Transit New Zealand's 10-year State Highway Plan and Forecast for 2006/07 to 2015/16

Incorporating Transit's 2006/07 Land Transport Programme

TRANSIT NEW ZEALAND
ARARAU AOTEAROA

TRANSIT NEW ZEALAND'S 10-YEAR STATE HIGHWAY PLAN AND FORECAST FOR 2006/07 TO 2015/16

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Transit New Zealand

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Foreword

Development of New Zealand's state highway network is accelerating at a rate never seen before. Investment in state highways is set to rise to $6.6 billion over the next five years.

This comes on top of the significant increase in funding over the last 4 years, since the release of this Government's first transport packages, enabling us to address some of the pressures which have built up from previous under investment.

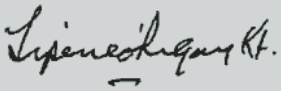
The funding announced in the 2006 Budget included a further $425M in the first five years, to accelerate state highway improvements beyond August 2005 levels. This funding will be used to accelerate some high priority projects such as the Manukau Harbour Crossing on Auckland's Western Ring Route and to bring forward new projects such as investigation and preliminary design work for the Transmission Gully Motorway in Wellington.

The increased level of funding marks a significant step forward for state highway activities. We can now tackle a number of very large, complex and high value projects like the Ngaruawahia Bypass and the Christchurch Southern Motorway.

Greater confidence around future funding creates an expectation that Transit and its partners must deliver on. Current funding levels further increase the challenge to complete projects on time and ensure value for money is achieved and this will undoubtedly require careful planning.

Transit aims to build and operate a transport infrastructure that contributes to economic development and growth, and meets the needs of road users and communities. The multi-billion dollar programme of work will require a very real commitment from all our industry partners and local government, as well as Transit.

These are exciting times and Transit looks forward to the challenge.



Sir Tipene O'Regan
Acting Chairperson

INTRODUCTION

1. Record levels of investment

Transit's 2006/07 10-year State Highway Forecast keeps up the momentum for state highway activities that was announced in August 2005 and further accelerates the development and construction of a number of key projects.

The result will speed up major works to ease traffic congestion, improve safety and make journey times more reliable around the country. Most importantly, it continues to give priority to the maintenance and operation of the existing network. Key features of this Forecast are:

- A record level of work underway across the country, but particularly in Auckland and Wellington
- Significant progress planned for Auckland's Western Ring Route, subject to support from Aucklanders for tolling
- Positive contributions to managing travel demand (including bus priority lanes, cycling networks and ramp signalling)
- A wide spread of safety initiatives and projects across the country (such as SH1 Centennial Highway Wire Rope Median Barrier, SH1 East-West Street Intersection in Ashburton and SH2 Tahaenui Bridge Realignment in Hawke's Bay)
- Development of the SH1 Waikato Expressway as the primary route between Auckland, Hamilton and places south and to Tauranga and places east
- Working with councils and developers to jointly fund sustainable transport infrastructure and services for high growth areas, such as the Western Bay of Plenty.

This Forecast regains the momentum announced in August 2005 but is different in two ways. First, it reflects updated priorities which are the result of the consultation process undertaken across New Zealand earlier this year, and our updated assessments of major projects. Some projects that were due to start in 2005/06 will now not start until 2006/07, because the programme was adjusted over the summer months to reflect lower than previously expected levels of funding in the latter part of the financial year. Second, the extra $425 million approved in the Government's 2006 Budget for the next five years now means that we can accelerate some projects beyond 2005 targets. Provision has also been made for further development of projects identifed in strategic studies in key growth locations such as, north of Auckland, south of Hamilton and Queenstown.

Transit's 2006/07 10-year Forecast assumes that funding will continue at a similar level for the second five years.

Following ongoing discussions with regional land transport committees, Transit has, where possible, incorporated projects in its Forecast from the Waikato, Bay of Plenty and Wellington funding packages. This work will be further refined as detailed planning is completed. What this is likely to mean is:

- In the Waikato, the $215M package will speed up safety initiatives and development of the long-haul inter-regional Waikato Expressway route
- In the Bay of Plenty, the $150M package will help to speed up provision of new roads such as the Tauranga Eastern motorway, to support this high growth area
- In Wellington, the funding packages will be used to support implementation of the new Regional Land Transport Strategy (subject to final consultation on the draft).

This record level of investment in the future builds on a highly productive year for Transit in 2005/06. While the primary focus of our Forecast is forward looking, it is opportune to look at our recent major project highlights.

Projects completed over the past year include:

- SH1 Katetoke / Oakleigh Safety Improvement (Northland)
- SH1 Nelson St Off Ramp (Auckland Central Motorway Junction)
- SH5 Tapapa Realignment (Waikato)
- SH29 Hewletts Rd Flyover (Tauranga)
- SH2 Domain Rd Intersection (Tauranga)
- SH1 Plimmerton to Mana (Wellington)
- SH2 Kaitoke to Te Marua (Wellington)
- SH1 Main Rd 4-Laning (Christchurch).

Projects where construction has started over the past year are included in the regional tables and are shown as committed.

2. Greater confidence in funding over five years

This year's Forecast sees the implementation of a very significant change in the way state highway construction is planned and funded. Funding for state highway construction, design and investigation activities included in this forecast is now guaranteed for five years and has been approved by Government in the Budget. In the past funding has only been allocated on a year-by-year basis with no guarantee for future years. Transit is working with other agencies to finalise and implement the changes as soon as possible.

The annual consultation process will remain but will focus only on the programme for the immediate financial year and the 10-year financial forecast. This change in funding arrangements is welcomed by Transit and supported by key stakeholders, including the construction industry. It will give Transit a higher level of confidence for the delivery of state highway projects; a development keenly sought by communities across New Zealand.

Even with much improved funding confidence, issues around designations, resource consents, material shortages and community agreement on projects, will continue to affect what can actually be delivered and when. It will be a top priority for Transit to resolve these issues promptly, with help from our transport partners, especially local government and communities.

3. Programme/Plan/Forecast

To show the potential impacts to our programming we have adopted three distinct time periods:

Year 1 – The first year, in this case 2006/07, is our land transport programme (State Highway Plan) under the Land Transport Management Act 2003 (LTMA). Table 2 outlines the 2006/07 programme with appendix 1 detailing the contribution made by specific activities to assisting economic development, assisting safety and personal security, improving access and mobility, protecting and promoting public health and ensuring environmental sustainability.

Years 1 to 5 – Transit's forward 5-year Plan is a robust prospective of the projects that are planned to be undertaken within this period.

The most important factor is that the Government has agreed to guarantee the 5-year Plan, with appropriate checks and balances, to ensure continued value for money, so that funding issues should not create constraints. For projects that are relatively early in the development process, progress depends on continued positive support from the communities the projects will be serving.

Years 6 to 10 – referred to as Transit's State Highway Forecast. This is Transit's long-term forecast and indicates the priority and possible inclusion of activities in that period. The projects set out for years 6-10 are indicative only. They are likely priorities based on current information. The State Highway Forecast does not commit to any particular timing within the second five year period since scheduling is dependent on knowledge gained on those activities from earlier phases of investigation and design.

The further out we forecast, the greater our plans and their timing are affected by factors such as:

- The results of consultation on projects
- Ongoing development of the best value solution
- Obtaining the necessary consents, and
- Purchasing property.

As required under the LTMA, table 1 shows Transit's 10-year financial forecast.

4. Value for Money

Transit prides itself on the value we create through stewardship and innovation across the full breadth of highway activities we manage. Recognising the large increase in both scale and complexity of what we do, we have launched a major project to review all aspects of our business to ensure best practices are applied at all levels in our supply chain.

We expect to complete this review by October 2006. Together with implementing recommendations adopted by Government from the Ministerial Advisory Group on Roading Costs, we expect to ensure that costs are kept as low as possible, while still supporting the objectives set for us in the LTMA.

5. Traffic Congestion

Addressing traffic congestion is a key objective for Transit. There are a series of initiatives around the country to improve traffic flows. Some of these initiatives involve construction of new state highway links (such as the Western Ring Route in Auckland) while others aim to influence demand on the most heavily used parts of the highway network.

Travel Demand Management (TDM) is a combination of approaches that seek to influence demand for transport or travel. These include land use planning, network management, travel behaviour change and pricing initiatives. To contribute, Transit actively promotes an integrated approach to planning (see section 7 below), supports public transport via busways and priority lanes, co-ordinates traffic management (especially in Auckland through the Traffic Management Unit), improves how our existing state highways operate (eg through ramp signalling), improves traveller information systems and promotes tolling as a means to balance use of the network and sustain the benefits of new state highway links.

6. Western Ring Route and Tolling

The Western Ring Route (WRR) is a proposed strategic motorway running south – north through Auckland on State Highways 20, 16 and 18, connecting Manukau City, Auckland City, Waitekere City and North Shore City. It will take traffic from Manukau through Waterview and Hobsonville to Albany to provide a strategic alternative to State Highway 1. Ten individual projects are needed to complete the route, ranging from extra lanes and improved harbour crossings to completely new lengths of state highway. It needs to be completed as a package for the benefits to be realised by road users. Provision for completion of the WRR has been included in Transit's State Highway Forecast projections, as it was in August 2005. In order to achieve our target of completion by 2015, toll revenue from the route must repay the borrowing which is needed to supplement traditional funding sources. Transit is working on the understanding that Auckland does want the WRR and wants it completed sooner (around 2015) than would be possible under current conventional funding.

The recent extra funding announced in the Government's Budget does not alter Transit's plans to toll the WRR. It does enable completion of the Manukau Harbour Crossing to be achieved a year earlier, but the previous completion target of 2012 was contingent on tolling. In short, Transit's plan for early completion of the Western Ring Route in Auckland remains dependent on support from Aucklanders for tolling the route. This is unchanged from August 2005.

The type and scale of projects making up the WRR and the desire to complete it sooner make it a very challenging and complex proposal. The benefits are significant: more reliable travel times, reduced commute times, improved airport connectivity and better overall network performance. The options available to Transit to achieve these benefits as soon as possible are limited. It is important that Transit undertakes public consultation before submitting a toll proposal to the Minister of Transport for approval. Meaningful public feedback will be central to ensure the Transit New Zealand Board is well informed.

Transit's proposal to toll the WRR will be made under current law (the Land Transport Management Act), which allows tolling on new roads where there is a free alternative route, and is subject to the Government's approval in each case. Consultation undertaken in March 2006 on road pricing (on the Ministry of Transport's Auckland Road Pricing Evaluation Study) is a separate issue. Although tolling and road pricing are related they do serve different purposes. Road pricing options involve charging for road use or parking within an area, or on a network of existing routes. If road pricing progresses, the Government will need to pass new legislation.

7. Transit's role in Transport Planning

To achieve a sustainable land transport system, we need to consider both land use and transport trends, and travel behaviour. Some areas of the country are experiencing higher than average economic growth, resulting in increased traffic demands on the state highway network that cannot be met even with our accelerated road building programme.

Transit, along with local and central government are working together to achieve a sustainable land transport system in new ways. Transit will work closely with regional and district councils to ensure that any substantial upgrading of the state highway network in the next 10 to 20 years is properly considered and planned, in

order to relieve congestion and support regional growth strategies. This requires agreement on amendments to road and public transport plans and shared funding responsibilities for both local and national infrastructure and services.

8. Maintenance and Operations

The safe operation of the state highway network is a key function for Transit. Processes are in place to manage traffic efficiently, provide consistent and reliable information for road users, undertake maintenance work on the highway and its structures in the safest and least disruptive way, monitor locations where crashes occur and where appropriate, take corrective action.

The state highway network is a $15 billion transport infrastructure asset that demands sophisticated and effective management. Transit uses various tools to do this, ranging from natural inventory databases (containing information on natural features that might impact on state highways), long term deterioration modelling, and annual condition data collection, supported by advanced contract delivery methods and rigorous performance reporting.

Maintenance and operations activities make up a substantial proportion (some 40 percent) of our 10-year Forecast. In addition to preserving the highway network and undertaking maintenance and improvements to meet future levels of service, other maintenance and operations activities include:

- A Traffic Management Unit in Auckland and Wellington
- Traveller information systems such as the 0800 number for highway conditions, Transit's website, and radio broadcasts of travel information in Auckland every 15 minutes during morning and evening traffic peak period
- Avalanche monitoring and management on the highway to Milford Sound
- Managing highways affected by ice or snow during the winter
- Coordination with New Zealand Police and Emergency Services in the management of incidents on the state highway such as crashes or chemical spillages
- Working with Civil Defence to keep emergency response plans current.

9. Consultation on this Forecast

This year, Transit published its draft forecast for consultation on 22 February with a closing date for submissions of 24 March. The draft was a marked contrast to the previous year's forecast due to notification from Land Transport New Zealand of a slowing in the predictions of revenue growth into the National Land Transport Fund and increased costs for transport activities. As a result, in the February draft many projects had their construction starts deferred or taken out of the 10-year Forecast altogether.

Transit received some 662 written submissions from across the country, and held hearings at 16 locations, from Whangarei to Invercargill, at which some 185 submitters were heard by a panel comprised of the Transit Regional Manager and a member of Transit's General Management Team.

The issues highlighted by the submissions and hearings were carefully considered by the Transit Board. This resulted in a number of changes to the final State Highway Forecast, including project priorities.

Consistent with Land Transport New Zealand's allocation process, Transit's approach has been to fund maintenance (including emergency works) as a first priority. Improvement projects are ranked in national priority order and those with the highest priority are funded from nationally distributed funds ($N). Projects that fail to attract national funding can be funded via regionally distributed funds ($R). In general, these projects would not normally go ahead as they are lower down the national priority list. $R are balanced over the next nine years to be spent as they accrue. $R funded projects are identified in the regional tables by ®.

Transit's approach to $R, was to take special note of regional priorities and seek best alignment. Nevertheless, Transit's national perspective means that not all local priorities and aspirations can be met. Transit is committed to continued dialogue with regions to work through these differences towards an workable solution.

Table 1 – 10-year Financial Forecast covering expenditure and funding

Maintenance and Improvements

(All values incorporate escalation at 3%)

	06/07 ($M)	07/08 ($M)	08/09 ($M)	09/10 ($M)	10/11 ($M)	11/12 ($M)	12/13 ($M)	13/14 ($M)	14/15 ($M)	15/16 ($M)	Total ($M)
Maintenance											
Structural	209	224	236	256	272	290	308	327	345	363	2830
Corridor	83	87	91	93	97	101	107	114	122	131	1026
Professional Services	55	56	58	60	62	63	65	67	69	71	626
Property Management	13	13	14	14	15	15	16	16	17	17	150
Preventive Maintenance	5	5	5	5	5	6	6	6	6	7	56
Emergency Works	32	22	22	23	23	29	25	25	26	27	254
Sub-Total	397	407	426	451	474	504	527	555	591	621	4942
Improvements											
Minor Safety Projects	27	28	29	30	32	33	34	36	37	39	325
Committed Projects	428	239	183	72	8	0	0	0	0	0	930
New Projects**	209	428	512	652	800	1024	890	697	678	650	6539
Property Purchase	82	96	96	58	60	63	65	67	70	72	729
Walking and Cycling	3	3	3	3	3	3	4	4	4	4	34
Sub-Total	748	794	823	815	903	1123	993	804	789	765	8557
Administration	47	49	53	56	59	63	67	72	76	77	619
Total Expenditure	**1192**	**1250**	**1302**	**1322**	**1436**	**1690**	**1587**	**1431**	**1450**	**1458**	**14118**
Toll funded construction borrowing*	57	87	34	140	180	180	180	120	0	0	978
NLTP anticipated funding	1135	1163	1268	1182	1256	1510	1407	1311	1450	1458	13120
Total Funding	**1192**	**1250**	**1302**	**1322**	**1436**	**1690**	**1587**	**1431**	**1450**	**1458**	**14118**

Notes:

* Includes ALPURT B2 and Auckland Western Ring Route

** Includes projects for which there is also a third party contribution outside of NLTP funding and some provision for new high prority projects identified from strategic studies of high growth, economic development areas, including:

- North of Auckland
- Auckland south
- Hamilton south
- Western Bay of Plenty
- Taupo
- Wellington/Kapiti Coast
- Nelson/Tasman
- North Canterbury
- Queenstown

Table 2 – State Highways Activities for 2006/07 (Land Transport Programme)

		Activity Name	Priority (P)	Indicative Start Date Quarter (Q)		Indicative Cash Flow ($,000)
Maintenance		Structural	P1	Q1		209,000
		Corridor	P1	Q1		83,000
		Professional Services	P1	Q1		55,000
		Property Maintenance	P1	Q1		13,000
		Preventive Maintenance	P1	Q1		5,000
		Emergency Works	P1	Q1		32,000
Administration			P2	Q1		47,000
Commitments		Large Projects	P3	Q1		427,000
		Small and Medium sized projects	P3	Q1		16,690
Improvements		Minor Safety Projects	P4	Q1		27,000
		New Projects (as listed below)	P5	Q1		89,650
Region	**SH**	**Activity Name**	**P5**		**Phase ***	**Indicative Cash Flow ($,000)**
Auckland	16	Northwestern Motorway TDM (Ramp Signalling)		Q1	D	850
Auckland	16	Northwestern Motorway TDM (Ramp Signalling)		Q3	C	4,120
Auckland	1	Northern Motorway TDM (Ramp Signalling)		Q1	D	1,060
Auckland	1	Northern Motorway TDM (Ramp Signalling)		Q3	C	5,870
Auckland	1	Akl Harbour Bridge – Moveable Lane Barrier		Q1	C	100
National	Var	Toll Systems Project – Stage 1		Q4	C	1,140
Auckland	18	Hobsonville Deviation		Q3	C	2,060
Auckland	16	Te Atatu – Royal 6 Laning		Q2	I	2,370
Auckland	20	Waterview Connection		Q1	I	1,280
Auckland	20	Waterview Connection		Q4	D	3,190
Auckland	20	Manakau Harbour Crossing		Q1	I	780
Auckland	20	Manakau Harbour Crossing		Q3	D	4,500
Auckland	16	Punganui Stream Bridge Replacement		Q1	I	100
Auckland	16	Punganui Stream Bridge Replacement		Q3	D	60
West Coast	6	Arahura Bridge		Q2	D	1,290
Auckland	1	Vic Park Tunnel		Q2	I	1,320
Auckland	1	Vic Park Tunnel		Q4	D	6,090
Auckland	1	Newmarket Viaduct		Q1	I	2,060
Auckland	1	Newmarket Viaduct		Q4	D	1,140
Canterbury	Var	Christchurch TDM Implementation		Q4	C	400
Bay of Plenty	Var	Tauranga Central Corridor TDM		Q2	I	100
Wellington	2	Dowse to Petone		Q4	C	340
Waikato	1	Church to Avalon Drive 4 Laning		Q3	C	4,390
Wellington	1	Basin Reserve Improvements		Q2	I	310
Wellington		Transmission Gully		Q2	I	5,150
Wellington		Kapiti Western Link Road – Stage 1		Q2	D	510
Waikato	1	Avalon Drive Bypass		Q3	C	2,010
Waikato		Hamilton Southern Links		Q1	I	2,070

* I = Investigation D = Design C = Construction

Table 2 – State Highways Activities for 2006/07 (Land Transport Programme) *continued*

Region	SH	Activity Name	Priority P5	Indicative Start Date Quarter (Q)	Phase *	Indicative Cash Flow ($,000)
Bay of Plenty		Harbour Link		Q3	C	11,840
Canterbury	73	Christchurch Southern Motorway Extension		Q2	D	2,530
Auckland	1	Warkworth Stage 1		Q3	I	460
Auckland	2	Kopuku		Q2	I	450
Auckland	1	AHB Storm Water Upgrade		Q2	I	50
Auckland	1	AHB Storm Water Upgrade		Q4	C	1,120
Taranaki	3	Bell Block Bypass		Q4	C	5,320
Waikato	1	Ngaruawahia Bypass		Q3	D	1,040
Northland	1	Waitaki Landing to Cape Reinga Seal Ext. Stage 2		Q2	D	340
Bay of Plenty	2	Tauranga Eastern Motorway		Q3	D	2,240
Waikato	1	East Taupo Arterial		Q1	D	1,850
Waikato	1	Cambridge Bypass		Q1	D	2,000
Waikato	1	Rangiriri Bypass		Q1	I	620
Otago	1	Caversham 4 Laning		Q1	I	130
Hawke's Bay	50A	Hawke's Bay Expressway Southern Extension		Q2	I	230
Canterbury		Christchurch Northern Arterial Rural		Q2	I	140
Wellington	2	Rimutaka Corner Easing (Muldoon's)		Q2	D	70
Northland	1	Akerama Curves Realignment & PL		Q3	D	170
Northland	1	Kamo Bypass Stage 2		Q2	I	700
Otago	1	East Taieri Bypass		Q1	I	210
Hawke's Bay	2	Matahorua Gorge Realignment		Q1	I	410
Bay of Plenty	2	Omokoroa Roundabout		Q2	I	460
Nelson/Marlborough	60	Ruby Bay Bypass		Q1	D	240
Nelson/Marlborough	6	Whangamoa South Realign		Q2	I	2,060
Nelson/Marlborough	6	Hope Saddle Realign		Q4	I	310
Improvements		Small and Medium sized projects	P5	Q1		68,310
		Strategic Studies	P5	Q1		13,000
		Strategic Initiatives	P5	Q1		21,000
		Property Purchase	P5	Q1		82,000
		Walking & Cycling	P5	Q1		3,000

* I = Investigation D = Design C = Construction

Notes:

- Indicative durations of large projects are shown in the regional tables
- The priority order is a requirement of the LTMA and is listed in relative terms

GUIDE TO REGIONAL TABLES – **EXAMPLE**

Auckland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

Green icons represent committed phases.

Construction of final project.

Identification of problem and potential solutions.

Engineering design of works to be undertaken, including cost estimation.

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Large Projects (Committed)					
1	Central Motorway Junction Stage 2 ® ©	Congestion Relief/TDM	23.42			
	Large Projects (Priority Order)					
16	Te Atatu – Royal 6L	Congestion Relief/TDM	$$$			
20	Manukau Harbour Crossing	Congestion Relief/TDM	$$$$			
	Small and Medium Projects (Priority Order)					
1	Greenlane East Interchange	Congestion Relief/TDM	4.15			
1	Orewa Township Upgrade	Safety	$			
	Passing Lanes (Priority Order)					
16	Old Railway Road East Bd PL	Safety	$			
	Stock Effluent Disposal Facility					
1	Wellsford	Environmental	$			
	Walking & Cycling					
16	Westgate Pedestrian Facility §	Access	$			
	Strategic Studies					
	Northern Busway Extension to Orewa (committed)					
	SH1/16 Auckland to Wellsford					

® denotes regionally distributed funds
© denotes crown funding
§ in conjuction with third party contributions outside NLTP funding

Denotes funding sources as shown on the bottom of the page.

Appendix 1 lists large projects and their objectives to be achieved under the Act, as well as options and alternatives considered.

Value of remaining works to be funded from Land Transport NZ.

Estimated total cost of project (all phases).

Committed phase. Value of remaining works to be funded from Land Transport NZ.

The phase is shown in the 06/07 year should continue into the plan years (where relevent) so the icon will remain dark. The icons shown after these phases, and those shown in the forecast years are shown grey. This is to represent indicative timings given that the outcomes of the earlier phases are not fully known.

Appendix 2 gives a generic list of how projects contribute to the purposes of the Act, as well as options and alternatives considered.

All projects other than large will be carried out within the first three years of the plan.

Denotes in conjuction with third party contributions outside NLTP funding.

COMMONLY USED ABBREVATIONS WITHIN THE REGIONAL TEXT AND TABLES

Project Names

AHB	Auckland Harbour Bridge
ATTOMS	Auckland Transit Traffic Operation Management System
CMJ	Central Motorway Junction
SWATT 2010	South Waikato and Taupo Target 2010
UH Br	Upper Harbour Bridge
ALPURT	Albany to Puhoi realignment

Project Type

4L	Four laning
6L	Six laning
8L	Eight laning
ATMS	Advanced Traffic Management Systems
Aux	Auxilary
BPL	Bus Priority Lane
EF	Stock Effluent Disposal Facility
Ext	Extension
Imp.	Improvement
I/C	Interchange
I/S or Int	Intersection
Ped	Pedestrian
PL	Passing Lane
Realign	Realignment
SE	Seal Extension
SI	Safety Improvement
SVB	Slow Vehicle Bay
TDM	Travel Demand Management

Project Related Information

CCTV	Close Circuit Television
SH	State Highway
Var	various
VMS	Variable Message Signs
Nth	north
NB or Nth Bd	northbound
Sth	south
SB or Sth Bd	southbound
West Bd	westbound
East Bd	eastbound

Related Documents and Organisations

LTMA	Land Transport Management Act 2003
MOT	Ministry of Transport
NZTS	New Zealand Transport Strategy
NLTP	National Land Transport Programme
RLTS	Regional Land Transport Strategy

KEY TRANSPORT ISSUES

Transit, along with local and central government are working together to achieve a sustainable land transport system in new ways.

Transit will work closely with regional and district councils to ensure that any substantial upgrading in the next 10 to 20 years is properly considered and planned, in order to relieve congestion and support regional growth strategies. This requires agreement on amendments to road and public transport plans and shared funding responsibilities for both local and national infrastructure and services.

Planning activities such as Northland's Regional Land Transport Strategy, Long-Term Council Community Plans, and Transit's State Highway Forecast all help in this process.

In meeting the objectives of the NZTS and LTMA the key regional transport issues for the Northland region include:

- Road safety: of particular concern is the separation of or safe interaction between heavy freight traffic and general traffic (including tourist traffic), and crashes on bends
- Secure, efficient and safe transport corridors, especially between Auckland and Whangarei
- Forestry traffic: over the next few years forestry harvesting is expected to increase to 4 million tonnes per year with much of it expected to be exported through Marsden Point Port
- Tourist traffic: particularly on the Twin Coast Highway network linking the Bay of Islands, Cape Reinga and the Waipoua Forest
- Increased land development at Ruakaka, Marsden Point, west of Whangarei, Kerikeri, Waipapa and between Mangonui and Taipa, is resulting in growing traffic volumes, leading to the need for some improvements to the strategic roading network, including state highways
- Increasing congestion through the Whangarei urban area, including the state highways
- Lack of passing opportunities
- Spillages from stock trucks
- Low road standards (particularly on local roads) compared with the rest of the country.

How we plan to address these key issues

The terrain in Northland is often difficult, causing state highways to be generally quite winding and undulating. Northland also has a diverse geology resulting in areas of unstable soft rock formation ("Onerahi Chaos"). This, together with an almost sub tropical climate of high rainfall, results in some lengths of state highway having an uneven, rough surface. Transit will continue to seek engineering solutions to permanently stabilise such areas.

Intensified land use, particularly around Kerikeri and west and south of Whangarei, and growing traffic volumes are placing increasing demands on state highways. As a result, there is a need to improve the alignment of highways and provide more passing lanes, especially on SH1 between the intersection with SH10 at Pakaraka and Ross Rd, north of Wellsford.

Improvements are also required on key forestry routes to accommodate the predicted increases in forestry traffic from Northland forests to Northport at Marsden Point. Proposed improvements include the provision of passing lanes, seal widening, and the upgrade of intersections where forestry trucks enter the state highway network. Innovative low-cost solutions to the latter will be required because logging trucks generally use intersections only for the relatively short harvesting period.

Large improvement projects (with construction costs of more than $3.4M) have been indicated for 10 years while projects with construction costs of less than $3.4M are proposed over the next three years and are shown in the table. The locations of Northland projects in the 10-year forecast are shown on the map.

Road Safety – Secure and Efficient Transport Corridors

Transit will to continue to improve the safety and efficiency of state highways and provide a network of stock effluent disposal facilities, in conjunction with local authorities. A number of large and small to medium activities have been proposed. These include realignments, intersection improvements, seal widening, removal of roadside hazards and guard rails.

Tourist Routes

Stage 1 of the sealing of SH1 from Waitiki Landing to Cape Reinga was completed during 2004/05. Stage 2, which covers the remainder of this 20-kilometre section of state highway is included within the 10-year State Highway Forecast. Cape Reinga is a nationally significant tourist destination and sealing will meet tourist expectations and improve safety.

Passing Opportunities

Limited passing opportunities in some parts of the region's road network lead to driver frustration and accidents. In addition to the many passing lanes already completed, Transit plans to progress further passing lanes on SH1 between Auckland and Kaitaia and on SH14.

Walking and Cycling

Two walking and cycling projects have been identified that will provide new or upgraded pedestrian or cyclist facilities.

Strategic Studies

We are proposing to undertake a number of strategic studies for the Northland region, including SH1 and SH14 in Whangarei City, to improve our long-term planning and assist good decision-making.

Maintenance and Operations

The safe operation of the state highway network is a key function for Transit. Processes are in place to manage traffic efficiently, provide consistent and reliable information for road users, undertake maintenance work on the highway in the safest and least disruptive way, monitor locations where crashes occur and, where appropriate, take corrective action.

The state highway network is a $15 billion transport infrastructure asset that demands sophisticated and effective management. Transit has systems in place to do this, ranging from infrastructure and traffic databases to natural features inventories, long-term deterioration modelling tools, and annual condition data collection supported by advanced contract delivery methods and regular performance reporting.

Further, improvements to the way traffic is managed at incidents and in congested urban areas are being investigated and implemented.

Maintenance activities make up a large proportion of the forecast expenditure in the Northland region. In addition to preserving the highway network and undertaking maintenance and improvements to meet future levels of service, we propose to:

- Resurface 66.5 km and reconstruct 12.8 km of highway
- Continue a programme of slip site monitoring and management
- Continue a programme of minor safety improvements including drainage improvements, intersection upgrades, seal widening, and guardrails, in addition to planned capital improvements to address safety issues.

Northland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Large Projects (Priority Order)					
1	Waitiki Landing to Cape Reinga Seal Ext Stage 2 ®	Route Efficiency	$$	Design	Construction	
10	Bulls Gorge Realignment ®	Route Efficiency	$		Design, Construction	
1	Akerama Curves Realignment & Sth Bd PL ®	Safety	$$	Design	Design, Construction	
1	Kamo Bypass Stage 2 ®	Route Efficiency	$$	Investigation	Investigation, Design, Construction	Construction
1	Snake Hill Realignment ®	Safety	$$		Design	Design, Construction
12	Matakohe Realignment ®	Route Efficiency	$$		Investigation	Design, Construction
1	Brynderwyn Hill Realignment ®	Route Efficiency	$$		Investigation	Design, Construction
	Small and Medium Projects (Priority Order)					
1	One Tree Point Road Int Upgrade Stage 2	Safety	$			
1	Springfield Rd to Oakleigh Service Station SI	Safety	$			
10	Puketona SH11 Intersection Safety Improvement	Safety	$			
10	Kaingaroa SI	Safety	$			
1	Loop Rd Nth to Smeatons Hill SI	Safety	$			
1	Mangakaremea Rd to Waipu Gorge Rd SI	Safety	$			
14	Millington Road to Kara Road SI	Safety	$			
12	Wairau River S-Bend Realignment ®	Safety	$			

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Northland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Passing Lanes (Priority Order)					
1	Kaiwaka Sth Bd PL	Safety	$			
1	Brynderwyns North Down Hill Passing Bay	Safety	$			
1	Hukerenui Nth Bd PL Extension	Safety	$			
1	Waiomio Nth Bd PL	Safety	$			
1	Old North Rd Sth Bd PL	Safety	$			
1	Waiotu North Nth Bd PL	Safety	$			
1	Callaghan Rd Sth Bd PL	Safety	$			
1	The Braigh Sth Bd PL	Safety	$			
1	Callaghan Rd Nth Bd PL	Safety	$			
14	Newton Rd West Bd PL ®	Safety	$			
	Stock Effluent Disposal Facility					
	Whangarei District	Environmental	$			
	Walking & Cycling					
10	Kaeo Pedestrian Facility	Access	$			
12	Kaikohe Pedestrian Facility	Access	$			
	Strategic Studies					
	SH1/14 Whangarei					

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Fig N
NORTHLAND REGION
State Highway Network at 01 July 2006

TRANSIT NEW ZEALAND
ARARAU AOTEAROA

0 20 40 60 80 100
Kilometres

N

KEY

	5-year Planned Projects	Forecast Projects
Safety		
Route Security		
Route Efficiency		
Walking and Cycling		
Environmental		
Congestion Relief/TDM		
Passing Lanes (PL)		

Waitiki Landing to Cape Reinga Seal Ext Stage 2
Cape Reinga
Waitiki Landing
Te Hapua
1
Kaingaroa Safety Improvement
Kaeo Pedestrian Facility
Bulls Gorge Realignment
Mangonui
Awanui
Kaitaia
Kaeo
10
Kerikeri
Paihia
Russell
Waiomio Nth Bd PL
Callaghan Rd Nth Bd PL
Callaghan Rd Sth Bd PL
Akerama Curves Realignment Sth Bd PL
Hukerenui Nth Bd PL Ext
Waiotu North Nth Bd PL
Old North Road Sth Bd PL
Broadwood
11
Kohukohu
Rawene
Ohaeawai
Pakaraka
Kaikohe
12
Kaikohe Pedestrian Facility
Opononi
Akerama
Puketona SH11 Intersection Safety Improvement
Snake Hill Realignment
Hikurangi
Tutukaka
Millington Road to Kara Road Safety Improvement
Newton Road West Bd PL
Kamo Bypass Stage 2
Whangarei
Maungatapere
Whangarei Stock Effluent Disposal Facility
14
Tangiteroria
Marsden Point
15A
Dargaville
The Braigh Sth Bd PL
Waipu
Loop Road North to Smeatons Hill Safety Improvement
Springfield Road to Oakleigh Service Station Safety Improvement
Brynderwyn Hill Realignment
Maungaturoto
One Tree Point Road Intersection Upgrade Stage 2
Ruawai
Matakohe
Kaiwaka
Mangakaremea Rd to Waipu Gorge Road Safety Improvement
Kaiwaka Sth Bd PL
Matakohe Realignment
Brynderwyns North Down Hil Passing Bay
Wairau River S-Bend Realignment

Transit Region
Territorial Authority Boundary
State Highway
Other Roads

Cartography by Critchlow Associates Ltd Ph 0800 Mapping

KEY TRANSPORT ISSUES

Transit, along with local and central government are working together to achieve a sustainable land transport system in new ways.

Transit will work closely with the Auckland Regional Transport Authority and regional and district councils to ensure that any substantial upgrading in the next 10 to 20 years is properly considered and planned, in order to relieve congestion and support regional growth strategies. This requires agreement on amendments to road and public transport plans and shared funding responsibilities for both local and national infrastructure and services.

Planning activities such as Auckland's Regional Land Transport Strategy, Long-Term Council Community Plans, and Transit's State Highway Forecast all help in this process.

A sustainable land transport system cannot be achieved without considering land use patterns and transport trends and behaviour. To do this, Transit needs to be involved at an early stage in regional and local growth strategies (or emerging views where strategies have not been written) and planning documents, as these are critical to supporting regional land transport strategies.

In meeting the objectives of the NZTS and LTMA the key regional transport issues for the Auckland region include:

- Severe congestion, including variability in trip times
- Road safety, and in particular, a lack of passing opportunities on SH1 and SH16 north of Auckland
- Traffic growth, driven by population growth
- An alternative route to SH1 through Auckland
- Secure efficient and safe transport corridors, especially between Auckland and Whangarei and SH2 within the Auckland region
- The impact of land use development because of continuing intensification within the Metropolitan Urban Limit (MUL)
- Increased land use development at growth nodes such as Warkworth and Kumeu leading to the need for improvements to the roading network.

How we plan to address these key issues

Economic growth and resulting increases in traffic demand mean that the state highway network in Auckland will need to be extended, and existing lengths substantially upgraded within the next 10 to 20 years, to relieve congestion and support the Auckland Regional Growth Strategy.

Travel Demand Management (TDM) is a combination of activities that together seek to influence travel behaviour. TDM methods include travel plans, traveller information systems and traffic management techniques such as ramp signalling. Transit endorses the principle of TDM as an integral component of a sustainable approach to land transport and is actively investigating opportunities for TDM.

Improvement works encompass the entire region with particular focus on the Auckland Central Corridor, Western Ring Route (WRR) and the Northern Busway, including the Esmonde Road Interchange. Corridors outside the Auckland MUL also require improvements to accommodate increases in inter-regional travel. Proposed activities include improvements to the alignment of existing two-lane highways, seal widening and the provision of passing lanes.

Large improvement projects (with construction costs of more than $3.4M) have been indicated for 10 years, while projects with construction costs of less than $3.4M are proposed over the next three years and are shown in the table. The locations of Auckland projects in the 10-year State Highway Forecast are shown on the map.

Travel Demand Management

Tenders have recently closed for a project to install ramp signalling throughout the Auckland motorway network. Installation of signals will commence on the Southern Motorway in September 2006, with the Northwestern and Northern Motorways following as an integrated project.

Auckland Central Corridor

Auckland Central Corridor activities cover SH1 from Albany to Manukau. In addition to the Central Motorway Junction upgrading project, which is underway, several capacity improvement projects are forecast for the next 10 years. These include projects such as the Vic Park Tunnel and Newmarket Viaduct replacement, which add capacity to maximise the performance of the Central Motorway Junction project.

Northern Busway and Esmonde Rd Interchange

In addition to other SH1 improvements in the Auckland Central Corridor, construction of the Northern Busway is well advanced. The project is a critical component of the Auckland Regional Land Transport Strategy to improve passenger transport services between North Shore and the Auckland isthmus. The initial stages are already in use and have proved to be a great success.

Western Ring Route

The Western Ring Route (WRR) is a proposed strategic motorway running south – north through Auckland, connecting Manukau City, Auckland City, Waitekere City and North Shore City. It is made up of ten individual projects that need to be completed as a complete package. It will take traffic from Manukau through Waterview and Hobsonville to Albany to provide a strategic alternative to State Highway 1.

Provision for completion of the WRR has been included in Transit's State Highway Forecast projections, but in order to complete by 2015, as planned since August 2005, toll revenue will be needed from the route in order to fund the required debt. Transit is working on the understanding that Auckland does want the WRR and wants it completed sooner (around 2015) than would be possible under current conventional funding.

Increases in funding to state highway activity will not meet all the costs of state highway projects. Transit's plan for early completion of the Western Ring Route in Auckland remains dependent on support from Aucklanders for tolling the route. This is unchanged from August 2005.

The set of projects making up the WRR and the desire to complete it sooner make it a very challenging and complex proposal. The options available to Transit for achieving early completion so as to provide more reliable travel times, reduced commute times, improved airport connectivity and better overall network performance are limited and consultation is important before Transit makes any decisions. Meaningful public feedback will be central to ensure the Transit New Zealand Board is well informed.

An announcement will be made regarding Transit's intentions for completing the WRR and tolling in coming months. Although tolling and road pricing are related they do serve different purposes. Recent consultation on road pricing by the Ministry of Transport has added to our considerations on when and how Transit should proceed on tolling and its consultation.

The 2006/07 State Highway Forecast includes an $800M loan to advance the Waterview Connection project and ensure the completion of the Western Ring Route by 2015 (subject to tolling). The tender for the construction of the motorway link between SH1 and Puhinui Interchange has been let. Construction of the Manukau Harbour Crossing has been brought forward as a result of additional funding, with the Mangere Bridge Duplication and motorway widening planned for completion mid 2011.

Public Transport Improvements

All new projects being developed consider and make appropriate provision for public transport. In addition, a number of bus priority lanes are being progressed in conjunction with other motorway capacity improvements.

Road Safety

Transit has identified a number of activities to improve the safety and efficiency of sections of state highways. These include realignments, intersection improvements, seal widening and lighting safety retrofits.

Passing Opportunities

Limited passing opportunities on parts of the rural state highway network lead to driver frustration and accidents. Transit plans to progress passing lanes on both SH1 and SH16 north of Auckland, and on SH22 north of Pukekohe.

Stock Effluent Disposal Facilities

As part of a national programme to provide a safe and convenient network of stock effluent disposal facilities, two new facilities are being constructed on SH1, one at Wellsford and the other at the Bombay Hills.

Walking and Cycling

Provision for walking and cycling activities is an integral part of state highway planning. While these facilities are provided as part of improvement projects where applicable, there is one specific pedestrian facility planned for implementation in the next three years, on SH16 at Westgate.

Strategic Studies

We are proposing to undertake a number of strategic studies for the Auckland region to improve our long-term planning and assist good decision-making.

Maintenance and Operations

The safe operation of the state highway network is a key function for Transit. Processes are in place to manage traffic efficiently, provide consistent and reliable information for road users, undertake maintenance work on the highway in the safest and least disruptive way, monitor locations where crashes occur and where appropriate, take corrective action.

The state highway network is a $15 billion transport infrastructure asset that demands sophisticated and effective management. Transit has systems in place to do this, ranging from infrastructure and traffic databases to natural features inventories, long-term deterioration modelling tools, and annual condition data collection supported by advanced contract delivery methods and regular performance reporting.

Further, improvements to the way traffic is managed at incidents and in congested urban areas are being investigated and implemented.

Maintenance and operations activities make up a large proportion of the forecast expenditure in the Auckland region. In addition to preserving the highway network and undertaking maintenance and improvements to meet future levels of service, other maintenance and operations activities include:

- Resurfacing 69km of multi-lane motorway
- Resurfacing 17km and reconstructing 4.8km of rural state highway
- Improving safety by applying high skid resistance surfacing at critical locations
- Continuing to refine maintenance practices to reduce traffic disruptions and noise during the day and night
- Continuing to carry out structural and seismic strengthening of bridges, including the Auckland Harbour Bridge
- Improving techniques and response times to incidents on motorways.

In 2006/07 the Transit managed Traffic Management Unit (TMU), a joint collaboration between Transit and six Auckland local authorities, providing 24/7 intergrated traffic management, incident management and traveller information to road users, proposes to:

- Continue to improve management of the wider impacts of the expanding motorway construction programme
- Expand the geographic coverage and improve the functionality of the motorway Advanced Traffic Management Systems
- Provide an improved traveller information service to users through the traffic website and associated services
- Increase resource levels to operate travel demand management measures, such as ramp signalling
- Continue to enhance the management of the critical arterial network by improving co-ordination of traffic signals throughout the region
- Improve asset management systems for all high technology equipment.

Auckland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Large Projects (Committed)					
1	Central Motorway Junction, Stage 2	Congestion Relief/TDM	23.42			
20	Mt Roskill Extension	Congestion Relief/TDM	140.16			
18	Hobsonville Deviation	Congestion Relief/TDM	3.6			
16	Newton Rd to Western Springs Aux Lane	Congestion Relief/TDM	3.79			
1	Northern Busway PT (Stages 1 & 2)	Congestion Relief/TDM	134.40			
20	Manukau Extension §	Congestion Relief/TDM	189.91			
1	Waiouru Connection I/C §	Congestion Relief/TDM	7.86			
1	Esmonde Rd I/C	Congestion Relief/TDM	12.16			
18	Greenhithe Deviation	Congestion Relief/TDM	30.36			
Var	ATMS Stage IV – CMJ	Congestion Relief/TDM	19.4			
1	Southern Motorway TDM (Ramp Signalling)	Congestion Relief/TDM	25.0			
1	Northern Busway Esmonde Bus Priority Lane	Congestion Relief/TDM	0.75			
18	Upper Harbour Bridge Duplication	Congestion Relief/TDM	0.64			
1	ALPURT – Sector B2 Toll Road	Route Efficiency	55.90			
1	Newmarket Viaduct	Congestion Relief/TDM	1.13			
1	Newmarket Viaduct to Greenlane Aux	Congestion Relief/TDM	0.20			
20	Waterview Connection	Congestion Relief/TDM	0.18			
20	Manukau Harbour Crossing	Congestion Relief/TDM	0.94			

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Auckland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Large Projects (Priority Order)					
16	Northwestern Motorway TDM (Ramp Signalling)	Congestion Relief/TDM	$$			
1	Northern Motorway TDM (Ramp Signalling)	Congestion Relief/TDM	$$			
1	Auckland Harbour Bridge Moveable Lane Barrier	Safety	$$			
1	Northcote to Sunnynook Auxiliary Lane	Congestion Relief/TDM	$$			
18	Hobsonville Deviation §	Congestion Relief/TDM	$$$$			
16	Te Atatu – Royal 6L	Congestion Relief/TDM	$$$			
16	Te Atatu I/C West Bd Off-ramp Upgrade	Congestion Relief/TDM	$$			
16	Waterview to Rosebank 8L	Congestion Relief/TDM	$$$			
20	Waterview Connection	Congestion Relief/TDM	$$$$		*	*
20	Manukau Harbour Crossing	Congestion Relief/TDM	$$$$			
16	Rosebank to Te Atatu 8L	Congestion Relief/TDM	$$$			
	WRR Ramp Signalling	Congestion Relief/TDM	$$$			
	ATMS Stage IV – Stage 2	Congestion Relief/TDM	$$$			
16	Punganui Stream Bridge Replacement	Route Efficiency	$			
1	Vic Park Tunnel ®	Congestion Relief/TDM	$$$$			
1	Newmarket Viaduct ®	Congestion Relief/TDM	$$$$			
1	Newmarket Viaduct to Greenlane Aux ®	Congestion Relief/TDM	$$			

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* refer to text on page 20

Auckland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Large Projects (Priority Order)					
16	Brigham Creek Extension ®	Route Efficiency	$$$			
1	Warkworth Stage 1 ® §	Congestion Relief/TDM	$$			
1	Papakura Interchange Upgrade Stage 1 ® §	Congestion Relief/TDM	$$			
2	Kopuku Realignment ®	Safety	$$$			
1	AHB Storm Water Upgrade ®	Environmental	$			
1	Schedewys Hill Deviation ®	Safety	$$$			
	Projects inside 6-10 year Forecast					
1	Constellation to Albany I/C	Congestion Relief/TDM	$$$			
20	Mangere to Puhinui 6L	Congestion Relief/TDM	$$$			
	Integrated Transport Control Centre	Congestion Relief/TDM	$$			
20A	Kirkbride Rd Grade Separate ®	Congestion Relief/TDM	$$$			
	Small and Medium Projects (Priority Order)					
1	Greenlane East Interchange	Congestion Relief/TDM	4.15			
1	Main Highway – Ellerslie Highway Nth Bd Aux	Congestion Relief/TDM	0.50			
20	Queenstown Rd Roundabout	Congestion Relief/TDM	1.34			
1	Orewa Township Upgrade	Safety	$			
1	Papakura Interchange Signals §	Route Efficiency	$			
1	AHB Northern Approach Sth Bd Lane Light Trial	Congestion Relief/TDM	$			
1	Drury Interchange Traffic Signals	Congestion Relief/TDM	$			

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Auckland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
1	Ellerslie SB Off-ramp Slip Lane	Congestion Relief/TDM	$			
20	Roscommon / Wiri Station Rd Intersection	Congestion Relief/TDM	$			
1	East Tamaki To Te Irirangi Nth Bd BPL	Congestion Relief/TDM	$			
16	Te Atatu Nth On-ramp to Whau Bridge Citybound BPL	Congestion Relief/TDM	$			
16	Rosebank Off-ramp to Patiki On-ramp BPL	Congestion Relief/TDM	$			
1	Southern/Northern Motorway Lighting Safety Retrofit.	Safety	$			
1	Stafford – Esmonde BPL	Congestion Relief/TDM	$			
	Relocatable VMS	Congestion Relief/TDM	$			
	Portable CCTV	Congestion Relief/TDM	$			
	Moveable VMS	Congestion Relief/TDM	$			
16	Quay St – Ronayne Upgrade	Congestion Relief/TDM	$			
16	Taupaki Rd/Old Nth Rd Intersection Upgrade	Safety	$			
1	AHB Structural Upgrade	Route Efficiency	$			
16	Northwestern Motorway Lighting Safety Retrofit	Safety	$			
16	Waitangi Bridge to Basil Orr Road Seal Widening	Safety	$			
1	Wayby Valley Road Intersection	Safety	$			
16	Whau Bridge to Patiki Rd Off-ramp Citybound BPL	Congestion Relief/TDM	$			
22	Glenbrook Rd Intersection Improvement ®	Safety	$			
16	Don Buck Rd – Brigham Creek Rd SI ®	Safety	$			

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Auckland State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Passing Lanes (Priority Order)					
16	Old Railway Rd East Bd PL	Safety	$			
1	Hoteo River Sth Bd PL	Safety	$			
1	Waitaraire Sth Bd PL	Safety	$			
1	Toovey Rd Sth Bd PL	Safety	$			
1	Sheepworld Sth Bd PL	Safety	$			
22	Wesley College Nth Bd PL	Safety	$			
16	Kumeu No.2 Bridge West Bd PL ®	Safety	$			
	Stock Effluent Disposal Facility					
1	Wellsford	Environmental	$			
1	Bombay Hills	Environmental	$			
	Walking & Cycling					
16	Westgate Pedestrian Facility	Access	$			
	Strategic Studies					
	SH18 Upper Harbour Corridor – Albany to Constellation (committed)					
	Northern Busway Extension to Orewa (committed)					
	Onehunga to East Tamaki (committed)					
	SH1/16 Auckland to Wellsford					
	SH1 Waitemata Harbour Crossing					
	Auckland State Highway Strategy					

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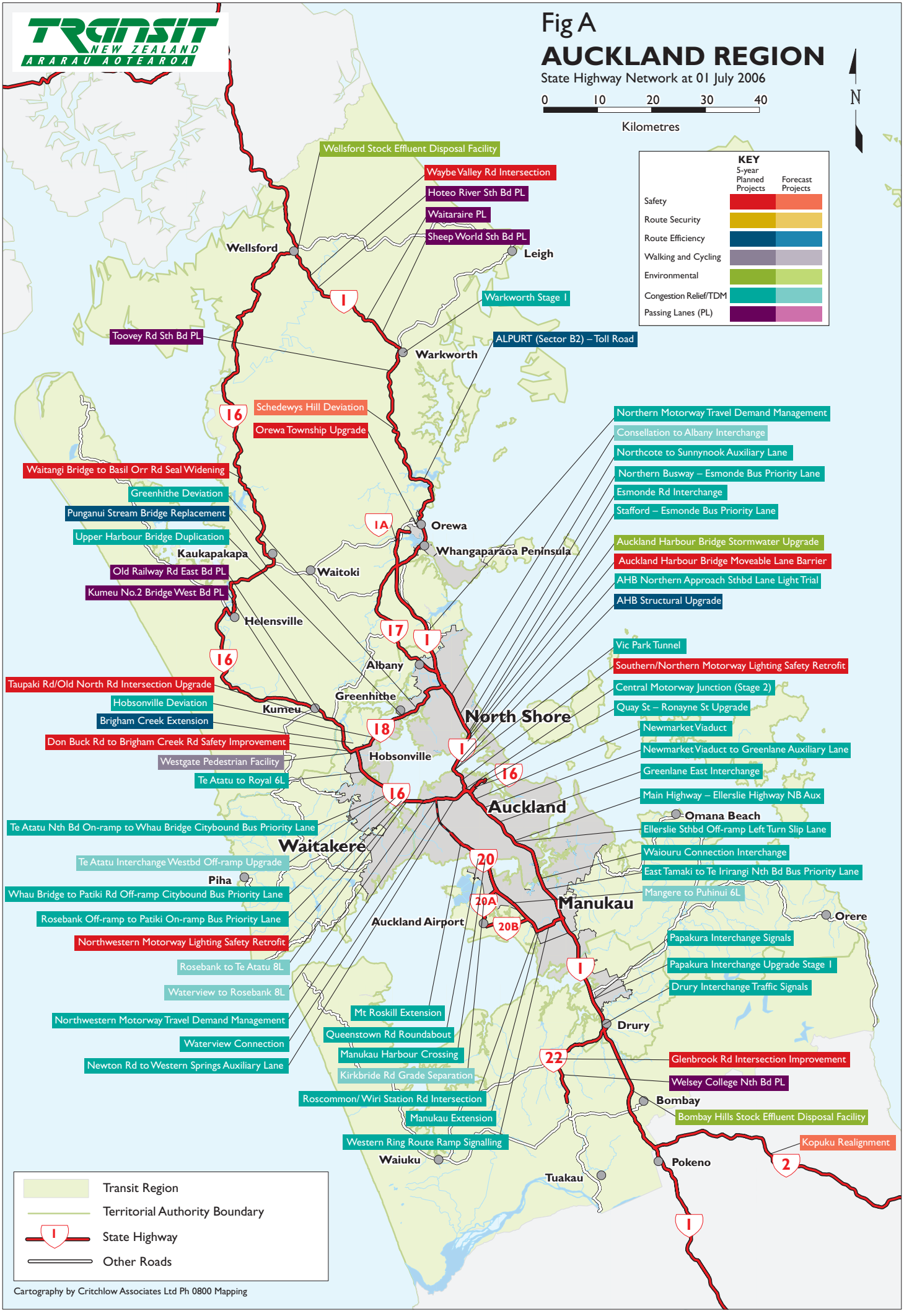

TRANSIT NEW ZEALAND
ARARAU AOTEAROA
Fig A
AUCKLAND REGION
State Highway Network at 01 July 2006
0 10 20 30 40
Kilometres
N
KEY
5-year Planned Projects
Forecast Projects
Safety
Route Security
Route Efficiency
Walking and Cycling
Environmental
Congestion Relief/TDM
Passing Lanes (PL)
Wellsford Stock Effluent Disposal Facility
Waybe Valley Rd Intersection
Hoteo River Sth Bd PL
Waitaraire PL
Sheep World Sth Bd PL
Wellsford
Leigh
Warkworth Stage 1
Toovey Rd Sth Bd PL
ALPURT (Sector B2) – Toll Road
Warkworth
Schedewys Hill Deviation
Orewa Township Upgrade
Waitangi Bridge to Basil Orr Rd Seal Widening
Greenhithe Deviation
Punganui Stream Bridge Replacement
Upper Harbour Bridge Duplication
Kaukapakapa
Old Railway Rd East Bd PL
Kumeu No.2 Bridge West Bd PL
Orewa
Whangaparaoa Peninsula
Waitoki
Helensville
Albany
Taupaki Rd/Old North Rd Intersection Upgrade
Hobsonville Deviation
Brigham Creek Extension
Don Buck Rd to Brigham Creek Rd Safety Improvement
Westgate Pedestrian Facility
Te Atatu to Royal 6L
Kumeu
Greenhithe
Hobsonville
North Shore
Auckland
Te Atatu Nth Bd On-ramp to Whau Bridge Citybound Bus Priority Lane
Te Atatu Interchange Westbd Off-ramp Upgrade
Waitakere
Piha
Whau Bridge to Patiki Rd Off-ramp Citybound Bus Priority Lane
Rosebank Off-ramp to Patiki On-ramp Bus Priority Lane
Northwestern Motorway Lighting Safety Retrofit
Rosebank to Te Atatu 8L
Waterview to Rosebank 8L
Northwestern Motorway Travel Demand Management
Waterview Connection
Newton Rd to Western Springs Auxiliary Lane
Auckland Airport
Manukau
Mt Roskill Extension
Queenstown Rd Roundabout
Manukau Harbour Crossing
Kirkbride Rd Grade Separation
Roscommon/Wiri Station Rd Intersection
Manukau Extension
Western Ring Route Ramp Signalling
Waiuku
Tuakau
Drury
Pokeno
Bombay
Orere
Omana Beach
Northern Motorway Travel Demand Management
Consellation to Albany Interchange
Northcote to Sunnynook Auxiliary Lane
Northern Busway – Esmonde Bus Priority Lane
Esmonde Rd Interchange
Stafford – Esmonde Bus Priority Lane
Auckland Harbour Bridge Stormwater Upgrade
Auckland Harbour Bridge Moveable Lane Barrier
AHB Northern Approach Sthbd Lane Light Trial
AHB Structural Upgrade
Vic Park Tunnel
Southern/Northern Motorway Lighting Safety Retrofit
Central Motorway Junction (Stage 2)
Quay St – Ronayne St Upgrade
Newmarket Viaduct
Newmarket Viaduct to Greenlane Auxiliary Lane
Greenlane East Interchange
Main Highway – Ellerslie Highway NB Aux
Ellerslie Sthbd Off-ramp Left Turn Slip Lane
Waiouru Connection Interchange
East Tamaki to Te Irirangi Nth Bd Bus Priority Lane
Mangere to Puhinui 6L
Papakura Interchange Signals
Papakura Interchange Upgrade Stage 1
Drury Interchange Traffic Signals
Glenbrook Rd Intersection Improvement
Welsey College Nth Bd PL
Bombay Hills Stock Effluent Disposal Facility
Kopuku Realignment
Transit Region
Territorial Authority Boundary
State Highway
Other Roads
Cartography by Critchlow Associates Ltd Ph 0800 Mapping

KEY TRANSPORT ISSUES

Transit, along with local and central government are working together to achieve a sustainable land transport system in new ways.

Transit will work closely with regional and district councils to ensure that any substantial upgrading in the next 10 to 20 years is properly considered and planned, in order to relieve congestion and support regional growth strategies. This requires agreement on amendments to road and public transport plans and shared funding responsibilities for both local and national infrastructure and services.

Planning activities such as Waikato's Regional Land Transport Strategy, Long-Term Council Community Plans, and Transit's State Highway Forecast all help in this process.

In meeting the objectives of the NZTS and LTMA, the key regional transport issues for the Waikato Region include:

- Safety: the Waikato state highway network has the highest fatal crash densities in the country, 20 percent higher than any other region. It has 20 of the nation's 100 worst "black routes", with a high frequency of serious and fatal crashes
- Long-haul routes: the Waikato is part of a growth triangle linking major export hubs, population centres and tourist attractions in Auckland, Waikato and the Bay of Plenty. A number of the country's strategic corridors with high proportions of heavy vehicles go through the Waikato, contributing to a complex mix of local, inter-regional and tourist traffic
- Congestion and bottle necks: rapid population and development growth in and around Hamilton, and to a lesser extent Cambridge and Taupo, is causing congestion and increasing travel delays and transport costs for long-haul travellers, as well as a deterioration of environmental and amenity values for the communities that these long-haul routes pass through

  Large volumes of vehicles are diverting onto unsuitable alternative routes to avoid delays, with resultant impacts on safety and economic development
- Forestry traffic: over the next 5 to 10 years forestry harvesting is expected to increase from 10 to 12 million tonnes from Central Plateau forests, with much of the product to be exported through the Port of Tauranga
- Hamilton growth: there is significant pressure for commercial access and growth in northern and western Hamilton, and this combined with the development of the Crawford Street rail freight village, is putting significant pressure on the Hamilton Western Corridor, which also has a local road function. Transit will work closely with its transport partners to build on the Access Hamilton Strategy, which seeks a balance between roading, rail, passenger transport, and active modes to manage demand
- Tourist traffic: particularly in Taupo and on the Coromandel Peninsula (where the number of domestic holidaymakers is also a significant issue), and on the routes linking Auckland, Waitomo Caves, Lake Taupo, and Rotorua
- Route Security: interruption of the state highway network because of bad weather and slips, particularly on the SH1 Desert Road and on SH3 through the Awakino Gorge, has a significant economic impact nationally as well as on the Taranaki region and the local communities
- Spillages from stock trucks.

How we plan to address these key issues

The Waikato Expressway is the highest priority transport issue for the region. A significant component of this Expressway between Mercer and Longswamp will be completed in 2006/07 and further progress will be made on the remaining components over the next 10 years. This will in time, reinforce SH1 as the preferred long haul route, together with SH29 to the Bay of Plenty from Auckland.

The SH2 Maramarua Corridor and SH27 are expected to remain as attractive routes for long haul traffic in the short to medium term and Transit will undertake any safety work necessary on this corridor, together with passing opportunity improvements.

Improvements are proposed to the Hamilton Western Corridor in partnership with Hamilton City Council. This will include the identification and protection through the planning process of the strategic transport corridors in south Hamilton. Transit will also consider a number of projects on the existing routes in the meantime to relieve congestion and improve efficiency.

Transit is also considering improvements to route security for the region on the Thames Coast and on SH3 between Taranaki and the Waikato.

A number of walking and cycling activities are also planned to complement the strategies and work of the various territorial authorities.

Studies are currently underway to look at increasing safety on the black routes. Further studies have also been identified and will be undertaken in the coming year. Projects identified from these studies will be added to future forecasts. The study areas are:

- Hamilton City Urban Area
- SH27 Mangatarata to Tatuanui
- SH1 Taupiri to Hamilton South
- SH39 Whatawhata to Otorohanga.

Large improvement activities (with construction costs of more than $3.4M), have been indicated for 10 years, while activities with construction costs of less than $3.4M are proposed over the next three years and are shown in the table. The locations of Waikato projects in the 10-year State Highway Forecast are shown on the map.

Congestion and Strategic Corridor Improvements

Transit expects to design and commence the Rangiriri Bypass within five years as well as making significant progress with the Cambridge and Ngaruawahia Bypasses within 10 Years. We are planning to progress the design of the Huntly and Hamilton Bypasses within the five-year period. Transit will work with the region to consider tolling opportunities and through the development of the Regional Land Transport Strategy to determine whether the next priority will be the Huntly Bypass or the Hamilton Bypass.

The Church to Avalon 4-lane project and the Avalon Drive Bypass project will be completed within five years. Construction of the Te Rapa Bypass will commence, subject to completion of the planning and land purchase requirements and also subject to the agreement of a funding package with Hamilton City Council. The strategic routes for Southern Links in the south Hamilton area will also be identified and designated within five years.

A number of small intersection improvement projects are also proposed in Hamilton City, together with one in Cambridge to relieve congestion and improve the efficiency of the existing network in the meantime.

Transit will continue to work with Taupo District Council on the East Taupo Arterial and has included the construction of Stage 4 within five years to complement stages 1, 2 and 3, which the council is proposing to construct. This is dependent on planning and land acquisition issues being resolved.

A replacement for the single lane Kopu Bridge is currently being designed and its construction will be progressed to assist with the high volumes of traffic visiting the Coromandel Peninsula, particularly on weekends and public holidays.

A number of strategic studies will be undertaken to determine strategies for a number of other corridors in the Waikato.

Safety

The Maramarua Deviation has been designated in 2005/06 and the design will be carried out within five years and the construction started within five years. This will complement the work commencing in 2006/07 on the Mangatawhiri Deviation and the double passing lanes to the east at the Heavens rest area that have just been completed.

The Piarere to Oak Tree Bend safety project on SH1 south of Cambridge will also commence as soon as the land purchase issues are resolved.

A number of small safety projects will be constructed in the next five years, together with the continued "black route" safety work, including removal of roadside hazards, between Tokoroa and Taupo and at new identified sites around the Waikato.

Route Security and Availability

Design and construction is planned to follow the investigation work already undertaken for the replacement of bridges at Te Puru, Tararu and Kirikiri on SH25, Thames Coast, as part of Project Peninsula, a multi-agency flood protection package.

The Taranaki region has agreed to the utilisation of their $R funding for the construction of improvements in the Awakino Gorge, including the Awakino North Realignment and the Awakino Tunnel Widening. These will be carried out within the next five years.

Three projects are planned to provide better road information to the travelling public on the Coromandel Peninsula, in North Waikato on the SH1 and SH2 Corridors and in Taupo.

Passing Opportunities

A passing lane on SH1 at Kinleith North will be completed in 2006/07 and this will be complemented by two more north of Taupo and one south of Turangi, while another, at Motuoapa south of Taupo, will be developed ready for construction. Extensions to the north and southbound passing lanes on SH2 at Campbell Road near Waihi are also planned, as is a passing lane and a slow vehicle bay on SH25A.

The Taranaki region has agreed to use their $R funding for the construction of a passing lane at the Awakino Tunnel on SH3.

Stock Effluent Disposal Facilities

As part of a national programme to provide a safe and convenient network of stock effluent disposal facilities, new facilities will be constructed on SH1 at Putaruru and on SH3 at Te Kuiti.

Walking and Cycling

Improvements for walking and cycling are proposed in Hamilton City, Cambridge, Taupo and Te Awamutu.

Strategic Studies

Transit proposes to undertake a number of strategic studies to improve our long-term planning and assist good decision-making, together with studies that lead to sustainable environmental outcomes. These studies include a Lake Taupo Stormwater Runoff Environmental Scoping Study, corridor studies of SH2/29 Pokeno to Hairini, "Ruapehu around the mountain", and Tokoroa to Turangi, and passing lane strategies for SH1/5 and SH27.

Maintenance and Operations

The safe operation of the state highway network is a key function for Transit. Processes are in place to manage traffic efficiently, provide consistent and reliable information for road users, undertake maintenance work on the highway in the safest and least disruptive way, monitor locations where crashes occur and, where appropriate, take corrective action.

The state highway network is a $15 billion transport infrastructure asset that demands sophisticated and effective management. Transit has systems in place to do this, ranging from infrastructure and traffic databases to natural features inventories, long-term deterioration modelling tools, and annual condition data collection supported by advanced contract delivery methods and regular performance reporting.

Further, improvements to the way traffic is managed at incidents and in congested urban areas are being investigated and implemented.

Maintenance activities make up a large proportion of the forecast expenditure in the Waikato region.

In addition to preserving the highway network and undertaking maintenance and improvements to meet future levels of service, we propose to:

- Undertake 216km of resurfacing, including 20km with low noise surfacing
- Strengthen 40km of highway
- Continue improving techniques to manage highways in winter
- Improve the management of Kopu Bridge holiday traffic and bridge openings for river users
- Target noise reduction works for specific problem areas
- Improve traffic and travel demand management by upgrading signals and dynamic signage to provide real time information for road users in Hamilton
- Implement plant pest strategies and use special plant pest eradication programmes to target hotspots
- Implement planting to reduce future maintenance on steep slopes or batters next to highways
- Continue to implement and maintain special safety programmes in areas or corridors with poor road safety records, including identified “black routes”
- Introduce thermal mapping of the inland network to better predict where ice will occur.

Waikato State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Large Projects (Committed)					
2	Mangatawhiri Deviation	Safety	45.3	Construction	Construction	
1	Mercer to Long Swamp 4L	Route Efficiency	0.39	Construction		
25	Kopu Bridge Replacement	Congestion Relief/TDM	0.96	Design		
1	Te Rapa Bypass	Congestion Relief/TDM	1.00	Investigation		
	Large Projects (Priority Order)					
1	Church to Avalon Drive 4L §	Congestion Relief/TDM	$$	Construction	Construction	
1	Avalon Drive Bypass	Route Efficiency	$$$	Construction	Construction	
1/3	Hamilton Southern Links	Route Efficiency	$$$$	Investigation	Investigation	
1	Te Rapa Bypass §	Congestion Relief/TDM	$$$$		Design / Construction	Construction
2	Maramarua Deviation ®	Safety	$$$		Design / Construction	Construction
1	Huntly Bypass	Route Efficiency	$$$$		Design	
1	Ngaruawahia Bypass Part ©	Route Efficiency	$$$$	Design	Design	Construction
1	Hamilton Bypass	Route Efficiency	$$$$		Design	
1	East Taupo Arterial ®	Route Efficiency	$$$	Design	Construction	
1	Cambridge Bypass 2L ®+©	Route Efficiency	$$$	Design	Design	Construction
1	Rangiriri Bypass	Route Efficiency	$$$	Investigation	Design / Construction	Construction
1	Piarere – Oak Tree Bend Realign	Safety	$$		Construction	
25	Kopu Bridge Replacement	Congestion Relief/TDM	$$$		Construction	Construction
1	Long Swamp to Rangiriri 4L	Route Efficiency	$$$		Design	

® denotes regionally distributed funds
© denotes crown funding
§ in conjuction with third party contributions outside NLTP funding

Waikato State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Projects inside 6-10 year Forecast					
27	Kaihere Eastern Deviation (Investigation) ®	Safety	$$			
21	Narrows Bridge Realign (Investigation) ®	Route Efficiency	$$			
	Small and Medium Projects (Priority Order)					
2	Maramarua Expressway SI	Safety	0.53			
25	Te Puru Stream Bridge Replacement	Route Security	$			
25	Tararu Stream Bridge Replacement	Route Security	$			
26	Kirikiri Stream Bridge Replacement	Route Security	$			
1	Piarere Junction Safety Improvement	Safety	$			
	Waikato Road Information System	Congestion Relief/TDM	$			
1	Hillcrest & Morrinsville Rd Intersection	Congestion Relief/TDM	$			
1	SWATT 2010 Stage 2 Tokoroa to Taupo	Safety	$			
1	Taupo Road Information System	Congestion Relief/TDM	$			
27	Tahuna Road Roundabout	Safety	$			
1	Victoria to Queen Street Intersection	Route Efficiency	$			
25	Coromandel Road Information System	Route Efficiency	$			
31	Owaikura Road North Realignment	Safety	$			
1	Ohaupo/Kahikatea Intersection	Congestion Relief/TDM	$			
1	Tregoweth Lane Intersection	Route Efficiency	$			

® denotes regionally distributed funds

Waikato State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	Primary LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
3	Awakino North Realignment ®	Route Efficiency	$			
3	Awakino Tunnel Widening ®	Route Efficiency	$			
1	Greenwood / Killarney Intersection ®	Route Efficiency	$			
26/27	Intersection Improvement ®	Safety	$			
	Gallagher Road Intersection ®	Route Efficiency	$			
39	Kiwi Road Realignment ®	Safety	$			
	Passing Lanes (Priority Order)					
1	Kinleith North PL	Safety	0.75			
1	Rangipo Nth Bd PL	Safety	$			
2	Campbell Road Sth Bd PL extension	Safety	$			
25A	One Ton West PL	Safety	$			
1	Tutukau Rd South PL	Safety	$			
1	Maroa Rd North PL	Safety	$			
1	Motuoapa Nth Bd PL	Safety	$			
2	Campbell Road Nth Bd PL extension	Safety	$			
25A	Piranui Saddle SVB	Safety	$			
3	Awakino Tunnel Nth Bd PL ®	Safety	$			

® denotes regionally distributed funds

Waikato State Highway Plan and Forecast for 2006/07 to 2015/16

Legend: Nature of work

Committed Investigation	Committed Design	Committed Construction
Investigation	Design	Construction

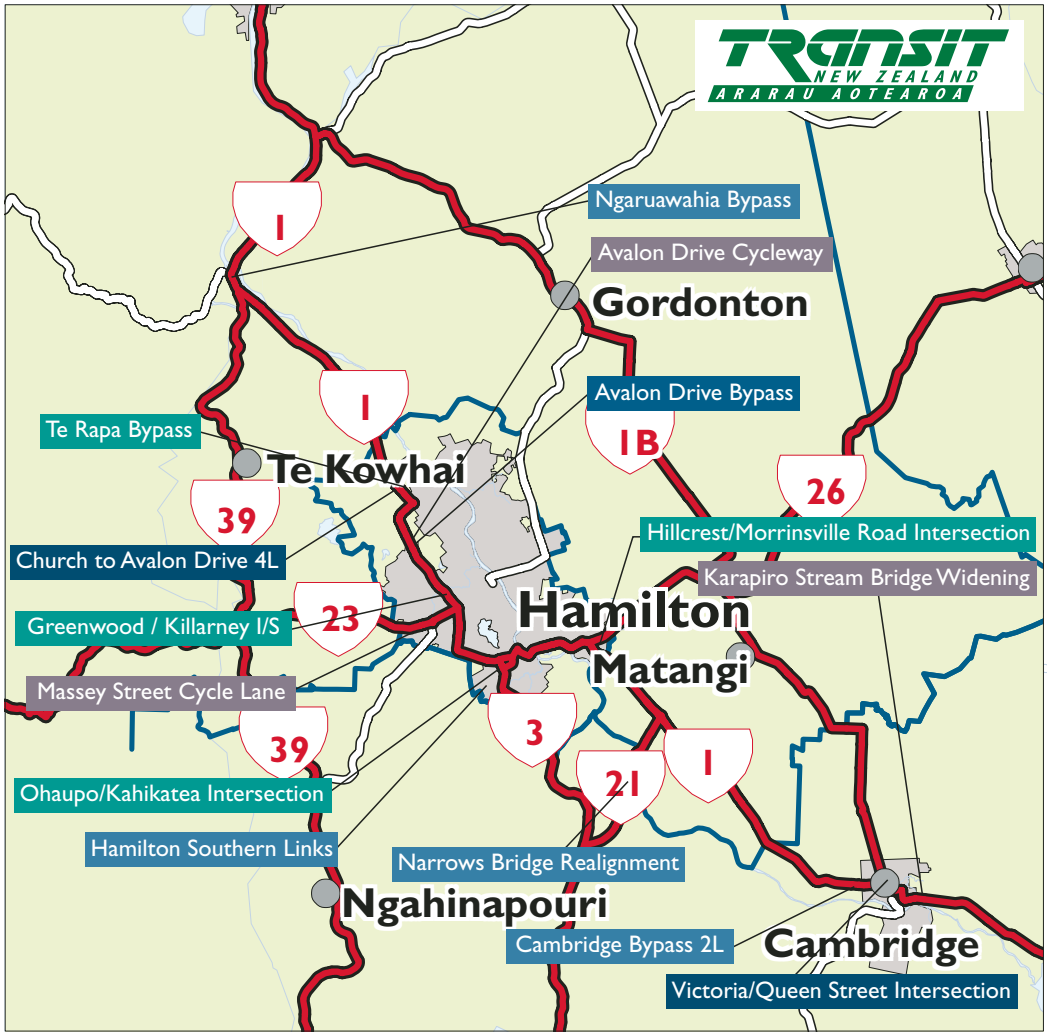
The grey symbols show indicative timings given that the investigation or design phase has not been completed.

SH	Project	LTMA Objective	Estimated Total Cost ($M) $ < 5M $$$ 20-100M $$ 5-20M $$$$ 100+M	Land Transport Programme 06/07	2–5 Year Plan	6–10 Year Forecast
	Stock Effluent Disposal Facility					
1	Putaruru	Environmental	$			
3	Te Kuiti	Environmental	$			
	Walking & Cycling					
1	Avalon Drive Cycleway	Access	$			
23	Massey Street Cycle Lane	Access	$			
1	Karapiro Stream Bridge Widening	Access	$			
1	Control Gates Hill Cycle Lane	Access	$			
3	Mangapiko Bridge Footpath Widening	Access	$			
	Strategic Studies					
	SH2/29 Auckland to Tauranga (committed)					
	Hamilton Southern Links					
	SH1 Kahikatea Dr, Hamilton					
	SH1/32 Tokoroa to Turangi					
	Lake Taupo Stormwater Runoff Environmental Scoping Study					
	SH2/29 Pokeno to Hairini					
	SH1/5 Passing Lane Strategy					
	SH27 Passing Lane Strategy					
	Route Safety Treatment Studies					
1	Taupiri to Hamilton South					
39	Whatawhata to Otorohanga					

Fig WK Inset

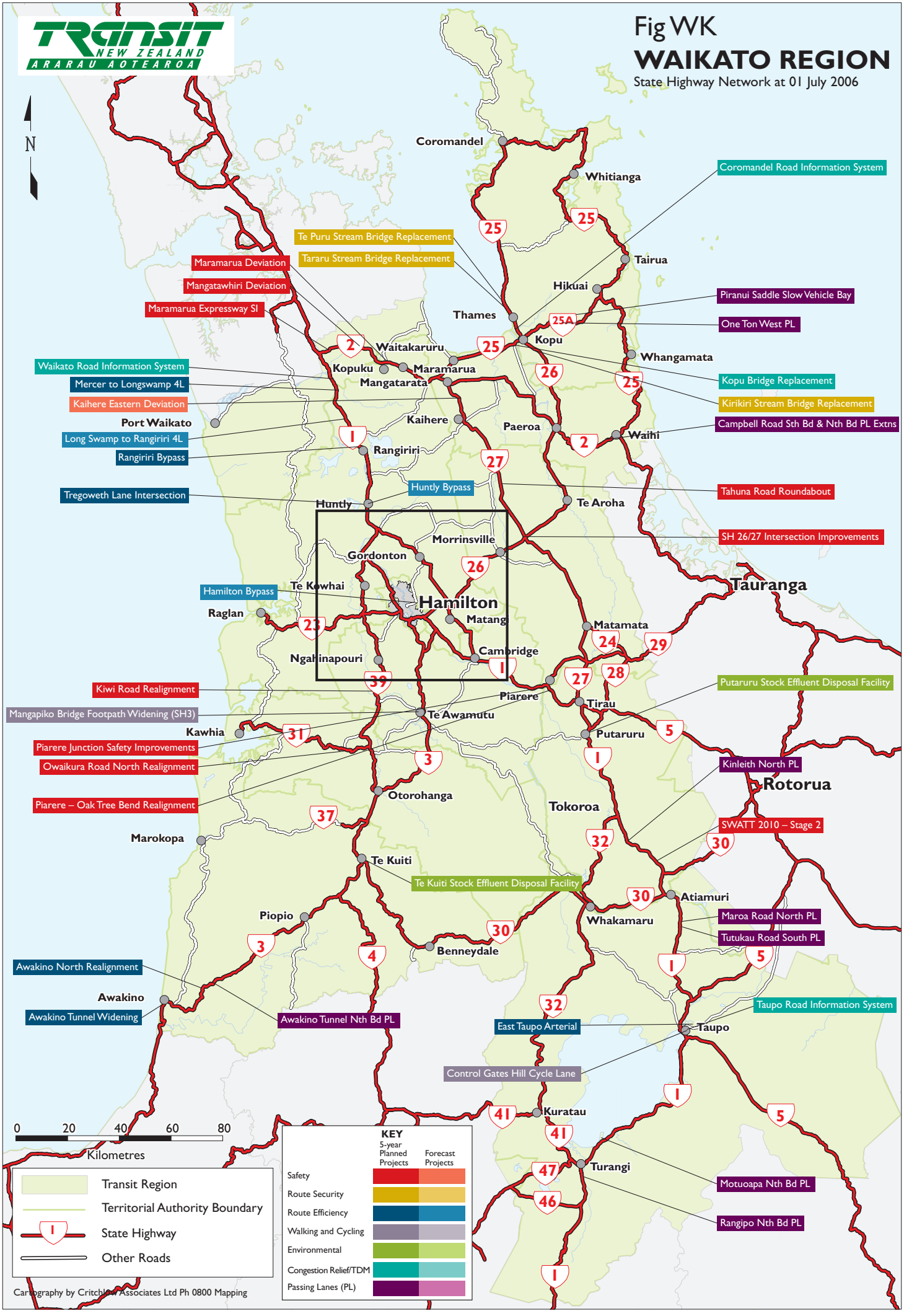
WAIKATO REGION – Inset Map

State Highway Network at 01 July 2006



KEY

	5-year Planned Projects	Forecast Projects
Safety		
Route Security		
Route Efficiency		
Walking and Cycling		
Environmental		
Congestion Relief/TDM		
Passing Lanes (PL)		


TRANSIT NEW ZEALAND ARARAU AOTEAROA
Fig WK
WAIKATO REGION
State Highway Network at 01 July 2006
N
Coromandel
Whitianga
Coromandel Road Information System
Te Puru Stream Bridge Replacement
Tararu Stream Bridge Replacement
Maramarua Deviation
Mangatawhiri Deviation
Maramarua Expressway SI
Tairua
Hikuai
Piranui Saddle Slow Vehicle Bay
Thames
One Ton West PL
Kopu
Whangamata
Waitakaruru
Kopuku
Maramarua
Mangatarata
Kopu Bridge Replacement
Kirikiri Stream Bridge Replacement
Waikato Road Information System
Mercer to Longswamp 4L
Kaihere Eastern Deviation
Port Waikato
Long Swamp to Rangiriri 4L
Rangiriri Bypass
Kaihere
Paeroa
Waihi
Campbell Road Sth Bd & Nth Bd PL Extns
Rangiriri
Tregoweth Lane Intersection
Huntly Bypass
Huntly
Te Aroha
Tahuna Road Roundabout
Morrinsville
SH 26/27 Intersection Improvements
Gordonton
Tauranga
Hamilton Bypass
Te Kowhai
Hamilton
Raglan
Matangi
Matamata
Cambridge
Ngahinapouri
Kiwi Road Realignment
Piarere
Putaruru Stock Effluent Disposal Facility
Mangapiko Bridge Footpath Widening (SH3)
Te Awamutu
Tirau
Kawhia
Putaruru
Piarere Junction Safety Improvements
Owaikura Road North Realignment
Kinleith North PL
Rotorua
Piarere – Oak Tree Bend Realignment
Otorohanga
Tokoroa
SWATT 2010 – Stage 2
Marokopa
Te Kuiti
Te Kuiti Stock Effluent Disposal Facility
Atiamuri
Whakamaru
Maroa Road North PL
Piopio
Tutukau Road South PL
Benneydale
Awakino North Realignment
Awakino
Awakino Tunnel Widening
Awakino Tunnel Nth Bd PL
Taupo Road Information System
East Taupo Arterial
Taupo
Control Gates Hill Cycle Lane
Kuratau
Turangi
Motuoapa Nth Bd PL
Rangipo Nth Bd PL
0 20 40 60 80
Kilometres
Transit Region
Territorial Authority Boundary
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KEY
5-year Planned Projects
Forecast Projects
Safety
Route Security
Route Efficiency
Walking and Cycling
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Passing Lanes (PL)
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