

Bay of Plenty Regional Transport Targets and Monitoring

Bay of Plenty Regional Land Transport Strategy Supporting Paper No. 10

Prepared by the Bay of Plenty Regional Council

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Bay of Plenty Regional Council
5 Quay Street
PO Box 364
Whakatāne 3158
NEW ZEALAND

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Part 1: Introduction

This paper describes the analysis undertaken to develop a monitoring framework for assessing progress on delivery of the Regional Land Transport Strategy (RLTS). A monitoring framework will enable assessment of how well the RLTS is being implemented, and also whether the implementation is achieving the outcomes defined in the Strategy.

This paper includes the following sections:

- A description of the requirements for monitoring;
- The purpose of the monitoring approach;
- A description of how the indicators relate to the objectives and outcomes described in the RLTS; and
- A description of each of the indicators, including baseline data for each (where available).

Part 2: Background

The Land Transport Management Act (LTMA) includes requirements for monitoring the implementation of the RLTS, and for the inclusion of targets in the Strategy:

- Section 77(k) of the LTMA requires that the RLTS contain measurable targets to be achieved to meet the outcomes of the Strategy.
- Section 83 of the LTMA requires the Regional Transport Committee (RTC) to prepare a progress report on the implementation of the RLTS every three financial years.

Part 3: Purpose of targets and monitoring

The purpose of monitoring the RLTS is to:

- Provide a regular assessment of the effectiveness of the policies in the RLTS in achieving the targets and outcomes sought in the document, taking into account the time that it may take for policies to have an impact.
- Identify changes in international, national and regional trends that may have an impact on the region's transport system and therefore the policy framework, targets and direction. Changes in trends will provide the basis for future assessments of policy and whether there needs to be changes or variations made to the RLTS.
- The RLTS must be reviewed at least once every six financial years (Section 74(1)). The monitoring of trends will provide an important input into that process.

Part 4: Current monitoring

The RLTS has been monitored on an annual basis using a standard set of indicators since 2006/2007. A list of the indicators is included in Appendix A.

There are a number of general measures included in the annual report that provide a regional context regarding issues that influence the transport system. There are also the specific transport measures that provide information on the implementation of the RLTS. The broader general measures include population growth, fuel sold and household size and number. To provide continuity in the monitoring of the transport system in the Bay of Plenty region it would be appropriate to continue to report on some of these measures as well as those identified in the review process.

The LTMA now only requires that a progress report be prepared every three years, but it would still be useful to collect and report on a number of the measures and targets on an annual basis. This would provide a better record of the trends occurring and continue to provide the RTC with a regular reporting structure in terms of how well the RLTS is achieving the outcomes identified.

Part 5: Targets

5.1 Background

The possible targets identified in this report have been ordered by outcome area and in some instances the same target may be an appropriate measure for a number of outcome areas. It is important that relevant targets are selected that adequately measure and inform on the progress of the implementation of the RLTS.

Where possible the targets align with the Ministry of Transport's Transport Monitoring Indicator Framework (TMIF). This may create some problems in the short term as there is a lack of data available in association with a number of the indicators, particularly in the smaller regions. A request has been made for the Ministry of Transport (MoT) to provide a timeline for the collection of data for the indicators and whether it will be available at a regional level.

The MoT currently undertakes the New Zealand Household Travel Survey (NZHTS) that provides information on household travel patterns. The information can be accessed on a regional basis, but for the smaller regions the survey sample is too small to provide accurate information for many indicators. The collection of data for the Bay of Plenty region is an issue that needs to be discussed with the MoT to ensure that an adequate number of households is surveyed to ensure that appropriate information is available to monitor the RLTS.

5.2 Economic development

5.2.1 Outcome

The transport system is integrated with well planned development, enabling the efficient and reliable movement of people and goods to, from and throughout the region. The transport system supports economic development by providing user options, applying efficient pricing mechanisms, and prioritising higher value trips.

5.2.2 Possible targets

	Indicator	Direction of change	Baseline	Target	Source
1.1	Consistency of travel times on national and regional strategic routes for freight.	Maintain or increase	Not available	Not less than 2010 levels.	Data to be collected in conjunction with NZTA and KiwiRail.
1.2	Use of transport infrastructure in off-peak periods.	Increase	Not available	To be determined once baseline measure available.	Data to be collected by city and district councils and NZTA.
1.3	Delay per kilometre on key congested routes in Tauranga.	Decrease	See RLTS Annual Report	Less than 2010 levels.	Data to be collected by NZTA and TCC.

	Indicator	Direction of change	Baseline	Target	Source
1.4	Number of days sections of the Regional Strategic Transport Network are closed.	Decrease	Not available	Less days closed than 2010.	TMIF-SS012.
1.5	Percentage of freight transported by rail and coastal shipping.	Increase	2006 15% and 3% ¹	20% and 6% respectively by 2040.	TMIF-FT007.

Target 1.1 is a measure of the effects of congestion on the reliability of the strategic network for the efficient movement of people and freight. There are two sources of information currently being collected by the New Zealand Transport Agency (NZTA) and Tauranga City Council (TCC). The first is the congestion survey carried out on a twice yearly basis. The NZTA has confirmed that it intends to continue to carry out this survey, although it will probably reduce the frequency to once per year. The NZTA is also collecting data from on-board Global Positioning Systems that will potentially pick up on seasonal changes as well as providing a constant source of data. The rail measure is a check on the reliability of the rail network rather than a congestion measure.

Target 1.2 - the change in travel time patterns is a measure of the effectiveness of demand management measures to encourage non-essential travel at off-peak times. It will also pick up on changes in work hours whereby people travel at different times to avoid peak traffic. Workplace travel plans could also potentially impact on the times that freight is on the network as not all freight needs to be delivered during normal work hours. Travel time patterns can be picked up through assessment of regular traffic counts undertaken by city and district councils, and the NZTA.

Target 1.3 - travel delay on key congested routes in Tauranga (minutes delay per kilometre) is information that is surveyed on an annual basis by the NZTA and TCC. It provides a measure of congestion for Tauranga city but the survey is not carried out in other parts of the region and it would be expensive to extend the survey. This measure is currently reported on in the RLTS Annual Report and trend data is available from 2003.

Target 1.4 - the resilience and security of the land transport system is an important measure of reliability, particularly in isolated areas of the region. MoT is currently developing a measure for these areas that can be used for monitoring the RLTS. A simple proxy is the number of days that an area is not able to be reached by road (state highway or local).

¹ Source: *Bay of Plenty Regional Freight Study*. Bay of Plenty Regional Land Transport Strategy Supporting Paper No. 03 (2010).

Target 1.5 - the New Zealand Transport Strategy (NZTS) targets are for rail to have a 25% share of freight tonne-kilometres by 2040 and coastal shipping 30%. Currently the regional split is rail 15% and coastal shipping 3% of total freight tonnage. The Bay of Plenty Regional Freight Study forecasts that overall freight tonnage on all modes will increase significantly due to growth in both inter and intra-regional freight of about 64% by 2040, but the splits would remain reasonably constant over the period of the strategy in a business as usual scenario.

An increase in rail share would probably be driven by larger container ships coming into the Port of Tauranga. The increase in coastal shipping will largely be dependent on what changes occur in international shipping patterns and frequency of visits to all ports in New Zealand. The development of the harbour at Opotiki, and aquaculture development may also drive an increase in coastal shipping. The Bay of Plenty Transport Futures Study² estimates an overall increase in market share from 10% to 23% by 2040 for rail and coastal shipping when improvements are factored in.

Exports through the Port of Tauranga (PoT) are a proxy for measuring freight movement in the region in the current RLTS Annual Report. The PoT is an important generator of freight movements (imports and exports) in the region but does not give a regional picture of freight movements. This is a general measure that could be reported on to give an indication of changes in regional freight movements but not used as a target.

5.3 Sustainability

5.3.1 Outcome

The transport system is flexible, robust and resilient to external influences. People choose the best way to travel to improve energy efficiency and reduce reliance on non-renewable resources. Political leadership and support is shown at all levels supporting funding for the infrastructure required for all modes to be safe and easy ways to travel.

5.3.2 Possible targets

	Indicator	Direction of change	Baseline	Target	Source
2.1	Public transport, walking and cycling journey to work mode shares.	Increase	Public transport 0%, walk 1%, cycle 2% ³	Above the average of 2006-2010 levels.	Census figures for journey to work and TMIF-TP006.
2.2	Average daily mode share for walking, cycling and public transport on identified Regional Strategic Transport routes.	Increase	Not available ⁴	Increases from 2010 levels.	BOPRC bus patronage figures for Tauranga, Rotorua and Whakatane. Annual surveys of walking and cycling numbers. ⁵

² Bay of Plenty Transport Futures Study. Bay of Plenty Regional Land Transport Strategy Supporting Paper No. 06 (2010).

³ Source: TMIF-TP006 (not Census data).

⁴ Survey sites to be identified in conjunction with the NZTA and city and district councils.

⁵ The data for all people travelling on specific routes could be obtained from screen line surveys.

	Indicator	Direction of change	Baseline	Target	Source
2.3	Efficient operation of the transport system.	Increase	Not available	A 4% improvement from 2008 levels in GJ/kilometres travelled on land by 2015.	NZEECS monitoring.
2.4	Percentage investment for each activity area aligns with the funding levels in the RLTS preferred strategic option (Optimised Transport System).	Increasing alignment	Not available		Local authority LTPs and the NLTP.

Targets 2.1 and 2.2 - mode share increases for active modes provide a proxy for the reliance of the system on oil based products, particularly for journey to work. This provides an indication of how resilient the system is to the oil price rises and the increasingly frequent 'spikes' in oil price that are anticipated in the future⁶.

Target 2.3 - oil provides 51% of New Zealand's total consumed energy. The transport sector is the primary user of this energy. Most of this oil is imported, which exposes the New Zealand economy to volatile international energy prices. It is therefore a long term strategic priority for New Zealand to ensure that energy is used efficiently⁷.

There are transport targets in the draft New Zealand Energy Efficiency and Conservation Strategy 2010 (NZEECS). The objective for the transport sector in the NZEECS is 'a more energy efficient transport system, with a greater diversity of fuels and renewable energy technologies'. The assumption has been made that central government will measure and report on progress towards the target and that this figure can be used when monitoring RLTS progress. There is no indication whether the monitoring for the NZEECS will provide a national measure or whether it will be regionalised.

Target 2.4 - the investment assumptions for the RLTS preferred strategic option (Optimised Transport System) is based on the same total funding as business as usual (as per the National Land Transport Programme 2009/12 (NLTP) and Government Policy Statement on Land Transport Funding 2009/10-2018/19 (GPS)) re-allocated to invest more in public transport and walking and cycling, as well as specifically investing in freight management (roads 74.5%, public transport 6.2%, walk/cycle 6%, freight 3.3%). The target should reflect the success, or otherwise, of the region in achieving funding allocation for the Optimised Transport System.

⁶ Source: Parliamentary Service (2010) *The Next Oil Shock?* Parliamentary Research Paper.

⁷ Source: New Zealand Energy Efficiency and Conservation Strategy (NZEECS).

5.4 Integration and land use

5.4.1 Outcome

Long term planning ensures that transport corridors are protected, and well designed transport infrastructure supports economic development. Regional growth patterns and urban form reduce travel demand, support public transport and encourage walking and cycling.

5.4.2 Possible targets

	Indicator	Direction of change	Baseline	Target	Source
3.1	Distance per capita travelled in single occupancy vehicles in major urban areas on weekdays.	Decrease	1,980 km for 2006-2010 (Tauranga only)	Below average of 2006-2010 levels.	TMIF-TV013.
3.2	Total person kilometres travelled in the region.	Decrease	3,000 million km/year for 2006-2010 (Bay of Plenty)	Below average of 2006-2010 levels.	TMIF-TV009.
3.3	Mode share for walking, cycling and public transport (total trip legs).	Increase	Public transport 2%, walk 11%, cycle 2%	Above average 2005 to 2009 levels.	TMIF-TP005, TP006, TP007, NZHTS data
3.4	Average distance of journey to work for the work population.	Decrease	Not available	To be determined once the baseline measure is available.	Census data.

The measures provide a means to evaluate the success of changes in growth patterns and urban form through decreasing travel demand, particularly single occupancy vehicle travel.

Target 3.1 only applies to Tauranga in the TMIF currently and therefore may not be particularly useful as a regional measure. But it does provide a measurable trend for the largest and fastest growing urban area in the region. This measure may also be extended to apply regionally if the number of households surveyed in the region is increased, as has been recommended in the Bay of Plenty Demand Management Study⁸.

Target 3.2 - decreasing kilometres travelled also provides a proxy as it not only indicates less trips but also shorter trips, which give a sense of the success of land use changes. That is, where the layout of the development, or the higher density and inclusion of mixed land use reduce the need to travel by private vehicles. It will however be difficult to define the precise reason for the changes where there are also other factors, such as demand management measures, in place.

An increase in the mode share for active modes in target 3.3 provides an indicator of the proximity of destinations (work and play) to residential areas.

⁸ Bay of Plenty Demand Management Study. Bay of Plenty Regional Land Transport Strategy Supporting Paper No. 08 (2010).

Target 3.4 provides an indication of the development of settlements where work is in close proximity to residential areas, which is an underlying principle for the SmartGrowth Strategy (live-work-play) in the western Bay of Plenty sub-region. An estimate of this can be derived from the Census journey to work data.

5.5 Safety and personal security

5.5.1 Outcome

Deaths and serious injuries on the region's roads are reduced. People understand and contribute to a safety culture that is supported by a safe system approach to road safety. Transport corridors and public spaces are safe and secure environments to use and people feel safe using them.

5.5.2 Possible targets

	Indicators	Direction of change	Baseline	Target	Source
4.1	Average number of deaths and serious injuries on roads in the region.	Reduce	Average of 209 in 2005-2009 ⁹	Below average 2005-2009 levels.	CAS10.
4.2	Average number of reported injury crashes from 2005 to 2010 levels.	Reduce	Average of 572 in 2005-2009	Below average 2005-2009 levels.	CAS.
4.3	Number of deaths and serious injuries with alcohol as a contributing factor.	Reduce	Average of 49 in 2005-2009	Below average 2005-2009 levels.	CAS.
4.4	Number of deaths and serious injuries with speed as a contributing factor.	Reduce	Average of 53 in 2005-2009	Below average 2005-2009 levels.	CAS.
4.5	Perception of the safety and security of people walking, cycling and using public transport.	Increase	Not available	Above 2010 levels.	TMIF-AM010, AM011, AM012, SS010 BOPRC Bus Satisfaction Survey and BOPRC Community Outcomes Survey.

Targets 4.1 and 4.2 provide an overall assessment of road safety trends in the region.

Targets 4.3 and 4.4 relate to factors which have the highest impact on road safety (speed and alcohol). The information is available on the NZTA Crash Analysis System (CAS). These targets could also be translated into crash rates per head population or per million vehicle kilometres travelled rather than numbers of crashes.

⁹ To be updated when 2010 data available.

Target 4.5 uses perceptions of personal safety when walking, cycling and using public transport as an indicator of the safety and security of people using the land transport system (including public areas). This information can be gathered through the inclusion of a relevant question in the BOPRC Community Outcomes Survey or in the annual BOPRC Bus Satisfaction Survey.

5.6 Access and mobility

5.6.1 Outcome

Communities have access to a reliable transport system that provides them with a range of travel choices to meet their social, economic, health and cultural needs.

5.6.2 Possible targets

	Indicator	Direction of change	Baseline	Target	Source
5.1	Annual trips per person on public transport.	Increase	Tauranga 12.2; Rotorua 12.9; western BOP 0.6; Whakatane 1.2; Opotiki 0.1; Kawerau 0.2	Above 2009/2010 levels.	BOPRC.
5.2	Percentage of people living within 500 m of a bus stop.	Increase	Tauranga 85%; Rotorua 91%; eastern BOP 34%	Above 2009/2010 levels.	BOPRC (or TMIF-AM015).
5.3	Overall perception of public transport relative to the private vehicle.	Increase	Tauranga 52%; Rotorua 49%	Above 2009/2010 levels.	BOPRC Bus Satisfaction Survey. ¹¹
5.4	Level of access to essential services.	Increase	Not available	Above 2010 levels.	TMIF-AM004.

Target 5.1 is a measure of the overall increase in the use of the public transport system. This target could be based on a peak measure, rather than overall patronage to align with journey to work data. Currently annual trips per capita figures are used in the RLTS Annual Report, so the trend data could be continued from this to provide continuity in reporting.

Target 5.2 - proximity to bus stops is an indicator that is currently used as a measure of accessibility in the Tauranga and Rotorua urban areas. It is also used as a measure in the eastern Bay of Plenty, but the dispersed nature of the population in the east of the region probably makes this measure less useful than for the urban centres.

Target 5.3 - the NZTA requires regional councils to undertake an annual 'bus satisfaction survey' to provide a measure of whether the bus services provided are meeting the needs of the region's residents. This provides a measure of peoples' perceptions of the service.

¹¹ Percentage of bus users who rate the service as excellent.

Target 5.4 - access to essential services would provide a regional measure for how well the transport system was providing for isolated communities, and in some cases particular sectors of urban communities. Data for this measure is not currently available in the TMIF.

5.7 Public health

5.7.1 Outcome

The transport system minimises the health damaging effects of transport for all members of society. A wider choice of transport options allows all individuals to make the social connections and travel choices that contribute to their health and wellbeing.

5.7.2 Possible targets

	Indicator	Direction of change	Baseline	Target	Source
6.1	Morning and evening peak traffic flows on the regional strategic road network.	Reduce	Not available	Below 2010 levels.	NZTA/local authority traffic count data or screen line surveys.
6.2	Time spent walking and cycling per person aged five and over.	Increase	Walking - 28 hours per year; cycling no base data available	Above 2006-2010 levels.	TMIF-TV015, TV017.
6.3	Levels of particulate matter (PM10) in Tauranga and Rotorua.	Reduce	RLTS Annual Report	Less than 2009 levels.	BOPRC air quality monitoring.
6.4	The length and amount of traffic on unsealed roads.	Reduce	RLTS Annual Report	Less than 2010 levels.	District councils.

Target 6.1 - reducing morning and evening peak traffic flows would reduce vehicle emissions through an overall reduction in vehicle numbers and more efficient vehicle movements.

Target 6.2 - provides a proxy for the amount of exercise people are getting by using active transport modes. A larger number of people in the region would need to be surveyed in the NZHTS to provide data on cycling.

Target 6.3 - carbon monoxide and particulate levels in Tauranga and Rotorua have previously been used in the RLTS Annual Report as public health indicators, but CO stopped being measured in 2006-07. Therefore particulate matter may need to suffice as a measure of the air quality effects of transport, recognising that open fires and industrial discharges will also have an influence on the levels of particulates in the air.

Target 6.4 is aimed at the health effects of dust from unsealed roads on adjacent communities. Due to a change in NZTA funding criteria fewer gravel roads are currently being sealed in some districts.

There are a number of additional public health indicators in the TMIF measuring the effects of transport noise and air quality effects, but none of these currently have any data associated with them.

Appendices

Appendix A: Current indicators collected in the Bay of Plenty

Indicator	Source	Collection	
		Annual	5 years
Resident populations	Statistics NZ (Census)		✓
Household numbers	Statistics NZ (Census)		✓
Household size	Statistics NZ (Census)		✓
Motor vehicle access	Statistics NZ (Census)		✓
Number of licensed vehicles	NZTA	✓	
Travel to work outside district/city	Statistics NZ (Census)		✓
Number of interchanges	BOP Regional Council	✓	
% of integrated public transport tickets sold	BOP Regional Council	✓	
Crash rates	Ministry of Transport	✓	
Number of casualties	Ministry of Transport	✓	
Percentage of "excellent" bus service ratings	Regional bus users' satisfaction survey	✓	
Modal split for travel to work	Statistics NZ (Census)		✓
Modal split for freight	Port of Tauranga	✓	
Vehicle occupancy	Statistics NZ (Census)		✓
Annual bus trips per person	BOP Regional Council and operators	✓	
Pedestrian/cycle counts on key routes	Local authorities	✓	
Traffic volumes on key congested routes	Local authorities	✓	
Travel times on key congested routes	NZTA	✓	
Volume of exports at port	Port of Tauranga	✓	
Quantity of fuel sold	BOP Regional Council	✓	
Access to bus services	BOP Regional Council	✓	
Percentage of accessible buses	BOP Regional Council	✓	
Levels of carbon monoxide/particulate matter	BOP Regional Council	✓	
Length/amount of traffic on unsealed roads	Local authorities	✓	

Note: this table contains only those indicators reported by BOPRC in the RLTS Annual Report and does not include indicators and data collected by city and district councils.