

Ngauranga to Wellington Airport Draft Corridor Plan

For consultation

June 2008

Draft

Foreword

The corridor between Ngauranga and Wellington Airport is arguably the most crucial part of the greater Wellington region's strategic transport network

Within this corridor are the gateways to the Wellington CBD, our regional port, State Highway One; the main trunk railway line and our domestic and international airport. Thousands of commuters rely on this network to get to and from their place of employment. There are vital connecting points for passengers and freight from north, south and overseas. Wellington CBD is the second largest commercial and retail centre in the country. And, last but not least, each day the corridor enables residents, students and workers to travel in all four directions within the capital city.

Over the next 20 years parts of this corridor – Johnsonville, Newtown (Adelaide Road) and Kilbirnie - will accommodate an estimated 30,000 more people. It is essential therefore that this corridor plan enables people to go where they need to go as smoothly and efficiently as possible. It is also important that it is environmentally sustainable and builds on the vibrancy and innovation for which Wellington is internationally renowned.

The plan must be flexible. Now, perhaps more than at any other time in history, the future is unknowable and our best predictions are likely to be inaccurate. Over the past five years, a number of global issues have gained increasing prominence including the forecasted impact of greenhouse emissions on climate, the effects of unstable and increasing oil prices, possible technological responses to these developments and forecast ageing of local populations. The future is uncertain and the pace of change is accelerating. This shows a need to make plans for the corridor that can respond and adapt to change.

To this end, the plan identifies elements that may be necessary for the future of the city based on current knowledge of possible scenarios. It aims to protect those elements to ensure that they are available if required, and sets out factors that may trigger an early review of some elements. The plan is intended to be a living document that will be adaptive as our knowledge improves.

We encourage you to read this document and make sure you let us know what you think, either by filling in the form at the back, making a submission or commenting online at www.gw.govt.nz/n2a

Bryan Jackson
Chair, Transit New Zealand

Kerry Prendergast
Mayor of Wellington

Fran Wilde
Chair, Greater Wellington

Introduction

For the last 100 years or so, urban planners have considered what makes transport corridors successful. One of the most common recipes for success, which can be found in cities all over the world, has four important ingredients. Firstly, at the heart of the corridor is a highly reliable and frequent public transport route - such as a well-operated rail, bus or light rail system. Secondly, running along the public transport route is a 'high street' or 'main road' where the shops, business, schools and community facilities locate. The third part of a successful corridor is the regional 'bypass' or 'ring route' for vehicles - this can be a motorway or local road. And the fourth is a set of interconnected and convenient local street, walking, cycling and public transport networks.

Each of these elements has an important role within the corridor: the public transport system is the main people mover; the 'high street' is where the main activities locate, often around public transport stations, the 'ring route' is for time-critical vehicular travel not needing to access the 'high street' directly, and the interconnected cycling, walking and public transport networks encourage sustainability and enhance urban vitality and liveliness.

These four ingredients form the basis of the Ngauranga to Airport draft corridor plan. The draft plan is the culmination of more than three years of research and consultation by a study team from Transit New Zealand, Wellington City Council and Greater Wellington Regional Council.

In May 2006 the team asked the community what were the key transport issues for Wellington city. This provided valuable information on what options could be considered to improve the network and ensure its future reliability and effectiveness. Many of these options were assessed in detail by the study team. The options were tested against criteria such as feasibility and good urban design, and against the public consultation feedback. An example of a proposal that was discarded was the widening of Wallace Street through Mt Cook. While such a project would reduce travel times for buses and vehicles travelling to and from the southern suburbs, the required destruction of up to 50 heritage houses and the impact on the local area were deemed to be unacceptable from an urban development perspective.

Light Rail Option

The study looked at the option of building various light rail systems including one running from Johnsonville through the city and out to the airport. Our predictions are that in the short term a light rail system would have a relatively small impact on increasing the percentage of people using public transport. Light rail was also found to be expensive to build and operate in comparison with bus-based solutions. The study concluded that unless growth projections or global economic conditions changed markedly (such as, for instance, an unexpected growth in population numbers or a substantial and sustained increase in the cost of fuel), light rail would not be a cost effective solution for Wellington in the short term. It was recommended that this option be reviewed after five years.

The study also considered the issue of the current railway station being located at the north edge of the CBD, requiring commuters to walk or bus the remaining distance to their jobs. The option of extending the heavy rail line underground, near the waterfront, to Courtenay Place was considered as a possible solution. This option was rejected on a number of grounds including its high cost and practical construction difficulties.

More details about the study, the options, technical reports and the consultation feedback, are available at www.govt.nz/N2A

Draft

The big picture

The draft corridor plan has been developed under the umbrella of several broader national, regional and urban strategies. These are the NZ Transport Strategy, the Wellington Regional Strategy, the Wellington Regional Land Transport Strategy and Wellington City's Transport and Urban Development Strategies.

The plan is connected directly to the Wellington Regional Land Transport Strategy (RLTS 2007-2016). The RLTS guides the long-term development of our region's transport system including public transport, roads, walking, cycling and freight for the next 10 years and beyond.

The RLTS describes the long term vision for the Ngauranga to Airport corridor in the following way:

'Along the Ngauranga to Wellington Airport Corridor, access to key destinations such as CentrePort, Wellington City CBD, Newtown Hospital and the International Airport will be efficient, reliable, quick and easy. Priority will be given to public transport through this corridor, particularly during the peak period. Public transport will provide a very high quality, reliable and safe service along the Wellington City growth spine and other key commuter routes. The road network will provide well for those trips which can not be made by alternative modes and will allow freight to move freely through the corridor. Traffic congestion through the corridor will be managed at levels that balance the need for access against the ability to fully provide for peak demands due to community impacts and cost constraints. Maximum use of the existing network will be achieved by removal of key bottlenecks on the road and rail networks.'

The RLTS contains the following region wide strategic outcomes:

- Greater use of public transport
- More people walking and cycling
- Fewer greenhouse gas emissions
- Less severe road congestion
- Fewer road accidents
- Improved land use and transport integration
- Improved regional freight efficiency

Also, Wellington City Council's Transport and Urban Development Strategies seek to achieve:

- Future population and employment growth along a 'growth spine' between Johnsonville and Kilbirnie, (see pages 5 and 13 for more information), supported by:
 - A dedicated, high quality and high frequency public transport corridor
 - A high quality state highway route with dependable travel times
 - Bus priority along connecting arterial routes
- Convenient and safe walking and cycling routes
- Limited commuter parking in the CBD
- Better access to the waterfront.

All of the above outcomes have been accounted for in the development of the draft Ngauranga to Airport plan.

Flexibility and adaptability

The draft corridor plan includes a commitment to short-term developments and initiatives to meet pressing needs, and signal likely changes needed to address longer term needs. The timing of longer term projects will be reviewed as significant trends emerge. The plan will be reviewed regularly, i.e. every five years or earlier, to ensure that it is taking account of significant changes, or if new information arises that affects our understanding of the network.

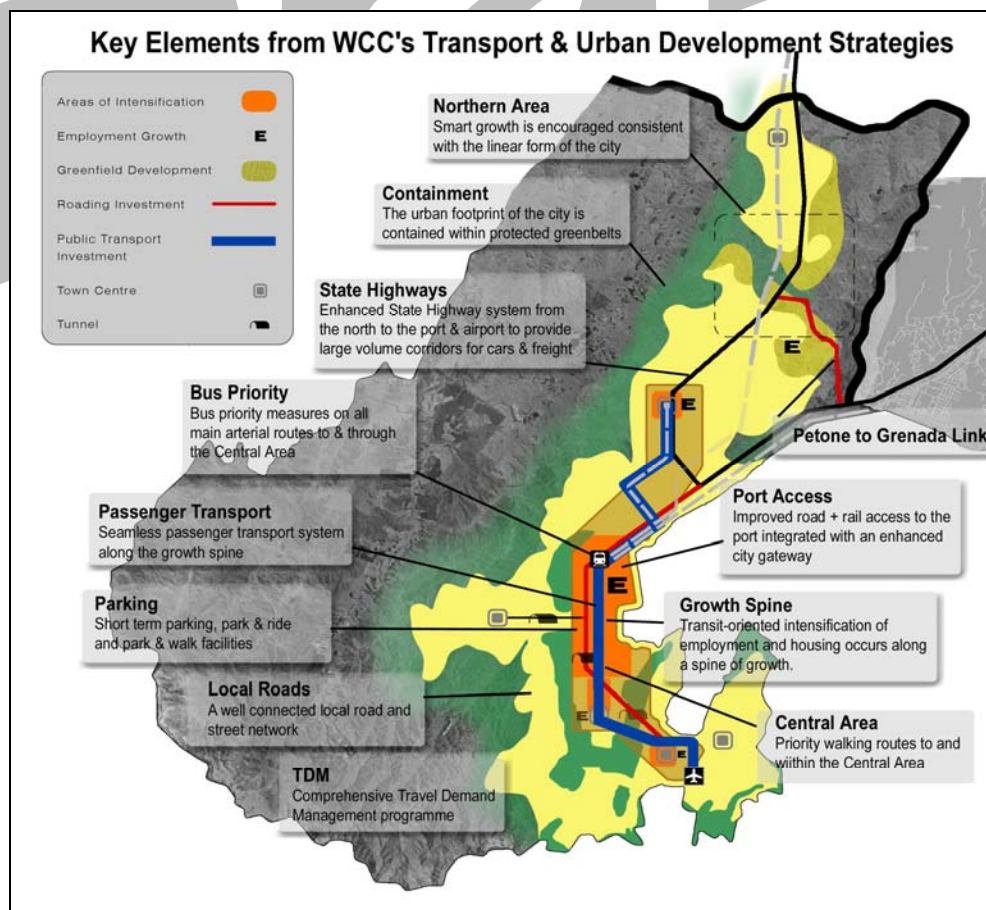
The scope of the longer term projects in the plan is based on a number of factors that are likely to affect the growth of travel demand. These factors underpin the transport modelling upon which the plan is based. Any material changes in these factors may trigger a review of the timing and / or need for the projects in the plan.

These factors are:

Urban form

Current travel demand derives from the existing urban form of the region which primarily influences population and employment densities. If future settlement patterns change densities materially, a review of the plan may be required. The plan takes into account the 'growth spine' (see diagram below) identified by Wellington City's Urban Development Strategy and the Wellington Regional Strategy, from Johnsonville, through the CBD and Newtown to Kilbirnie.

The draft corridor plan assumes that the city manages growth, mainly through controls in its District Plan, in accordance with this growth strategy. Public transport services will be improved along this growth spine to support the denser urban development that is envisaged.



Population growth

Population for Wellington region is expected to grow by 12% (53,200) by 2026 in line with the 2007 Statistics NZ estimates (medium projection). If the rate of population growth is slower or faster than predicted this could affect the timing of the longer term projects.

Economic growth

There is a strong correlation between economic growth and the growth in demand for transport. The transport modelling underpinning the plan assumes 1.8% annual growth in regional Gross Domestic Product, in line with the expectation of the Wellington Regional Strategy.

Social, technological and lifestyle change

Over the next 30 years significant social and technological changes, e.g. increase in telecommuting, could affect the demand for transport. This may change the types of trips we make, how we make them (i.e. what mode we choose) and how often we travel.

Operating costs of private motor vehicles

Any factor which changes the relationship between the cost of operating private motor vehicles and the cost of alternative transport (public transport, walking, and cycling) will affect travel patterns. Factors which could significantly affect this relationship include international oil prices, carbon charges, vehicle technology changes (such as a shift to electric cars) or subsidy policies regarding public transport. A significant change such factors may require the plan to be adjusted, which could mean that some projects are brought forward and others delayed.

Car ownership and use

Research shows that the region's level of car ownership has been increasing steadily for decades, and is not forecast to taper off until 2050. However, in an era of rapidly rising fuel prices vehicle use may decline or at least the rate of growth may slow. Conversely, if there is a large up take of alternative fuels or electric vehicles then the rates of car use may increase. These statistics will be monitored and any material changes may require the plan to be amended.

Current and ongoing activities and initiatives

The draft Ngauranga to Airport corridor plan builds on several initiatives and projects already under way within the corridor.

These include:

Urban development

Population in Wellington City is forecast to grow by 20% (35,000) by 2026. The city has developed a growth strategy, in line with its Urban Development Strategy and the Wellington Regional Strategy, aimed at ensuring most of that growth is concentrated along a growth spine from Johnsonville, through the CBD and Newtown to Kilbirnie, as shown in the diagram below.

The corridor plan assumes that the city manages growth, mainly through controls in its District Plan, in accordance with this growth strategy. Public transport services will be improved along this growth spine to support the denser urban development that is envisaged.

Public transport

Greater Wellington is the primary agency responsible for the provision of public transport services throughout the region. GW has a number of projects under way to improve the passenger transport system over the next few years. Key improvements are:

- Relieving the rail 'bottleneck' at Kaiwharawhara (an Ontrack project)
- Sixty-one refurbished trolley buses introduced progressively from 2007 to 2009 to replace the aged fleet, increase passenger capacity and comfort, and reduce greenhouse gas emissions
- Progressive implementation of a real time information system from 2009
- Progressive implementation of comprehensive integrated ticketing from 2011

Wellington City Council has a 10-year plan to progressively implement bus lanes on all key routes to ensure bus services can operate as reliably and efficiently as possible.

Airport Flyer improvements [insert pic]

Taking public transport to and from Wellington Airport is set to become easier and more convenient. NZ Bus, owners of the Airport Flyer, plan to install a new bus stop for the Flyer just outside the terminal doors. The company also plans to add more buses to the Airport Flyer fleet, to enable more frequent services to and from the airport. Plans for a more direct, and quicker route, are also under way.

Travel demand management

A region-wide Travel Demand Management (TDM) Strategy is being implemented by Transit NZ, Greater Wellington and Wellington City Council.

The strategy aims to manage car traffic growth particularly at peak times, increase the number of people using public transport to travel to and from work, actively encourage walking and cycling and improve integration between all modes of transport. It is expected that such changes will lead to reduced greenhouse gas emissions, lower fuel consumption, less road congestion, increased residents' satisfaction and the region's economic development being supported.

An example of a Travel Demand Management project is the proposal to work with private carpark owners with the aim of altering tariffs to reduce the current arrangements that favour long-stay parking (commuters) over short-stay (shoppers, users of services).

At present most private carpark providers discount rates for commuters who arrive early and stay all day. In this proposal car park owners would be encouraged to reduce the number of car parks allocated for commuters, and allow more parking spots for people parking for a shorter period of time, who are shopping, or doing business in the CBD. This would help reduce congestion at peak times and encourage more people to use public transport to get to work.

Walking and cycling

Region-wide walking and cycling plans are being developed. The plans aim to create, improve and better co-ordinate walking and cycling routes and facilities to make these means of transport safer, more convenient and more attractive.

Road network management

Transit NZ will work with Wellington City Council to ensure that traffic operations are managed to provide the most efficient means of moving public transport, pedestrians and private transport through the roading network and best meet the competing demands of these modes. This includes installation and management of such tools as variable message signs, traffic signals, web cameras, variable speed signs and other traffic management tools.

Wellington City Council will implement roading improvements including the installation of new intersections, over the next few years to improve access to the Inter Island Ferry Terminal and CentrePort. These improvements will also service ongoing development at Harbour Quays and on railway land in the Pipitea precinct.

Wellington City Council is responsible for the renewal, maintenance and operations programmes for roads, footpaths, traffic signals and street lighting. The Council is continually identifying and implementing road safety improvements and urban design projects to revitalise city streets.

Proposed improvements and actions

On the following pages are a series of planned improvements to the strategic transport infrastructure within the corridor. The improvements are separated into actions and projects to be completed within the next 10 years, and longer term measures that should be further investigated over the next 10 years and implemented as conditions and funding allow.

A key priority of this draft plan is the development of a passenger transport network to support the growth spine, as explained in the previous section of this document. This route sits at the core of the corridor and will provide transport growth capacity, reduce congestion, improve liveability, guide and support a bigger urban population, and provide some resilience against fuel supply and price shocks.

The draft plan proposes a staged approach to the implementation of the required improvements. In the early years the railway line to Johnsonville will be upgraded and bus priority measures will be provided through the central city where the greatest benefits can be gained for the biggest number of users. Bus priority measures will also be implemented on arterial routes which service the city centre and eventually the network will be completed out to the key suburban centres. In later years the dedicated road space that has been allocated for passenger transport use may be upgraded further to provide a high quality, dedicated bus way or light rail system.

Other priorities include:

- improvements to the existing SH1 route into and through the city to support the public transport network and to improve the efficient operation of the highway
- walking routes to cater for the substantial numbers of people who walk, to encourage growth in these numbers, and increase urban vitality
- cycling routes and facilities to assist this small but growing mode of transport.

Funding for the measures will come from a mix of national and local sources. This will be determined by the Regional Land Transport Committee in 2009 as part of the development of the new Regional Land Transport Programme.

Overview diagrams

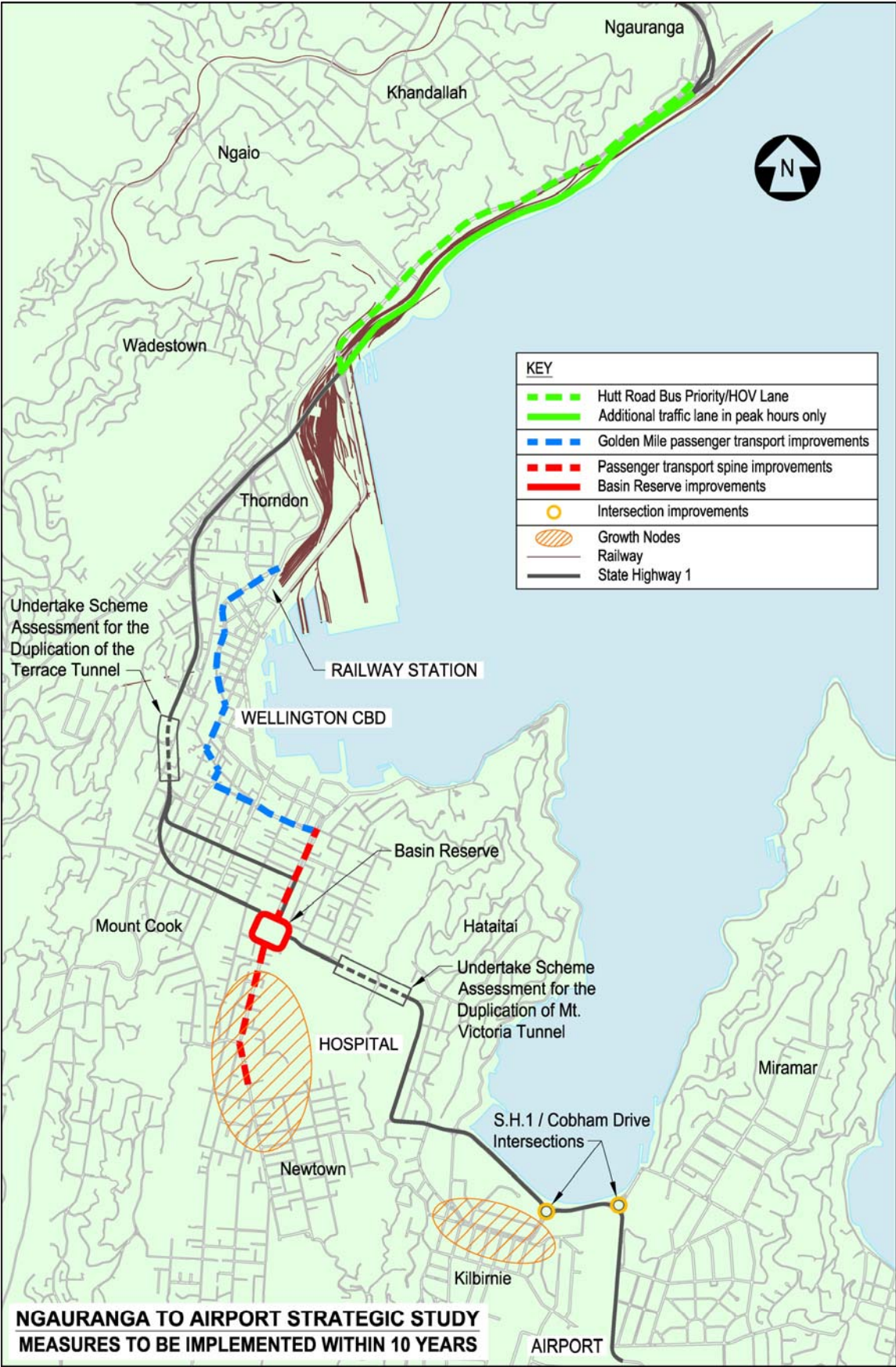


Figure 1: Ngauranga to Wellington Airport Corridor - Measures to be implemented within 10 years.

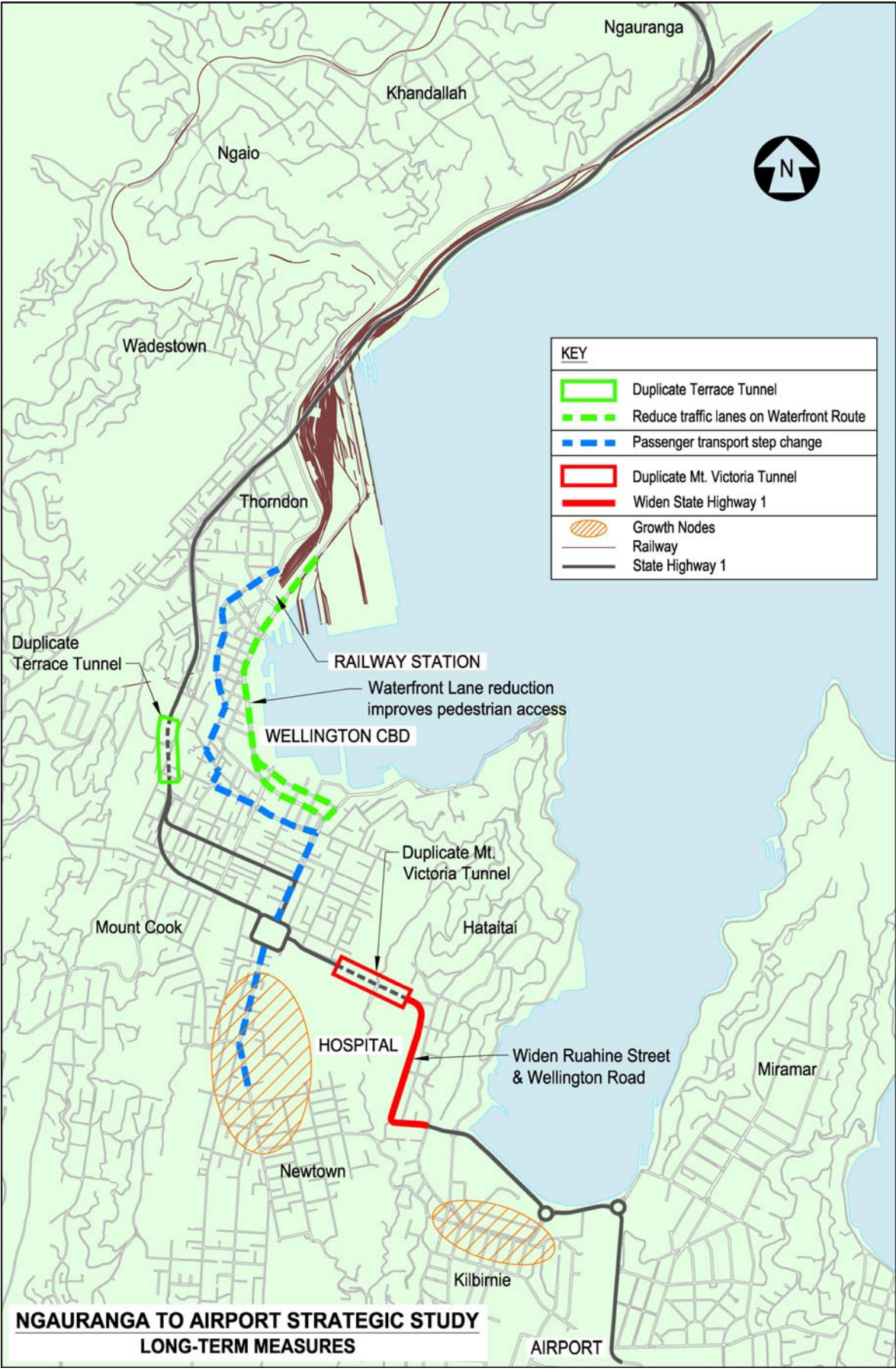


Figure 2: Ngauranga to Wellington Airport Corridor - Measures that may be implemented (beyond 10 years).

Short term projects to ensure the continued success of the corridor

The following projects are proposed for implementation within the next five to 10 years because they are essential to ensure that the Ngauranga to Airport corridor continues to fulfil its important regional and local functions. Taken together, these projects address the most urgent transport issues within the corridor and achieve the targets set for the plan.

These projects strengthen the four key ingredients, discussed in the introduction to this document, of a successful and sustainable urban corridor. The ingredients are::

1. A high quality and frequent public transport 'spine'
2. Highly accessible and attractive 'activity' or shopping streets
3. A reliable and accessible 'ring' or bypass route for vehicles
4. Interconnected and convenient local street, walking, cycling and public transport networks.

1. A high quality and frequent public transport 'spine'

- ***Bus priority measures through the central area***

Implement bus priority measures along the public transport 'spine' from the railway station to Newtown to improve journey times, reliability and passenger waiting and boarding provisions. Improvements to be made on: Lambton Quay, Courtenay Place, Kent and Cambridge Terraces, Taranaki Street, Manners Street and Willis Street.

These improvements would include dedicated bus lanes all along this route at peak morning and / or evening times, traffic signal pre-emption to allow buses that are running late to be given a run of green lights, and up-to-the-minute information, displayed electronically at bus stops along the route, about when the next bus will arrive.

When: From 2008

Cost Estimate: \$5.5m

- ***Hutt Road bus lane***

See the discussion under *Motorway improvements* below

When: Construction could begin mid to late 2010

Cost Estimate: \$30m

- ***Basin Reserve bus priority (and traffic) improvements***

Design and construct Basin Reserve improvements to separate east-west traffic from north-south flows and implement passenger transport improvements on Kent Terrace, Cambridge Terrace and Adelaide Road.

The competing needs of north/south and east/west traffic, plus proposed developments around the Basin such a supermarket, and an intention to increase the use of the Basin for sporting and other events, mean that road capacity will be reached in the next few years, This will create extensive delays to all forms of transport. Installation of the proposed public transport spine (bus lanes/bus way/light rail) will require a major upgrade to the configuration of the road around the Basin Reserve. Added to this is the

need to cater for the development of Adelaide Road and Newtown and improve access to schools in the area and Government House.

Part of the consideration of the development of the road around the Basin Reserve grounds is to revitalise it as a public space and make it more accessible via public transport while also improving walking and cycling opportunities. The alterations, as shown on the diagram below / above, will need to be designed carefully to enhance the area and create a grand entrance to the Basin.

When: Construction from 2010 / 11

Cost Estimate: \$33m

2. Highly accessible and attractive 'activity' or shopping streets

- Provision for this is largely the responsibility of Wellington Council, through its District Plan, its growth strategy (explained earlier in this document) its walking policy and plan (see discussion under *Walking network improvements* below).
- The proposal to work with car park providers to encourage more short-stay parking in the central area will also contribute to the short-term success of this aspect of the corridor.

3. A reliable and accessible 'ring' or bypass route for vehicles

- ***Motorway improvements (and bus lane creation)***

Construct Ngauranga to Aotea peak period lanes and reallocate existing lanes on Hutt Road for bus lanes and possibly high occupancy vehicles.

This will involve using the shoulder lanes on each side of the motorway as an extra lane during peak hours. This would make maximum use of the road, reduce travel times, improve reliability, benefit vehicles carrying freight to the port and airport and take one lane of traffic off the Hutt Road.

When: Construction would begin mid to late 2010

Cost Estimate: \$30m

- ***Cobham Drive roundabout improvements***

Implement intersection improvements at Cobham Drive roundabouts

Additional lanes will be created at both existing roundabouts on Cobham Drive, to accommodate increased traffic flows resulting from the planned residential and employment growth in this area, and the construction of a major indoor sports centre. The additional lanes will also improve the efficiency and reliability of the route to and from the airport for both public and private transport.

When: Construction from July 2010

Cost Estimate: Less than \$1m

- ***Basin Reserve traffic (and bus priority) improvements***

Refer to the discussion under *Basin Reserve bus priority* above

When: Construction from 2010 / 11

Cost Estimate: \$33m

4. **Interconnected and convenient local street, walking, cycling and public transport networks**

- ***Local bus priority measures***

Implement bus priority measures on all Wellington City's main arterial routes, (including Mulgrave, Murphy and Molesworth Streets, Adelaide Road, Thorndon Quay, The Terrace and Glenmore Street.) and to all key suburban centres including Newtown, Hataitai, Kilbirnie, Brooklyn, Karori and Island Bay.

Measures would include dedicated bus lanes all along this route at peak morning and / or evening times, traffic signal pre-emption to allow buses that are running late to be given a run of green lights, and up-to-the-minute information, displayed electronically at bus stops along the route, about when the next bus will arrive.

As widening of existing roads in Wellington is prohibitively expensive and highly destructive to the urban environment, these bus priority measures will play a very important role in increasing the capacity of the arterial routes to accommodate growth in travel demand and changes in travel patterns.

When: From July 2009

Cost Estimate: \$14.6m

- ***Walking network improvements***

Develop and implement a Wellington City walking policy and plan.

The Wellington City Council walking policy will attempt to grow Wellington's reputation as the most walkable city in New Zealand. More specifically, it will promote walking in general; improve safety for walkers; promote walking to and from the central area and suburban centres; and promote walking to and from educational facilities and public transport. It will also make walking within the central area more convenient.

When: A draft policy will be consulted on in July / August 2008

Cost Estimate: To be determined

- ***Cycling network improvements***

Develop and implement a Wellington City cycling policy and plan

The Wellington City Council cycling policy will attempt to make cycling safer and more convenient. Cycling to and from the central area, suburban centres and educational facilities will also be promoted.

When: A draft policy will be consulted on in July / August 2008

Cost Estimate: To be determined

Ensuring continued long-term success: investigating future options

To ensure the corridor can accommodate possible future changes in travel demand and travel patterns, four scheme assessments are proposed. The projects chosen for detailed scheme assessment all offer potentially significant strategic benefit for the corridor, and may become essential to its continued success. The assessments are intended to occur after 2013, after the first review of the plan.

A scheme assessment is a detailed study to determine the scope, options and likely cost of a proposed project. If appropriate, the next steps in the project development process are to seek consents and develop detailed construction plans.

- **Wellington Road and Ruahine Street widening**

Four-laning of these roads would provide space for bus priority lanes, increase the efficiency and reliability of the route to and from the airport, and would be necessary if the Mt Victoria tunnel was duplicated.

Cost Estimate: \$1m for the scheme assessment
\$43m if the project is undertaken

- **Mt Victoria Tunnel duplication**

Duplication of this tunnel would relieve projected congestion by improving traffic flows, and increase the reliability and efficiency of the main route to and from the airport.

Cost Estimate: \$5m for the scheme assessment
\$175m if the project is undertaken

- **Bus way or light rail network**

This project would involve upgrading the capacity of the core public transport route from Johnsonville or the railway station, to the regional hospital in Newtown or the airport. This could be either a stepped improvement to the bus system (such as a guided bus way) or replacement of buses with light rail, or similar systems, along this public transport spine.

Cost Estimate: \$6m for the scheme assessment
Cost to be determined if the project is undertaken

- **Waterfront route and The Terrace Tunnel**

This project involves the removal of two lanes from the central area waterfront route (from Bunny Street to Taranaki Street) and the concurrent duplication of The Terrace tunnel. Duplication of the tunnel, needed only if two lanes are removed from the Quays, would improve traffic flows and help create a reliable and efficient route to and from the airport. Removing two lanes from the waterfront would improve the urban environment along the waterfront route, make it easier to get to the water, and allow for better provision for cyclists and walkers.

Cost Estimate: \$6m for the scheme assessment
\$167m if the project is undertaken

Contribution to strategic outcomes

The draft Ngauranga to Airport corridor plan contributes to the outcomes of the Regional Land Transport Strategy (2007-2016) in the following ways.

- Greater use of public transport and more people walking and cycling

Public transport, walking and cycling should increase due to population growth in and around the growth spine, investment in bus reliability and travel time improvements and investment in walking and cycling infrastructure. These measures should also improve road safety and contribute to improved land use and transport integration.

- Fewer greenhouse gas emissions

Greenhouse gas emissions remain at or near the current levels despite significant population and economic growth. Modelling suggests that the measures recommended for the corridor will have very little effect on CO₂ emission levels. This indicates that measures outside the scope of the regional transport programme, such as changes in propulsion technology or national fuel efficiency standards, will be necessary to achieve significant emission reduction targets.

- Less severe road congestion

The recommended improvements in the draft plan will remove buses, via dedicated bus lanes, from the congested roadway and will ease some bottlenecks (e.g. at Basin Reserve). In the longer term the Mt Victoria Tunnel duplication, and the four-laning of the eastern approach, will improve forecast congestion and improve traffic flows to and from the eastern suburbs and the airport.

- Fewer road accidents

The recommended improvements to public transport, bus priority measures, safer walking and cycling routes will all work towards improving regional road safety.

- Improved land use and transport integration

Recommended improvements to public transport along the identified 'growth spine' between Johnsonville and Kilbirnie, along with a high quality bus way or light rail system in the longer term, will improve land use and transport integration.

- Improved regional freight efficiency

Recommended localised improvements to the capacity of the road between Ngauranga to Aotea, and improvements to the entire SH1 route between Ngauranga and the airport, will assist some freight movement.