plan implemented by 2006/2008	Administrative	Transit NZ (100% LTNZ)	Plan is implemented by Transit NZ	Plan is implemented
Integrated Network Management Plan Develop and implement an integrated network management plan to maintain an agreed LoS on the strategic road network. Plan to include ATMS, Ramp Metering, ATIS and HOV lanes	Transit NZ (lead) TAs GWRC Access Planning	Plan developed by end of 2006/07	\$15-\$20 Million	Transit NZ (100% LTNZ)	Regional plan in place by 2006/07	Plan is developed and reported to RLTC

Objective: Awareness

Increase public awareness of TDM and individual travel choices

Actions	Responsibility & role	Timing	Cost	Funding	Target	Individual action performance measure
Awareness campaign Develop and implement a campaign to raise public aware of the full costs of their travel and mode choice decisions, including the environmental, social and economic costs	GWRC (lead) EECA LTNZ Transit NZ	Ongoing	\$100,000 per annum	GWRC (25% LTNZ and 75% Crown)	Campaign commences in 2006/07	Campaign implemented

Objective: Planning

Encourage integrated land use and transport planning that seeks to maximise transport efficiency

Actions	Responsibility & role	Timing	Cost	Funding	Target	Individual action performance measure
<p>Land use planning Support integrated land use planning which reduces traffic demand and generates sustainable travel demands (including District Plans, the Regional Policy Statement, and the Wellington Regional Strategy)</p>	<p>GWRC TAs Transit NZ</p>	<p>Ongoing</p>	<p>Administrative</p>	<p>GWRC Administrative budget (25% LTNZ) TAs</p>	<p>Improved planning documents which facilitate increased urban densification, infill around transport nodes and mixed use developments</p>	<p>Submissions made to reviews</p>
<p>Travel plans Develop and implement a travel plan programme to encourage the uptake of business, school, community and individual travel plans and associated travel behaviour change initiatives such as ridesharing, teleworking, flexible work hours, walking school buses, etc</p> <p>Develop and implement a travel plan for organisation's offices</p>	<p>GWRC EECA</p> <p>GWRC, TAs, Transit NZ, EECA, MoT, RPH and LTNZ</p>	<p>CCDHB by end of 2005/06</p> <p>Ongoing</p> <p>Each agency to have a travel plan developed with implementation started by 2006/2007</p>	<p>\$525,000 for 2005/06</p> <p>\$900,000 per year</p> <p>Each organisation's administrative budget</p>	<p>GWRC (75% LTNZ)</p> <p>GWRC (25% LTNZ and 75% Crown)</p>	<p>Number of businesses, schools and community groups with a travel plan in place by 2010 (to be determined as plan developed)</p> <p>All agencies to have operating travel plan in place by 2006/2007</p>	<p>Number of plans in operation</p> <p>Number of plans in operation</p>

Actions	Responsibility & role	Timing	Cost	Funding	Target	Individual action performance measure
Perception survey Undertake surveys to determine regional perceptions of issues related to TDM	GWRC Access Planning	2 yearly	\$8,000 per survey	GWRC Regional Land Transport Strategy Annual Report budget	2 yearly	Survey completed and results reported in Annual Report

Objective: Advocacy

Encourage proactive advocacy that facilitates coordination among lead agencies

Actions	Responsibility & role	Timing	Cost	Funding	Target	Individual action performance measure
Road pricing Advocacy for the introduction of road pricing of existing routes	RLTC GWRC TAs	Ongoing until introduced	Administrative	GWRC TAs	The introduction of policy to allow congestion pricing in the greater Wellington region by 2015	Advocacy undertaken
Regional participation at national level Actively participate, where appropriate, in national level programmes/strategy development that have regionally significant impacts upon Travel Demand Management such as the Travel Behaviour Change Advisory Group	GWRC Access Planning Transit NZ	Ongoing	Administrative	GWRC Administrative budget (25% LTNZ)	Every opportunity to participate taken	Participation in policy development opportunities

Actions	Responsibility & role	Timing	Cost	Funding	Target	Individual action performance measure
<p>National Rideshare programme</p> <p>1. Development of a national rideshare tool</p> <p>2. Actively support national level programmes that seek to develop and implement a national rideshare programme</p>	<p>LTNZ</p> <p>GWRC Access Planning</p>	<p>As soon as possible</p> <p>Ongoing</p>	<p>Administrative</p> <p>Administrative</p>	<p>LTNZ</p> <p>GWRC Administrative budget (25% LTNZ)</p>	<p>Introduction of scheme as soon as possible</p> <p>Every opportunity to support taken</p>	<p>Scheme developed</p> <p>Participation in national rideshare programme development opportunities</p>

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Anticipated strategy cost

The anticipated strategy cost is expected to start at \$2,025,000 in the first year, increasing to \$2,525,000 per year for future years, as per the Wellington Transport Project TDM funding. Appendix 2 gives a breakdown of this cost. There is an expectation that government agencies and TAs will contribute to the funding of initiatives relevant to their areas, such as advocating for road pricing and the development of a national rideshare programme.

Monitoring and review

GWRC and Transit will have primary responsibility for all monitoring. Progress with strategy actions will be monitored against respective performance measures on an ongoing basis. Reporting will be in the RLTS AMR and back to an annual meeting of the Regional TDM technical group. The strategy will undergo a full review by June 2009, however as developments occur (such as the introduction of road pricing), it might be necessary for a full review of the strategy at an earlier time.

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Appendix 1

Outcome and action links

This table shows that most of the strategy's actions are expected to contribute positively to some degree to all of the outcomes sought. It should be noted that there are complex relationships involved. This will make evaluation of the effectiveness of individual interventions impossible to determine.

Actions	Outcomes								
	Reduced traffic demands	Reduced congestion	Improved access and mobility	Reduced land transport loading on regional air quality	Reduced CO ₂ emissions	Reduced non-renewable fuel use	Minimised undesirable social, environmental and safety impacts	Improved economic efficiency	No adverse impact on economic activity
Efficiency									
Transit NZ TDM Strategy	➔	➔	➔	➔	➔	➔	➔	➔	➔
Integrated Network Management Plan	➔	➔	➔	➔	➔	➔	➔	➔	➔
Awareness									
Awareness campaign	➔	➔	➔	➔	➔	➔	➔	➔	➔
Land use planning	➔	➔	➔	➔	➔	➔	➔	➔	➔
Planning									
Travel plans	➔	➔	➔	➔	➔	➔	➔	➔	➔
Perception survey									
Advocacy									
Road pricing	➔	➔	➔	➔	➔	➔	➔	➔	
Regional participation at national level									➔
National Rideshare programme	➔	➔	➔	➔	➔	➔	➔	➔	➔

Appendix 2

Anticipated Strategy cost 2005 – 2015

Strategy Actions	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Integrated Network Management Plan	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
Travel Plans	\$525,000	\$925,000	\$925,000	\$925,000	\$925,000	\$925,000	\$925,000	\$925,000	\$925,000	\$925,000
Awareness Campaign	-	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Total Anticipated Cost	\$2,025,000	\$2,525,000	\$2,525,000	\$2,525,000	\$2,525,000	\$2,525,000	\$2,525,000	\$2,525,000	\$2,525,000	\$2,525,000

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Appendix 3

Glossary of terms

Accessibility: The ability to obtain desired goods, services and activities.

Active modes: (also known as *Non-motorised Transportation*) includes walking, bicycling, small-wheeled transport (skates, skateboards, push scooters and hand carts) and wheelchair travel.

Advanced Traveller Information System (ATIS): ATIS provide drivers with realtime information about traffic conditions, accident delays, roadwork and route guidance from origin to destination. Some of the methods used for providing drivers with this information include traffic information broadcasting, pre-trip electronic route planning, on-board navigation systems and electronic route guidance systems.

Advanced Traffic Management System (ATMS): An array of institutional, human, hardware, and software components designed to monitor, control, and manage traffic on streets and highways.

CO₂e: Carbon Dioxide equivalent

Congestion pricing: Road pricing that varies with the level of traffic on a congested roadway. Congestion pricing is intended to allocate roadway space efficiently.

High-Occupancy Vehicle (HOV): a passenger vehicle carrying more than a specified minimum number of passengers. HOVs include carpools, vanpools, and buses. HOV requirements are often indicated as 3+ (three or more passengers required) or 4+ (four or more passengers required).

HOV lane: This is a traffic lane limited to carrying high occupancy vehicles (HOVs) and certain other qualified vehicles.

Intelligent Transport System (ITS): An umbrella term for advanced automation in mobile vehicles.

Level of Service (LoS): A qualitative concept used to describe operational conditions within a traffic stream, and their perception by motorists and/or passengers (including congestion and other factors such as travel time, speed, freedom to change lanes, convenience, comfort and safety).

Mobility: The movement of people and goods.

The National Land Transport Programme (NLTP): The mechanism through which LTNZ allocates funds to approved organisations.

Ramp metering: The use of a traffic control signal on a motorway on-ramp to control the rate at which vehicles can enter the motorway network. Ramp metering include improved rates of traffic flow and reduced congestion.

Regional Land Transport Strategy Annual Monitoring Report (RLTS AMR): The annual report produced by GWRC to monitor how well we are doing to achieve the objectives set out in the RLTS.

Road pricing: The general term for any charge for use of a roadway. It is sometimes limited to direct charges, such as tolls, or may include other vehicle fees, including fuel taxes, license fees and parking charges.

Single Occupied Vehicle (SOV): A vehicle that only has one person in it.

Travel plan: A travel plan is a strategy by which a business or institution can reduce the environmental impact of journeys made by its staff and clients. Travel plans provide options to encourage the use of sustainable forms of transport such as walking, cycling, public transport and car sharing.

Travel Demand Management (TDM): Various strategies that change travel behaviour (how, when and where people travel) in order to increase transport system efficiency and achieve specific objectives such as reduced traffic congestion, road and parking cost savings, increased safety, improved mobility for non-drivers, energy conservation and pollution emission reductions. Also called *Mobility Management*.

Vehicle Kilometres Travelled (VKT): A term to describe the combined vehicle kilometres over specified section of road.

Walking school buses: A technique where groups of up to 30 children walk together to school accompanied by 2+ adult volunteers. Volunteers are usually teachers, or caregivers who would have been driving children to school anyway.

Wellington Regional Strategy (WRS): The WRS addresses concerns about the region's future direction and the population's wish to maintain their quality of life at a time when the region's rosy economic position might be vulnerable to a lack of growth. The WRS is expected to be released in draft format later in 2005.

Wellington Transport Strategic Model (WTSM): The Greater Wellington Regional Council strategic transport Emme2 computer model.