

New Plymouth

Strategic Study

Contract No TNZ PST-57

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**SUMMARY REPORT OF  
TRANSPORT ISSUES  
AND OPTIONS**

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**NEW PLYMOUTH  
DISTRICT COUNCIL**  
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# New Plymouth Strategic Study Contract No TNZ PST-57 Summary Report of Transport Issues and Options

## EXECUTIVE SUMMARY

The New Plymouth District has a well developed road network which is generally adequate to support the economic growth of New Plymouth, maintain good access to the Port and Airport, and cater for future travel demands. The key transport corridor of SH3 (East) along Northgate and Devon Road is already experiencing moderate traffic congestion and, with the ongoing development of Bell Block and Waiwhakaiho, there will be growing pressures due to increasing traffic volumes.

The focus of central government's transport policies and strategies is, in the first instance, to provide for non-riding solutions to manage increasing transport demands and minimise air emissions. Thereafter, improvements to the road network should be undertaken only where necessary.

It has been assumed that these strategies will have a significant effect in reducing traffic growth in the medium to long term although in the shorter term, while travel demand measures take effect, traffic volumes are still expected to grow, especially in the SH3 (East) corridor. In accordance with the Taranaki Regional Land Transport Strategy, the alternative modes of public transport, walking and cycling should be enhanced. New public transport services should be provided between Bell Block and New Plymouth and cycle lanes should be provided on arterial and collector roads in accordance with the cycle strategy. Schools and the Western Institute of Technology should be encouraged to develop travel plans.

Land-use developments, specifically in Bell Block and Waiwhakaiho, and at Smart Road should be integrated and coordinated with the improvements to SH3 (East) along Northgate and Devon Road, so that these developments do not cause undue congestion on this corridor, particularly at the Smart Road intersection.

In order to relieve traffic congestion which is already occurring and to cater for ongoing traffic growth which is expected to occur, notwithstanding measures to manage travel demands, major improvements are required in the SH3 (East) corridor by widening Northgate to four lanes and widening the Waiwhakaiho River Bridge and Devon Road between Devon Street East and Vickers Road to six lanes. Associated improvements are required to the Hobson Street, Mangorei Road, Devon Street East, Smart Road and Vickers Road intersections.

These improvements which are required now to alleviate congestion already occurring on this corridor are expected to have a life of about 25 years. Thereafter, further improvements may be required depending on traffic growth rates. The need for further improvements including a second crossing of the Waiwhakaiho River is already being investigated separately.

In the Central City Area, the existing one-way system should be retained but the cycle time of the coordinated traffic signal system should be reduced to shorten the queues which form on the short north-south blocks, especially on Eliot Street. Provision should also be made for the addition of signals at the Leach Street/Gover Street and Morley Street/Vivian Street intersections, and for a right-turn movement from Northgate into Hobson Street so that Hobson Street becomes the preferred route from Northgate on SH3 (East) to Molesworth Street on SH44, especially for Port traffic.

In the wider urban area of New Plymouth, road widening and reconfiguration of the carriageway on some arterial and collector roads is required primarily to provide cycle lanes in accordance with the New Plymouth District Council's Cycle Strategy. Provision should be made in the New Plymouth District Plan for widening of the road reserve where necessary and carriageway widening should be undertaken as and when roads require reconstruction. A number of separate traffic management improvements are also proposed.

A new route around the southern edge of the urban area of New Plymouth connecting SH3 (South) to the Port is not economically justified. Provision should be made, however, for long-term improvements to the alignment of District Route 1 as the sole east-west arterial route south of the Central City Area.

The study has generally endorsed the draft Memorandum of Understanding between the NZ Transport Agency and the New Plymouth District Council for access management onto SH3 (East) between Smart Road and Airport Drive through Bell Block. A number of amendments are proposed including provision for an intersection at Vickers Road, the retention of an at-grade intersection at Egmont Road (with Egmont Road forming the urban threshold into New Plymouth) and retention of access at De Havilland Drive, initially in the form of an at-grade intersection but ultimately in the form of an interchange connecting to both De Havilland Drive and Airport Drive.

Rural bypasses of Inglewood on SH3/3A, Urenui on SH3, and Oakura and Okato on SH45 are not economically justified. Generally, the existing traffic and road management arrangements are suitable for managing through traffic, local traffic and local community arrangements. These arrangements should be reviewed regularly to take account of changing community requirements.

The major route security issue in New Plymouth is dependence on the Waiwhakaiho River Bridge. The priority at this time should be on widening the existing bridge but the vulnerability of this route as the sole lifeline into New Plymouth from the north should be taken into account in investigations of further improvements including a second river crossing. In the meantime, a specific safety management plan and incident response plan should be prepared for SH3 (East).

Within the context of this overview of the general findings and conclusions to emerge from the New Plymouth Strategic Study, the following immediate actions are considered appropriate:

- review of the roading hierarchy as currently defined in the District Plan
- amendment to the District Plan to make provision for road widening
- installation of traffic signals at the Morley Street/Vivian Street intersection
- refinement of the current settings of the traffic signals within the Central City Area
- preparation of scheme plans to widen the Waiwhakaiho Bridge to six lanes, provision of a right turn lane into Hobson Street and associated upgrading of the Mangorei Road, Devon Street East, Smart Road and Vickers Road intersections
- continue with investigations to evaluate further improvements to the Northgate - Devon Road corridor and the need for a second crossing of the Waiwhakaiho River
- investigations of the alignment of District Route 1
- finalisation of the MOU between the New Plymouth District Council and NZ Transport Agency for managing access on SH3 (East) through Waiwhakaiho and Bell Block
- implementation of a series of short-term traffic management improvements as reported.

Together, these actions and the wider findings of the study meet its purpose of developing a long-term strategy for upgrading the road network and a traffic plan for managing the existing network.

## 1. INTRODUCTION

The New Plymouth District Council and Transit New Zealand (now the New Zealand Transport Agency) commissioned this strategic transport study of the New Plymouth district as part of a series of transport studies by the Council to form an integrated transport and land use plan for New Plymouth.

The purposes of this study are:

- to develop a long-term strategy for upgrading the road network to cater for future traffic volumes
- to develop a traffic plan for managing the existing road network.

Following an initial round of consultation with key stakeholders and interested parties in February and March 2007, a Consultation Report on Issues and Options was presented in April 2007. An extensive assessment of the issues identified has been undertaken, and the technical details and findings to emerge from the analysis of options for improving the road network are presented in a full Technical Report.

This Summary Report presents the main findings and conclusions, and formed the basis of a further round of consultation with key stakeholders and the wider public on plans for addressing the strategic issues which have been identified and plans for managing traffic on the existing road network. An August 2008 report summarises the outcomes of the second stage of consultation and, where appropriate, the report has incorporated the feedback and responses received.

## 2. ISSUES

The major issues which have been identified by the study relate to travel demand pressures in the SH3 (East) corridor. These issues need to be addressed within the framework of central government's overall land transport policies and strategies for managing travel demands and air emissions of the transport sector. The intention is for transport agencies to develop non-roading solutions and to add capacity to the road network only where necessary.

Notwithstanding measures to manage travel demands, the major need in New Plymouth is to widen Northgate and Devon Road between Hobson Street and Vickers Road, including the Waiwhakaiho River Bridge. Resolution of this issue is critical to relieve existing traffic congestion, to cater for future economic and traffic growth, and to support ongoing land development at Bell Block and Waiwhakaiho.

Other issues addressed by the study cover:

- road hierarchy
- road widening
- intersection improvements
- strategic improvements for:
  - SH3 to Port link
  - second Waiwhakaiho River crossing
  - rural township bypasses
- traffic management relating to:

- the Central City Area
- access management.

These issues were analysed on the basis of traffic volume forecasts for 25 years (to 2032) and 40 years (to 2047).

### 3. STRATEGIC ISSUES

This study was part of a series of studies by transport agencies in New Plymouth towards developing a comprehensive and integrated transport and land use plan for New Plymouth. These studies include:

- Framework for Growth by the New Plymouth District Council (completed)
- Cycling Strategy prepared by the New Plymouth District Council (completed)
- Walking Strategy by the New Plymouth District Council (under development)
- Regional Passenger Transport Plan by the Taranaki Regional Council (awaiting review).

In planning the road network of New Plymouth, the following broad strategic issues were addressed:

- sustainability of the transport system
- support for economic development
- integration with land use developments
- safety
- security of the transport system.

Each issue is discussed in turn below.

#### 3.1 Sustainability of the Transport System

A major element of the Taranaki Regional Land Transport Strategy to meet the objective of a sustainable land transport system involves provision for alternative modes, specifically public transport, cycling, and walking.

##### 3.1.1 Public Transport

While there is currently only a skeleton public transport system of providing bus services into the Central City Area New Plymouth, the Taranaki Regional Council has recently been trialling some improved services. Apart from the need to provide public transport services for the 'transport disadvantaged' who do not have ready access to a private car, a critical public transport issue in New Plymouth is the need to provide comprehensive services between New Plymouth, Bell Block and Waitara, to minimise private car dependency for trips in the SH3 (East) corridor.

These services should seek to cater for commuter trips both from Bell Block and Waitara to the Central City Area, and from New Plymouth to the industrial and commercial areas of Bell Block. They should also operate off peak for school trips and other non-work trips in order to encourage travel behaviour in this corridor in favour of public transport. An overall aim should be to minimise traffic growth.

### 3.1.2 *Cycling and Walking*

The cycling strategy adopted by the New Plymouth District Council contains a comprehensive network of cycleways on most arterial and collector roads in New Plymouth. Specific provision has been made for cycle lanes on virtually all arterial and collector roads in accordance with the cycle strategy and, where there are road width constraints, priority has generally been given to the provision of cycle lanes in preference to on-street parking.

There are already footpaths on both sides of almost all roads in New Plymouth and these have been retained in the proposed cross-sectional standards for arterial roads.

Cycling and walking should be encouraged for school trips. This is especially important for trips to the schools and tertiary institutes in the vicinity of Northgate, particularly the Western Institute of Technology, New Plymouth Boys High School, New Plymouth Girls High School and Sacred Heart Girls College.

### 3.1.3 *Travel Plans*

Travel plans are a means of encouraging commuters in particular to use alternative modes of transport rather than relying solely on the use of private cars. Schools should also be encouraged to develop travel plans to minimise private car school trips, and to give priority to the provision of pedestrian and cycling facilities, and bus services.

As industries develop in Bell Block, the New Plymouth District Council and the Taranaki Regional Council should encourage industries to develop travel plans involving the use of alternative modes, especially public transport and cycling. Commuters to Bell Block should be encouraged to form patterns of travel behaviours from the outset which rely less on the use of private cars in order to reduce traffic growth in the SH3 (East) corridor.

## 3.2 Support for Economic Development

An important function of the road network is to support the ongoing economic and social development of New Plymouth. With predictions of relatively modest traffic growth on most arterial routes, the existing road network will continue to provide a high level of accessibility for economic and social development. Particular attention has been given to the accessibility of the Central City Area, and the Port and the Airport, and to the development of an arterial road network in Bell Block.

The one-way pair on the south side and the St Aubyn Street-Molesworth Street route on the north side of the Central City Area, Devon Street West and Devon Street East, and the various north-south cross links provide a good road network for distributing and circulating traffic into and around the Central City Area. The proposed improvements to the Central City Area road network will provide sufficient capacity to cater for likely traffic growth and, hence, it is expected that the road network in the Central City Area will be adequate to cater for growth and redevelopment in order for the Central City Area to remain the dominant commercial centre in New Plymouth.

The Port is expanding and has prospects to be developed as a significant trans-shipment port. This would be an important development not only for the Port but also for the New Plymouth economy. Although most cargo for the Trans-Tasman trades would be transported into and out of the Port by sea and rail, there is the potential for some growth in road traffic to and from the port. Hence road access will continue to be important for the viability of the Port.

While the route to the Port via SH3 (South) and SH44 passes through the Central City Area and residential areas, an alternative route around the southern fringe of the urban area would be expensive, offer few benefits to Port traffic and create other environment and social effects. An alternative route between SH3 (South) and the Port is not economic at this time, for the reasons described at Section 11.

With a right turn from Northgate to Hobson Street, as detailed at Section 8.3, SH44 via Molesworth Street and St Aubyn Street will provide an efficient state highway route to the Port from SH3 (East). This route has sufficient capacity to cater for future traffic volumes including port traffic but should be protected to ensure that it continues to provide a high level of service for port traffic.

SH3 (East) and Airport Drive currently provide good access to the airport although, in peak periods, access is already being affected by congestion on Northgate and the Waiwhakaiho River Bridge. Improvements to Northgate and Devon Road on SH3 (East) between New Plymouth and the airport, as set out at Section 9, and including widening of the Waiwhakaiho Bridge, will need to be undertaken in a timely manner so that good access to the airport is maintained.

### 3.3 Integration With Land Use Developments

As a result of the present and future planned development of Bell Block, the major traffic growth corridor in New Plymouth will be the SH3 (East) corridor on Northgate and Devon Road. The development of this corridor needs to be carefully integrated with land-use developments east of the Waiwhakaiho River including Bell Block.

The proposed plans to upgrade SH3 (East) along Northgate and Devon Road, including widening of the Waiwhakaiho River Bridge, will significantly improve access between New Plymouth and Bell Block. These plans are expected to cater for the 'most likely' traffic growth for the next 25 years (2032) but beyond 25 years, or even within 25 years if traffic growth exceeds the 'most likely' forecasts, further improvements to the road network will be required most likely in the form of a second crossing of the Waiwhakaiho River. In the meantime, measures should be taken to obviate or defer the need for further capacity in this corridor.

To minimise trips between Bell Block and New Plymouth, the New Plymouth District Council, in conjunction with other agencies, should seek to increase the extent to which Bell Block is self sufficient. The establishment of local supporting facilities and services should be encouraged to minimise the need for Bell Block residents to travel to New Plymouth for those facilities and services.

The Valley Mega Centre is strategically located off Devon Road on SH3 (East), east of the Waiwhakaiho River, with ready access from New Plymouth, Bell Block and Waitara, and the wider region. The Smart Road intersection providing access to Waiwhakaiho is the most critical intersection on the New Plymouth road network with limited scope for further improvements beyond the improvements being proposed. Accordingly, further development at Waiwhakaiho should be carefully managed to ensure that land use development in this area is properly integrated with improvements to the road network and within the capacity of the road network.

The Framework for Growth indicates a substantial area of land up Smart Road for future residential development. The additional traffic generated by such development will significantly increase the amount of turning traffic at the Smart Road intersection on SH3 (East): Devon Road, and may require or advance the need for a second crossing of the Waiwhakaiho River. Hence the proposals for residential development up Smart Road need to be integrated and coordinated with the proposed

improvements to Northgate and Devon Road on SH3 (East) and if necessary, a second Waiwhakaiho River crossing.

### 3.4 Safety

The strategies and plans which have been developed will provide the basis for a safe road network based on a well defined road hierarchy and consistent design standards to provide good levels of service throughout the road network.

A network-wide safety management plan should be prepared and specific safety issues should be identified and addressed by means of regular safety audits, crash reduction studies and the monitoring of safety performance. These practices will contribute to achieving a safe road network.

### 3.5 Security of the Transport System

The major lifeline issue in New Plymouth is the crossing of the Waiwhakaiho River. Currently there is only one crossing of the Waiwhakaiho River on SH3 (East) and, while it would be desirable to form a second crossing of the Waiwhakaiho River, the priority should be to upgrade the existing route including widening or duplicating the existing bridge.

Any serious incidents on the Waiwhakaiho River Bridge or its approaches on Devon Road have the potential to sever the connection between New Plymouth and Bell Block and Waitara. The alternative route via SH3A and SH3 (South) involves a detour of around 35km.

As traffic volumes increase, the risk and consequence of incidents disrupting the flow of traffic on SH3 (East) across the Waiwhakaiho River will increase. Recognising the dependence of New Plymouth on this route, a specific safety management plan should be developed for SH3 (East) between the Central City Area and the SH3/3A junction to minimise the risk of crashes and other incidents which could disrupt traffic flows. Also, the Police and other emergency response agencies should develop specific response plans to minimise the disruption caused by incidents on the Waiwhakaiho River Bridge and its approaches.

## 4. TRAFFIC VOLUMES AND TRAFFIC GROWTH

### 4.1 Traffic Volumes

Figure 1 is a diagram illustrating the current levels and patterns of traffic volumes handled by the New Plymouth roading network. In this diagram, the width of each line has been drawn in proportion to the daily volume of traffic carried by each road.

As shown, traffic volumes on state highways and major local roads in New Plymouth are:

- up to around 35,000 vehicles per day (vpd) on the Waiwhakaiho River Bridge on SH3 (East)
- 14,000 to 16,000vpd on Coronation Avenue on SH3 (South)
- 11,000 to 15,000vpd on Molesworth Street and St Aubyn Street on SH44

- up to 15,000vpd and 13,000vpd on Devon Road West and South Road respectively on SH45
- about 17,000vpd each way on the one-way pair
- up to 17,000vpd on Devon Street East through Fitzroy
- up to 13,000vpd on Tukapa Street.

Elsewhere, traffic volumes on the primary road network are generally in the range of 5,000 to 10,000vpd.

## 4.2 Traffic Growth

There is evidence and optimism that New Plymouth is entering a period of higher population and economic growth.

In the last 15 years, the population of New Plymouth has increased at an annual average growth rate of less than 0.2% pa. The current projections of the New Plymouth District for the next ten years are for a population growth of about 0.3% pa and a growth in household numbers of about 1% pa.

The New Plymouth District Council's Framework for Growth sets out a proposed land use plan to accommodate this growth. This plan envisages that, in the short to medium term, most residential and industrial development will occur at Bell Block and, in the longer term, residential development will also occur up Smart Road.

Assumptions on future traffic volumes have been based on historical growth patterns and the New Plymouth District Council's land use development plans. Account has also been taken of the strategies included in the Taranaki Regional Land Transport Strategy to encourage the use of alternative modes of transport and the effect of likely higher fuel prices.

Within the established residential areas of New Plymouth, the average traffic growth rate over the last five to ten years has been about 0.5%pa. With the expected increase in the rate of growth of New Plymouth, it has been assumed that the traffic growth rate will increase to 1%pa for the next ten years (with an upper limit of 1.5%pa) and then revert back to 0.5%pa (with an upper limit of 1%pa).

In the Central City Area, the annual traffic growth rate has been averaging about 2.5%. With the Central City Area remaining the dominant retail and commercial centre serving New Plymouth and the wider region, it has been assumed that the traffic growth rate will continue at the current rate of 2.5%pa for the next ten years (with an upper limit of 3%pa) and thereafter reduce to 1.5%pa (with an upper limit of 2%pa).

In the Eastern Corridor along Northgate and Devon Road on SH3 (East), traffic has been growing at about 5%pa in recent years although the longer term historical growth rate has been around 2%pa. It has been assumed that the traffic growth rate will be 3%pa for the next ten years (with an upper limit of 4%pa) and thereafter the growth rate will reduce to 2%pa (with an upper limit of 3%pa).

In summary, the following annual traffic growth rates have been adopted in this study for predicting future traffic volumes on the road network.

GROWTH AREAS	MOST LIKELY (% pa)		UPPER LIMIT (% pa)	
	0-10yrs	11-25yrs	0-10yrs	11-25yrs
Residential	1	0.5	1.5	1
Central City	2.5	1.5	3	2
Eastern Corridor	3	2	4	3

Table 1 : Traffic Growth Rate Forecasts

These traffic growth rate assumptions have been used to identify and analyse likely deficiencies in the road network and to plan improvements which will be required to cater for future traffic growth.

## 5. ROAD HIERARCHY

The road hierarchy included in the New Plymouth District Plan for urban areas has been reviewed and the rural road network has been classified based primarily on the draft National Road Classification System (NRCS) being developed by Land Transport New Zealand. The draft NRCS comprises the following road classes and associated traffic volume ranges:

URBAN ROAD CLASSES <sup>1</sup>	AADT	RURAL ROAD CLASSES <sup>2</sup>	AADT
Major arterial <sup>3</sup>	>20,000	Class B <sup>3</sup>	>5,000
Minor arterial	8,001 - 20,000	Class C	1,001 - 5,000
Collector	2,001 - 8,000	Class D	201 - 1,000
Local	≤2,000	Class E	51 - 200
		Class F	≤50
<sup>1</sup> Urban roads are generally those with speed limits of 70km/h or less, although motorways and expressways may have higher limits		<sup>2</sup> Rural class names are from Transfund's road maintenance group guidelines - no Class A exists in this system	
<sup>3</sup> Includes motorways and expressways		<sup>3</sup> Includes motorways and expressways	

Table 2 : Draft National Road Classification System

The proposed urban road hierarchies for New Plymouth, Bell Block, Waitara, Inglewood, Oakura and Okato are shown on the Figures 2 through 4.

The major features of the proposed road hierarchy in New Plymouth are:

- recognition of the following state highways as Major Arterials:
  - SH3 (South) : Eliot Street-Coronation Avenue-Junction Road
  - SH3 (East) : Northgate-Devon Road
  - SH44 : Molesworth Street-St Aubyn Street-Breakwater Road
  - SH45 : One-Way Pair-Devon Street West-South Road
- the designation of Hobson Street as a Major Arterial connecting SH3 (East): Northgate and SH44: Molesworth Street as the primary route for port traffic on SH3 (East)
- the designation of the following Minor Arterials:

- Devon Street East
- Tukapa Street
- Carrington Street
- Mangorei Road
- District Route 1
- the downgrading of the following Arterials to Collector Roads:
  - Centennial Drive-Beach Road
  - David Street (up to Taranaki Base Hospital) and Lorna Street
  - Dawson Street and Frankley Road
  - Smart Road and Colson Road (to landfill transfer station)
- the upgrading of the following Local Roads to Collector Roads:
  - Pioneer Road
  - Devon Street West (Morley Street to Dawson Street)
  - Clawton Street
  - Glenpark Avenue (Frankley Road to Parsons Street)
  - Pendarves Street (Liardet Street to Carrington Street)
  - Mangorei Road (Devon Street East to Northgate)
  - Paynters Avenue and Rimu Street
  - Clemow Road and Normanby Street
- the downgrading of Morley Street and Bulkeley Terrace north of St Aubyn Street to Local Road.

The major features of the proposed road hierarchy in Bell Block are:

- the establishment of Parklands Avenue through to Wills Road as a Collector Road (with a possible extension to Airport Drive)
- the establishment of Connett Road and Corbett Road as Minor Arterials, and De Havilland Drive as a Collector Road.

In Waitara, it is proposed to downgrade the Nelson Street - McLean Street, the North Street - Richmond Street - Princess Street, and the Raleigh Street - High Street West routes to Collector Roads, and to upgrade the connection of Grey Street to McLean Street to a Collector Road.

In Inglewood, it is proposed to retain the heavy vehicle bypass on Moa Street as a Minor Arterial but to downgrade Humphries Street and Standish Street to Local Roads.

In Oakura and Okato, it is proposed to retain SH45 as a Major Arterial and in Oakura to establish Wairau Road, Messenger Terrace and Dixon Street as a loop of Collector Roads.

In the rural road network, it is proposed to retain the SH3 (East), SH3 (South), SH3A and SH45 as Major Arterials (Class B roads) and to classify the following rural roads as Minor Arterials (Class C roads):

- Corbett Road (and Manutahi Road between SH3A and Corbett Road)
- Egmont Road (SH3 to Egmont Village).

The following rural roads have been classified as Collector Roads (Class D roads):

- Carrington Road
- Frankley Road
- Mangorei Road
- Egmont Road (South of Egmont Village)
- Henwood Road
- Manutahi Road
- Oxford Road-Saunders Road
- Koru Road-Plymouth Road
- Tarata Road
- Okau Road
- Waitara Road-Everett Road-Bristol Road
- Ngatimaru Road - Otaraua Road - Upper Otaraua Road
- Inland North Road
- Tariki Road North/Tariki Road South.

While the Henwood Road and Manutahi Road route between Bell Block and SH3A has been classified as a Collector (Class D) Road route, it is an important parallel route to Corbett Road for heavy vehicles and should be designated in the District Plan as a heavy vehicle route.

Figure 5 shows the proposed road hierarchy of the rural road network.

## 6. ROAD WIDENING

A deficiency analysis of the urban road network in New Plymouth based on the expected traffic volumes in 25 years (2032) and 40 years (2047) shows that, except in the Northgate - Devon Road corridor on SH3 (East) and in the Central City Area, two-lane carriageways will generally be sufficient to carry the projected traffic volumes, although when traffic volumes exceed about 17,000vpd, flush medians may be required depending on the volumes of turning traffic.

Figure 6 illustrates those areas of the urban road network that are expected to have capacity deficiencies in the next 25 years (to 2032) and 40 years (to 2047).

In the adopted Cycle Strategy, it is proposed to provide separate cycle lanes on most of the primary road network, including all Arterial Roads and many Collector Roads. These cycle lanes should generally be 1.5m to 2m wide with separate parking shoulders of 2.0m to 2.5m.

On this basis, the standard carriageway widths of a two-lane urban road are:

- two lanes without a flush median
  - without parking 10 to 11m
  - with parking on one side 12 to 13.5m
  - with parking on both sides 14 to 16m

- two lanes with flush median
  - without parking 12 to 14m
  - with parking on one side 14 to 16.5m
  - with parking on both sides 16 to 19m.

The road reserve of most roads in New Plymouth is generally in the order of 20m which is sufficient to accommodate a road carriageway for two traffic lanes, a flush median, cycle lanes and parking shoulders on each side of the road. Where the road reserve narrows, or embankments encroach on the road reserve, there is generally limited demand for turning movements or parking, in which case a flush median is not required, and parking can be restricted to one side of the road within a carriageway width of 12m to 13.5m or on both sides of the road within a carriageway width of 10m to 11m.

On some sections of road, to provide flush medians, cycle lanes and parking shoulders, it will be necessary to either configure or widen the carriageway. Excluding Northgate and Devon Road, and the Central City Area, the following sections of road will require reconfiguring or widening of the road carriageway to provide a flush median and cycle lanes, and retain parking:

- Eliot Street - Coronation Avenue (SH3)
- Devon Street East
- Devon Street West (SH45)
- South Road
- Tukapa Street
- Carrington Street
- Frankley Road.

On the narrow sections of Devon Road West, Frankley Road and Carrington Street where embankments encroach on the road reserve, there is generally minimal demand for turning movements or parking. On these sections, some carriageway widening may be required to provide cycle lanes/or shoulders but otherwise the existing carriageway can be reconfigured to provide cycle lanes by not providing a flush median or by restricting parking on one or both sides of the road.

The sections of road which require the existing carriageway to be reconfigured or widened to provide mid-block improvements are shown in Figure 7.

## 7. INTERSECTION IMPROVEMENTS

A number of intersections have been evaluated to determine if any intersection improvements are required. Those intersections identified for detailed analysis to determine the need for additional capacity were:

- Morley Street with Vivian Street, Powderham Street and Devon Street West
- Coronation Avenue with Cumberland Street and Junction Road
- Carrington Street with Hori Street and Huatoki Street
- Tukapa Street with Waimea Street.

All other intersections were assessed as having sufficient capacity to cater for future traffic volumes, with the exception of intersections within the Central City Area and along Northgate and Devon Road in the SH3 (East) corridor, which are addressed at Sections 8 and 9 respectively.

### 7.1 Morley Street/Vivian Street

The Morley Street/Vivian Street intersection is currently controlled by stop signs on the Vivian Street legs of the intersection. This form of control requires right-turn traffic exiting the one-way pair on Vivian Street (East) to give way to traffic on Morley Street, which causes queues to form in the right-turn lane out of Vivian Street thereby disrupting the smooth flow of traffic on SH45 between the one-way pair and Devon Street West. As traffic volumes increase, queuing will increase and the level of service for the right-turn movement will steadily deteriorate.

The preferred option for improving this intersection is to install traffic signals and to reconfigure the approach lanes in the manner illustrated in Figure 8.

### 7.2 Coronation Avenue Intersections with Cumberland Street and Junction Road

The Cumberland Street and Junction Road intersections on Coronation Avenue will likely need to be improved within the next 25 years (to 2032).

The options for improving these intersections involve the introduction of traffic signals or the construction of roundabouts. The same treatment should be adopted for both intersections. To operate efficiently, traffic signals will require some road widening to five or six lanes on Coronation Avenue between the intersections whereas roundabouts would require the road reserve to be widened at the intersections.

While roundabouts would perform slightly better than traffic signals with less traffic delays, roundabouts would be less convenient and safer for pedestrians and cyclists. Accordingly, traffic signals are preferred.

### 7.3 Other District Route 1 Intersections

The intersections on District Route 1 were analysed to assess their capacity to cater for the projected traffic volumes in 25 years (2032) and 40 years (2047). With the exception of the Carrington Street intersections with Hori Street and Huatoki Street, it is assessed that they will have sufficient capacity to cater for traffic volumes in 25 years (2032) and 40 years (2047) based on both the 'most likely' and 'upper limit' projections.

### 7.4 Traffic Signals vs Roundabouts

The choice of intersection form and operation is important, and the use of traffic signals and roundabouts is determined based on the particular features and needs of individual intersection locations. Traffic signals operate well in locations which have heavier pedestrian and cyclist

movements and where traffic demands differ on each approach. By comparison, roundabouts are usually better suited to locations where flows are more balanced. When traffic controls are required, the merits of traffic signals and roundabouts should be assessed on a case-by-case basis.

## 8. CENTRAL CITY AREA

The major issues in the Central City Area include:

- configuration of the one-way pair
- queuing space in the short north-south block.

These issues were addressed in order to ensure that the Central City Area remains easily accessible in the manner expected of a regional centre.

### 8.1 One-Way Pair vs Two-Way Operation

The one-way pair causes some extra circulation and is less convenient for accessing properties that front the one-way pair and the adjoining north-south blocks. Accordingly, consideration was given to converting the one-way pair to two-way operation.

The Leach Street and Courtenay Street intersections on Eliot Street are the most saturated intersections on the Central City Area road network and the capacity of these intersections would be significantly reduced under two-way operations, firstly because there would be an increase in conflicts between through traffic and turning traffic at the intersections and secondly because the additional signal phases for turning traffic would reduce the overall 'green time' available under traffic signal operations.

With the Eliot Street intersections approaching capacity, two-way operations on Leach Street-Vivian Street and Powderham Street-Courtenay Street would not provide sufficient capacity within the existing carriageway widths and would require significant road widening to provide additional through lanes on both the main east-west routes and the short north-south links particularly on Eliot Street and Liardet Street.

In order to provide sufficient capacity, the existing one-way way operation of Leach Street-Vivian Street and Powderham Street-Courtenay Street needs to be retained.

### 8.2 Deficiencies

The major deficiency of the existing road network in the Central City Area is that, with increasing traffic volumes, a number of intersections will become increasingly over-saturated causing excessive queues to form, especially in the short north-south blocks on Eliot Street and Liardet Street.

These problems will occur at:

- Liardet Street/Leach Street
- Liardet Street/Courtenay Street
- Eliot Street/Liardet Street

- Eliot Street/Courtenay Street
- Devon Street East/Hobson Street.

The following options were considered for addressing these deficiencies:

- Option 1 : three lanes on Leach Street between Hobson Street and Liardet Street
- Option 2 : Option 1, plus a right turn from Northgate to Hobson Street
- Option 3 : Option 2, but no right turn from Eliot Street (north) to Leach Street and two through lanes on Eliot Street (north)
- Option 4 : Option 3, but converting Eliot Street from two-way to one-way between from Leach Street and Courtenay Street.

Option 2 is the preferred option, as illustrated in Figure 9.

### 8.3 Preferred Option

The traffic efficiency of Option 1 is less than the other options with slower average journey speeds and more queuing. The other options have similar traffic efficiency characteristics but Options 3 and 4 restrict certain movements which would adversely affect traffic circulation. Hence, Option 2 is preferred.

The major characteristics of Option 2 are:

- three through lanes on Leach Street between Hobson Street and Liardet Street
- a right-turn lane from Northgate to Hobson Street
- additional approach lanes at most intersections.

It is also proposed that traffic signals be installed at the Leach Street intersection with Gover Street.

The proposed lane configurations can generally be accommodated within the existing road reserves, subject to some parking restrictions and some localised road widening for parking and bus bays where required.

## 9. NORTHGATE - DEVON ROAD

The eastern corridor into New Plymouth on SH3 (East) through the Smart Road intersection on Devon Road, across the Waiwhakaiho River and along Northgate is already quite congested. Long queues are already forming in peak hours at the Mangorei Road, Devon Street East and Smart Road intersections and, as traffic volumes increase, congestion will steadily deteriorate.

In predicting future traffic volumes, particularly at the Smart Road and Vickers Road intersections, account has been taken of the traffic generation of the existing and planned activities of The Valley Mega Centre and other possible land uses at Waiwhakaiho, as well as the underlying traffic growth between New Plymouth and Bell Block resulting from the ongoing development of Bell Block.

The current and projected traffic volumes on Northgate and the Waiwhakaiho Bridge are:

SCENARIO	AADT (vpd)	
	Northgate	Waiwhakaiho Bridge
Existing 2007	29,000	35,000
Most Likely		
25 years (2032)	39,000	49,000
40 years (2047)	46,000	59,000
Upper Limit		
25 years (2032)	45,000	58,000
40 years (2047)	55,000	71,000

Table 3 : Current and Future Traffic Volumes on Northgate and Waiwhakaiho Bridge

On the basis of these traffic volume projections, Northgate will need to be widened to four lanes (with an additional westbound auxiliary lane between Mangorei Road and Hobson Street leading into Leach Street), while Devon Road and the Waiwhakaiho Bridge will need to be widened to six lanes between Devon Street East and Vickers Road, with additional turning lanes at intersections.

It is proposed to retain the Devon Street East intersection with traffic signals controlling all movements and to make provision for westbound traffic on Northgate to turn right into Hobson Street thereby providing a link from SH3 (East) to SH44 on Molesworth Street, as indicatively shown in Figure 10. This will spread right-turning traffic off Northgate between the Devon Street East, Mangorei Road and Hobson Street intersections.

The existing and proposed lane configurations along Northgate and Devon Road are shown indicatively on Figure 11 with fuller details illustrated on Figures 12a to 12d.

The improvements as shown are the minimum which should be planned for Northgate and Devon Road. These improvements will require widening of the carriageway and some localised widening of the road reserve on Northgate and Devon Road. Similarly, the intersection approaches on Hobson Street, Mangorei Road, Devon Street East, Smart Road and Vickers Road will need to be widened with localised widening of the road reserves.

Based on the proposed lane configurations, and under the 'most likely' traffic volume scenarios, the upgraded intersections at Mangorei Road, Devon Street East and Smart Road will operate satisfactorily for 25 years (2032) but beyond 25 years the level of service of the Smart Road intersection will deteriorate to being over-saturated in 40 years (2047).

To avoid overloading the Smart Road intersection, the Vickers Road intersection needs to be retained with traffic signals to provide for all turning movements. This will enable traffic to turn into The Valley Mega Centre at either Smart Road or Vickers Road. Safety issues in regard to westbound traffic stopping at traffic signals at Vickers Road will need to be addressed during the more detailed investigation and design of these improvements.

It is also proposed that the Watson Street, Ngaio Street and Constance Street intersections on Northgate and Devon Road as well as other minor intersections on the same corridor be closed pending four laning of Northgate and widening of Devon Road and the Waiwhakaiho River Bridge. This

will improve traffic flows and rationalise access onto Northgate and Devon Road. Similarly, it is proposed that alternative access be provided to the industrial sites on the south side of Devon Road between Smart Road and Vickers Road.

It is noted that while the proposed scheme will cater for projected traffic volumes for 25 years, other options including flyovers at some intersections and restricting turning movements at other intersections are already being investigated separately. Further consultation on these access restrictions will be needed during the more detailed development of the scheme for upgrading Northgate and Devon Road.

## 10. SECOND WAIWHAKAIHO RIVER CROSSING

The need for additional capacity in the SH3 (East) corridor beyond that described above will depend on the actual traffic volumes which eventuate on Northgate and Devon Road. Traffic volumes will need to be monitored to determine the need for any additional capacity in the corridor and, if traffic volumes do not exceed the 'most likely' projections, then no further capacity will be required for at least 25 years and perhaps for 40 years and beyond.

If further capacity is required, it probably will not be feasible to further upgrade Northgate and Devon Road by adding lanes and/or grade separating the intersections. Instead, it is likely that a second Waiwhakaiho River crossing will be required either downstream or upstream of the existing bridge connecting into Devon Street East via Clemow Road, or District Route 1 via Awanui Street or Cumberland Street.

Separate investigations into the need for a second Waiwhakaiho River crossing are currently in progress. Also, both these options will have significant social effects on local communities requiring extensive community consultation.

## 11. SH3 (SOUTH) TO PORT CONNECTION

Most of the port traffic by road is to and from SH3 (South) passing through the Central City Area via either Eliot Street and Molesworth Street or the one-way pair. Consideration has been given to developing an alternative route between SH3 (South) and the Port circumventing the urban area and connecting into the established network near the Frankley Road/Tukapa Street intersection. This would provide a slightly shorter and faster route than the existing route and would avoid the need for heavy vehicles between SH3 (South) and the Port to pass through the Central City Area.

The route cuts across a number of valleys and ridges between Junction Road and Frankley Road and the cost of constructing such a route would be in the order of \$20 - \$40 million. The benefits to port traffic and other local traffic would be quite minimal. Even with the prospects of developing a number of new trades through the Port, the travel time and travel distance savings for road traffic to and from the Port would be quite minimal, yielding a benefit cost ratio (BCR) of less than 0.5.

Based on the high costs of constructing a new route between the SH3 (South) and the Port, and the minimal benefits to port traffic and other local traffic, such a route will not be economic in the foreseeable future. In the event that a bypass route is ever required, it is unlikely that a route around

the southern fringe of the existing urban area would be compromised by any urban development which may occur in the meantime. Since it is costly to obtain a designation and purchase land, any costs should be deferred until the need for an alternative route arises, if ever.

In the meantime, the Molesworth Street-St Aubyn Street-Breakwater Road corridor should be protected in the District Plan as the designated route to the Port.

## 12. DISTRICT ROUTE 1

District Route 1 is the major east-west arterial through New Plymouth, south of the one-way pair. This route crosses a number of ridges and valleys so that the speed in some sections is quite low.

Although the benefits to road users in terms of travel time and crash reductions will be quite minimal and traffic volumes are not expected to increase significantly, it is proposed that provisions be made in the District Plan for long-term improvements to District Route 1 to achieve a minimum design speed of 50 to 60 km/h.

## 13. ACCESS MANAGEMENT

A draft Memorandum of Understanding (MOU) between the NZ Transport Agency and the New Plymouth District Council sets out proposed arrangements for managing access onto SH3 (East) between Smart Road and Airport Drive/De Havilland Drive. With the formation of a grade-separated interchange at Nugent Street/Henwood Road, the MOU proposes to restrict access onto SH3 (East) through to Smart Road to protect the safety and efficiency of the state highway while maintaining a 100 km/h speed environment.

A number of amendments to the draft MOU are proposed, as identified in red in Figure 13.

At the western end, it is proposed to retain access onto SH3 (East) at Vickers Road and Egmont Road by means of at-grade intersections. As previously stated, to provide efficient access to The Valley Mega Centre and adjacent land requires turning traffic into the area to be split between Smart Road and Vickers Road rather than being concentrated at Smart Road. The scale of development proposed at Bell Block warrants major access off SH3 (East) at each end of Bell Block. Accordingly, at the eastern end, it is proposed to retain access at De Havilland Drive as well as at Airport Drive and ultimately to realign Airport Drive to form a grade-separated interchange with De Havilland Drive on SH3 (East) when at-grade intersections can no longer operate safely.

No detailed access management plans are required for the other arterial roads where there are minimal development pressures. Care should nevertheless be taken to protect SH3 (South), SH3A and SH45, and Corbett Road which are designated as rural arterials. Also, access onto Tukapa Street, Frankley Road, Carrington Road, Mangorei Road, Egmont Road, Henwood Road and Manutahi Road should be

managed so that the level of service on these approaches to New Plymouth and Bell Block is not unduly affected by the spread of urban development. To protect these roads, applications for access to new developments should be assessed on a case-by-case basis and generally access should be provided off local roads.

## 14. TRAFFIC MANAGEMENT MEASURES

A number of local traffic management improvements have been identified. These are generally improvements which can be implemented in the short term.

The proposed traffic management improvements are:

- **St Aubyn Street/Breakwater Road/Lawry Street/South Road Intersection**  
As shown in Figure 14, it is proposed that the layout of this intersection be modified to form a half roundabout with single points of entry to and exit from Lawry Street and South Road. It is also proposed that the slip road off St Aubyn Street be closed to provide additional parking and to shorten the pedestrian crossing
- **Watson Street, Ngaio Street, Constance Street Intersections on Northgate-Devon Road**  
It is proposed that these intersections and other minor intersections on the Northgate-Devon Road corridor be closed pending four laning of Northgate and widening of the Waiwhakaiho River Bridge to improve traffic flows and rationalise access onto Northgate and Devon Road. Similarly, it is also proposed that alternative access be provided to the industrial sites on the south side of Devon Road between Smart Road and Vickers Road
- **Junction Street Intersection on Junction Road**  
At the Junction Street intersection on Junction Road there is inadequate sight distance particularly for vehicles making right turns out of Junction Street. Pending the connecting of Branch Road, it is proposed to ban right turns out of Junction Street which will require traffic to instead access Coronation Avenue via Junction Street and Turahua Road. This proposal is subject to review of the speed limit on Junction Road
- **Pedestrian Access Across Courtenay Street**  
It is proposed that, to enable pedestrians to cross Courtenay Street in the area between The Warehouse and New World, a mid-block signalised pedestrian crossing be provided in the length between Liardet Street and Gover Street. This signal should be pedestrian activated and linked to the SCATS traffic signal system to ensure good levels of service for through-traffic
- **Eliot Street/Lemon Street and Eliot Street/Leach Street Intersections**  
In order to restrict traffic turning left from the parking and cycle lanes on the west side of Eliot Street at the Eliot/Lemon and Eliot/Leach intersections, and improve the safety of these locations, it is planned that Council will investigate options for physical changes on the west side of Eliot Street

- **Hobson Street/Molesworth Street Intersection**  
The Hobson Street/Molesworth Street intersection needs to be reconfigured to ease the turning path for heavy vehicles turning left from Hobson Street into Molesworth Street. Also, the intersection should be regraded to provide more camber so that heavy vehicles can perform safer turns with less risk of overturning
- **Eliot Street/Molesworth Street Intersection**  
The installation of traffic signals at the Northgate/Hobson Street intersection will allow traffic to right turn from Northgate into Hobson Street. It is expected that this will become the preferred route for traffic between Northgate (SH3 East) and Molesworth Street (SH44). The need for traffic signals at the Eliot Street/Molesworth Street intersection to manage the conflict between westbound traffic on Molesworth Street (ex SH3 East) and southbound right-turning traffic from Molesworth Street to Eliot Street (SH3 South) should be monitored
- **Gill Street Precinct**  
The New Plymouth District Council is currently reviewing traffic management arrangements in this street precinct. As part of this review, it is proposed that the bus stop be lengthened by removing one or two parking spaces to improve bus manoeuvrability
- **New Plymouth Boys and Girls High Schools and Western Institute of Technology**  
The traffic management arrangements at the New Plymouth Boys and Girls High Schools and the Western Institute of Technology generally cater well for pedestrians, cyclists and school buses. It is proposed that each institution should be encouraged to develop a travel plan to encourage pupils and students to use alternative modes of transport and to identify any need for improvements to existing traffic management arrangements. More immediately, it is proposed that a portion of the kerbside parking alongside the Girls High School on Northgate be removed to improve the operation of the merge zone
- **Pioneer Road**  
The traffic calming treatments that exist in Pioneer Road do not support its proposed Collector Road classification and function as the preferred route for heavy vehicles between SH45 (south) and the Port. It is therefore proposed that, subject to a safety audit, the speed humps on Pioneer Road be removed to facilitate the smooth flow of traffic on this route
- **Bell Block Industrial Area**  
To improve access to and connectivity within the Bell Block Industrial Area, the proposed collector road network parallel to Devon Road on SH3 (East) should be completed as soon as possible. This includes connecting up the stub ends of Connett Road and extending Hurlstone Drive west to Smart Road and east to Paraita Road. This will provide an alternative route for heavy vehicles via the Smart Road intersection and defer the need for traffic signals at the Egmont Road intersection
- **Corbett Road**  
With the classification of Corbett Road as an arterial Class C road and the major heavy vehicle route between Bell Block and SH3A, vibration effects need to be addressed to determine if a speed limit of (say) 80km/h should be imposed on heavy vehicles. A speed limit on heavy vehicles would also improve safety at the one-way bridge and for cyclists

- Donnelly Street

There is a need to extend Donnelly Street through to Upper Wairau Road in Oakura to improve the connectivity of the road network in this rural township. This need arises partly to improve access between the new residential development on the west side of Upper Wairau Road and the Oakura School on Donnelly Street. Funding for this extension should be discussed with the developer of the residential subdivision

- Speed Limits

It is proposed that a number of speed limits be reviewed by the NZ Transport Agency. In particular, it is proposed that the speed limits on Junction Road (SH3 south) between Coronation Avenue and Mangorei Road and the speed limit on SH45 west of the Wairau Road intersection in Oakura be reviewed, based on recognised national criteria.

A number of other improvements at other locations are set out in the Technical Report.

In addition to these physical improvements to the road network, it is proposed that consideration be given by the Taranaki Regional Land Transport Committee to a driver education campaign on the use of flush medians by right turning vehicles and lane utilisation on multi-lane roads. Such a campaign could also be coordinated with other national driver education programmes.

## 15. RURAL TOWNSHIPS

Traffic and road management measures in rural townships should be reviewed regularly to balance 'main street' interests with the need to maintain smooth traffic flows.

Traffic management measures in rural townships should include:

- speed restrictions and other traffic calming measures to control traffic speeds
- controls on local road and property access to minimise conflicts between local traffic movements and through traffic
- parking restrictions, such as the avoidance of angle parking, to minimise conflicts between parking manoeuvres and through traffic
- pedestrian facilities, including refuges and crossings for pedestrians to cross the 'main street'
- cycling facilities including the provision of cycle lanes
- restrictions on engine braking by heavy vehicles.

Road management measures may include:

- balancing the allocation of road space between traffic lanes for the movement of traffic, parking and cycle lanes, footpaths for pedestrian movement and community space such as for on-street dining
- low noise road surfaces to minimise traffic noise.

The existing arrangements for managing through traffic, local traffic and local community activities in the rural townships of Inglewood, Urenui, Oakura and Okato have been well planned by the New Plymouth District Council. In particular, the existing speed restrictions and other traffic controls are appropriate for managing through traffic.

There is an existing internal bypass of Inglewood for heavy vehicles. At the outbound end of this bypass, a taper should be provided for heavy vehicles to more safely merge into the traffic stream on the highway.

External rural bypasses of Inglewood, Urenui, Oakura and Okato remain uneconomic.

## 16. CONCLUSION

Together with the implementation of travel demand measures, the two main conclusions to emerge from the New Plymouth Strategic Study are:

- Northgate should be widened to four lanes with an additional auxiliary lane westbound between Mangorei Road and Leach Street, a right-turn lane into Hobson Street, and additional lanes for turning traffic at the Northgate/Mangorei Road intersection
- Devon Road, including the Waiwhakaiho River Bridge, should be widened to six lanes with additional lanes for turning traffic at the Smart Road and Vickers Road intersections.

Other conclusions include:

- most of the existing road network will cater for future traffic volumes for the next 25 years, and even up to 40 years
- some adjustments should be made to the classification of local urban roads, and the rural road network should be classified
- provision should be made to ultimately improve the alignment of District Route 1 as a Minor Arterial Road
- based on projections of future traffic volumes and the provision of cycle lanes on all Arterial and most Collector Roads, where necessary in preference to on-street parking, provision should be made for the need to widen some sections of the carriageway, but generally without the need to widen the road reserve, on the following Arterial and Collector Roads:
  - Eliot Street-Coronation Avenue
  - Devon Street East
  - Devon Street West
  - South Road
  - Tukapa Street
  - Carrington Street
  - Frankley Road
- the Morley Street-Vivian Street intersection should be signalised
- the one-way pair on Leach Street-Vivian Street and Powderham Street-Courtenay Street should be retained with improvements to the Central City Area road network including:
  - three through lanes on Leach Street between Eliot Street and Liardet Street

- some additional approach lanes at intersections
- some additional parking restrictions
- traffic signals at the Leach Street intersection with Gover Street
- a new link between SH3 (South) and the Port is not economically justified
- a second upstream or downstream crossing of the Waiwhakaiho River may be required and further investigations are already underway to determine with more confidence the traffic growth on SH3 (East) along Northgate and Devon Road, and across the Waiwhakaiho River
- measures should be taken to minimise the growth of traffic in the SH3 (East) corridor including:
  - increasing the self-sufficiency of Bell Block
  - improving public transport services between New Plymouth and Bell Block, and encouraging industries to develop travel plans and other measures, in order to minimise dependency of private car travel
  - integrating future commercial development at Waiwhakaiho and residential development up Smart Road with improvements to the Northgate - Devon Road corridor and possibly a second crossing of the Waiwhakaiho River
- future development of the Waiwhakaiho commercial area and the Smart Road residential area should be integrated and coordinated with the development of the SH3 (East) corridor on Northgate and Devon Road and, in particular, the Devon Road/Smart Road intersection
- the MOU between the New Plymouth District Council and the NZ Transport Agency for access management on SH3 (East) through Bell Block should be modified to allow access at Vickers Road, Egmont Road and de Havilland Drive with provision, ultimately for an interchange at the Airport Drive/de Havilland Drive intersections
- bypasses of the rural townships of Inglewood, Urenui, Oakura and Okato are not economic and, generally, the existing arrangements for managing through traffic, local traffic and local community activities in the 'main streets' are appropriate.

The report has also proposed a number of short-term traffic and road management improvements including:

- reconfiguration of the St Aubyn Street/Breakwater Road/Lawry Street/South Road intersection to provide a half roundabout, with associated removal of the slip lane and shortening of the pedestrian crossing
- closure of the Watson Street and Ngaio Street intersections on Northgate and the Constance Street intersection on Devon Road
- restrictions on right-turn movements out of Junction Street at the Junction Road/Junction Street intersection on State Highway 3 (South), subject to a review of the speed limit on Junction Road
- provision of a mid-block signalised pedestrian crossing across Courtenay Street between Liardet Street and Gover Street
- reconfiguring and regrading of the Hobson Street/Molesworth Street intersection

- removal of the existing traffic calming treatments in Pioneer Road, subject to a safety audit
- provision of a parallel route through the Bell Block industrial area by connecting up Connett Road and extending Hurlstone Drive west to connect with Smart Road and east to connect with Paraite Road
- extension of Donnelly Street to connect to Upper Wairau Road in Oakura
- review of the speed limits on Junction Road on SH3 (South), Corbett Road for heavy vehicles and SH45 west of Wairau Road in Oakura
- minor changes to pavement markings and on-street parking provisions at various other locations.

These findings and conclusions as summarised here are set out more fully in the Technical Report.

Traffic Design Group Ltd  
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