



NZ TRANSPORT AGENCY
WAKA KOTAHI

WELLINGTON NORTHERN CORRIDOR

Project Summary Statement
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ROAD OF NATIONAL SIGNIFICANCE: WELLINGTON NORTHERN CORRIDOR

1. PURPOSE OF DOCUMENT

The purpose of this paper is to provide information on the context, strategic benefits and implementation plan for the completion of the Wellington Northern Corridor project, one of the seven Roads of National Significance (RoNS).

2. STRATEGIC CONTEXT

2.1 Population, employment and growth

The Wellington metropolitan area is New Zealand's third largest population (470,000) and economic centre after Auckland and Christchurch. As New Zealand's capital, it is a focal point for the public sector and the location of many central government agencies.

Being almost geographically at the centre of New Zealand it is a hub for north/south movement of freight and people. For example, approximately seven million tonnes of long distance freight (road and rail) move through Wellington each year, with over one million passengers per year crossing the Cook Strait, and around five million passengers using Wellington Airport every year.

The main economic centres within the Wellington region are the Wellington CBD, the northern part of Wellington City, and Gracefield/Seaview. Gracefield/Seaview contains around 50% of the industrial floor space for Wellington and Lower Hutt.

While the region's population is growing relatively slowly compared to Auckland, population growth is projected to continue over coming years, particularly in central Wellington and on the Kapiti Coast. The Wellington Regional Strategy – the region's principal growth strategy – identifies several regional "focus areas" where development is anticipated over the next 20 years.

2.2 Existing routes

The region's transport network has developed around two key corridors, consisting of SH1 and the North Island Main Trunk rail line along the western coastline of the region, together with SH2 and the Wairarapa rail line extending north east from Wellington City into the Wairarapa. These two corridors are connected by SH58, which runs between Lower Hutt and Porirua.

SH1 between Levin and the Airport is the main roading connection in, through and out of the Wellington region. It provides a critical link to the lower North Island and key regional destinations including the Wellington CBD (the region's main employment centre), CentrePort, the Interislander ferry, and the Wellington International Airport.

Traffic levels on this route vary from 9,800 vehicles per day (vpd) at the northern end to 86,000 where SH1 and SH2 merge, reducing to approximately 24,000 vpd on the approach to Wellington airport. These operating conditions have led to the route becoming regularly congested, often resulting in unreliable travel times for motorists. Part of the route also suffers from a poor safety record.

2.3 Objectives of the Wellington Northern Corridor RoNS

Within this context, the objectives of the Wellington Northern Corridor RoNS are:

- To enhance inter regional and national economic growth and productivity
- To improve access to Wellington's CBD, key industrial and employment centres, port, airport and hospital;
- To provide relief from severe congestion on the state highway and local road networks;
- To improve the journey time reliability of travel on the section of SH1 between Levin and the Wellington airport; and
- To improve the safety of travel on State highways

The elements contained in the Wellington Northern Corridor RoNS package are summarised below on Map 1.

Map 1: Proposed and existing routes



3. BENEFITS

3.1 National network benefits

The Wellington Northern Corridor is expected to deliver several significant benefits to the national network when it is completed:

- Enabling more efficient transport movements to, through, and within Wellington from the upper and lower North Island by removing key bottlenecks in the main urban centres of Kapiti and Wellington city;
- Providing a safer route for vehicles travelling to and from Wellington along SH1.

With a four-lane divided carriageway over the majority of the route, journey time and reliability will be significantly improved. The project is forecast to deliver travel time savings of between 23 and 33 minutes between Levin and the airport in the peak period and between 17 and 20 minutes during the day in 2026.

Safety benefits will also flow from the higher standards of the road construction. This is particularly the case for the section between Linden and Levin, where 88 percent of the total crash benefits will accrue. Crash costs are expected to reduce by 35 percent on this section because, generally, the existing road will be bypassed with a better standard of road geometry, a physical median and grade separated interchanges.

3.2 Regional growth benefits

The Wellington Northern Corridor is expected to deliver several growth benefits to the region when it is completed by:

- Supporting the land-use and economic growth aspirations of the region; and
- Improving connectivity between regional economic hubs.

The Wellington Northern Corridor RoNS aligns with several regional “focus areas” identified in the Wellington Regional Strategy. One of these areas is the “growth spine” from Johnsonville to the airport, on which the Wellington City Council’s Urban Growth Strategy is premised. The growth spine concept includes development of Johnsonville as a major sub-regional centre, along with the Lincolnshire Farm structure plan area (just east of Johnsonville). In addition, the growth spine includes areas in the Adelaide Road corridor and Kilbirnie town centre which are interlinked with the improvements to SH1 (such as the Basin Reserve improvements and Mt Victoria capacity).

The Wellington Northern Corridor will also significantly improve connectivity between a number of regional economic hubs including Wellington’s CBD, Aotea Business Park and Paraparaumu; together with Horowhenua regional centres including Palmerston North and Manawatu. Employment forecasts to 2026 suggest that employment in this wider catchment area will increase by up to 44,000 jobs. Given the support for proposed regional growth that the Wellington Northern Corridor would offer, it is estimated that improvements to the SH1 corridor could directly generate approximately 650 new jobs over a 10 year period. A significant number of additional jobs are anticipated to be created indirectly, which are associated with the Wellington Northern Corridor investment.

3.3 Local network connectivity

Many of the individual projects in the Wellington Northern Corridor programme were developed within the context of the Western Corridor Plan (April 2006) and the Ngauranga to Airport Corridor Plan (October 2008). These plans positioned the

recommended state highway improvements within a broader package of transport solutions.

These include rail improvements, including extension of rail services to the north and increased service frequencies; improvements to walking and cycling facilities; the establishment of bus priority measures and integrated ticketing systems; together with a continuing programme of travel demand measures to encourage more efficient use of car trips.

Connectivity and integration between the Wellington Northern Corridor projects and local roading, public transport and active mode networks will continue to be progressed through the development of a network plan. This plan will ensure Resource Management Act processes, land use changes, public transport and local roading initiatives necessary to support the Wellington Northern Corridor are developed and delivered by the NZTA and external partners.

4. PROJECT SCOPE AND ECONOMICS

The Wellington Northern Corridor project is at an early Stage of development. The main focus at present is determining the project elements that make up the overall corridor.

The project scope is defined as:

- (i) improved travel time between the airport and Wellington City by increasing capacity to four lanes and improving traffic movements around the Basin Reserve intersection;
- (ii) improving travel times and relieving congestion between the CBD and Grenada by introducing hard shoulder running where possible in peak periods. Later there will be a need to consider a new east/west link to provide direct connection between Seaview/Petone/Hutt Valley and SH1; and
- (iii) improving travel times from Grenada to Levin by increasing capacity by the provision of a four-lane divided highway with a high standard of access control and grade separation.

A new east-west link (SH1 to SH2) is not proposed as part of the road of national significance programme. The Ngauranga to Grenada section of SH1 does experience ongoing congestion, and it is proposed that this be addressed by improving the quality of connector routes between the road of national significance and the Hutt Valley. After studying a number of options, the NZTA Board prefers a new Grenada to Petone link rather than upgrading SH58 between Haywards Hill and Pauatahanui. However, discussions with local authorities are required to determine how this can best be implemented and appropriate funding shares. This section has not been costed in the overall RoNS portfolio cost.

The forecast outturn costs of the RoNS corridor (in 2009 dollars) at the most likely level is between \$2.1 billion and \$2.4 billion.

The final costs of the RoNS corridor will include future year's escalation (normally three percent) due to increases in input costs largely following national economic inflationary pressures. The actual amount of escalation attributed to individual projects depends on the time frame for the construction. If a project is constructed earlier than predicted then the amount of escalation would be lower. Equally if construction is later than predicted the cost of escalation would be higher. However, at a RoNS corridor level the individual project effects are less marked.

The standard benefit cost ratio (BCR) as currently calculated is based on an 8 percent discount rate. Some would argue that this discount rate leads to investment that is too focussed on short term projects at the expense of large long term infrastructure. To review the impact of the discount rate the BCR with discount rates at 6 percent and 4 percent were also tested.

The standard BCR measures the direct transport benefits arising from the road. The scale of these corridor investments means that it is appropriate to include wider economic benefits (WEBs); that is, the flow-on effects from the transport improvements. The result is to increase the BCR. The results of the analysis are set out in the table below.

Discount Rate	Standard NZTA BCR	BCR inc WEBs
8%	1.1	1.4
6%	1.4	1.9
4%	1.8	2.6

5. IMPLEMENTATION PLAN

5.1 Current status

Project development

The current focus in the corridor is to develop all projects so that the land can be designated for the improvements, and the works made ready for a construction start.

This work can be progressed over the entire corridor in similar timeframes but because of different stages of development of the component parts and the differing communities affected, public consultation and consenting will progress in parts.

The MacKays to Peka Peka and Peka Peka to Otaki sections have recently been consulted on, and the Basin Reserve improvements are likely to be ready for consultation by early 2010. The remaining sections will be grouped for consultation where it would present a more unified and coherent position to the communities involved.

Consenting for all major projects within the Wellington Northern Corridor will utilise the new "call-in" provisions in the Resource Management (Simplifying and Streamlining) Amendment Act 2009. Basin Reserve, Transmission Gully and Peka Peka to Otaki are expected to be the first projects to utilise these provisions in early 2011 followed by Mackays to Peka Peka and Ngauranga to Linden. The current programme plans to have all consents and Notices of Requirement lodged for the overall corridor by mid 2012.

Project delivery

While the current focus is on development of the corridor we have begun working on the order for delivery of the component parts.

We have considered a number of sequencing options for the project in this 111km corridor including delivery north to south; addressing key bottlenecks in priority order; and starting with those segments most ready for consideration.

While the order has yet to be finally determined a consideration of factors have lead to the component elements being delivered in three distinct phases as follows:

- Phase 1 progress Ngauranga to Aotea Quay and Basin Reserve within Wellington; at the same time as progressing Peka Peka to Otaki Section and the Mackays to Peka Peka Section; then
- Phase 2 progress Linden to Mackays; then
- Phase 3 progress the remaining projects as follows:
- Mount Victoria Tunnel duplication and Ruahine St widening;
 - Otaki to Levin; and
 - Terrace Tunnel duplication

5.2 Stretch targets

At this stage of the development there are no immediate stretch targets, however, we expect to be most advanced on the Peka Peka to Otaki section during 2010. Within 6 months we will review progress and see if there are any opportunities to achieve early development and construction of the above elements.

APPENDIX A – PROJECT ELEMENT DETAILS

The project elements that make up the Wellington Northern Corridor programme are defined as follows from south to north, with each section containing the projects listed:

Airport to Mt Victoria Tunnel

Ruahine Street improvements – four-laning and intersection signalisation
Mt Victoria Tunnel duplication

The objective of these projects is to improve access into and around the Wellington CBD, and improve route security, as well as improving access to the airport, the eastern suburbs and the regional hospital. They will also improve access to residential, commercial and educational premises in the area. This will be achieved by increasing capacity through the Mount Victoria Tunnel (the second bore of the tunnel will also provide opportunities to maintain traffic flow during incidents) and improving the efficiency of intersections.

Basin Reserve

Basin Reserve capacity improvements – turning movement separation
Buckle Street memorial park realignment

The objective of these projects is to improve access into and around Wellington CBD as well as improving access to the airport, the eastern suburbs and the regional hospital. They will also improve access to residential, commercial and educational premises in the area. This will be achieved by improving the efficiency of through traffic between the Inner City Bypass and Mount Victoria Tunnel, and passenger transport services between Kent/Cambridge Terrace and Adelaide Road. Improved pedestrian and cyclist access will also be provided to the Basin Reserve.

Terrace Tunnel

Terrace Tunnel duplication

The objective of the projects in this section is to improve the efficiency of the main highway into and out of Wellington, and to improve route security. This will be achieved by increasing capacity in the southbound direction on the most congested part of the urban motorway. Route security will be enhanced by providing a second tunnel bore which will increase our ability to maintain traffic maintained during major incidents.

Aotea Quay to Ngauranga

Aotea Quay to Ngauranga peak time hardshoulder running

The objective of the project in this section is to improve the efficiency of the main highway into and out of Wellington. This will be achieved by increasing capacity during peak times on the most congested part of the urban motorway.

Linden to MacKays

Motorway Improvement

The objectives of the project in this section are to provide a safer, more secure and efficient connection between Wellington and the lower North Island for freight and passenger travel. It will offer greater resilience to earthquakes and flooding, and will provide an alternative route in the event of a major incident or natural event. It will also reduce journey times between Wellington and the key growth areas to the north by providing a higher standard route with greater capacity and fewer intersections. Furthermore, it will allow the existing state highway corridor to be developed into a safe and multi-functional alternative to the proposed new strategic link.

MacKays to Peka Peka

MacKays crossing to Peka Peka expressway

The objectives of the project in this section are to remove congestion points for through-traffic and thereby improve journey time reliability through the Kapiti coast growth area, and to improve safety. It will also enable future employment growth by providing local access to the airport growth area, increasing the efficiency of the movement of freight and people between Wellington and the north.

Peka Peka to Otaki

Peka Peka to Otaki – four-laning and intersection improvements

Otaki Bypass – four-laning and intersection improvements

The objectives of the projects in this section are to ease congestion and improve journey time reliability in Otaki as well as improve safety. The construction of a bypass, at a 100 kph standard, will improve local accessibility and reduce journey time variability for local and through-traffic. This will improve the efficiency of freight and people movements between Wellington and the north and will assist in facilitating economic productivity and growth in the area as well as improving safety.

Otaki to North of Levin

Otaki to Levin – four-laning and intersection improvements

Levin Bypass – capacity improvements and intersection improvements

North of Levin – two-lanes with passing lanes and intersection improvements

The objectives of the projects in this section are three-fold. Firstly, to improve safety and provide capacity into the future for a high speed route for uninterrupted arterial traffic flow through the Horowhenua district. Secondly to remove from the Levin township the inter-regional traffic that on one hand will enhance efficiency for the movement of goods and services on the state highway, while also enhancing the urban amenity and access in and around the local road network. Finally they will serve to provide efficient connections between the major freight hubs of Wellington (and the South Island) with regions to the north and east, such as Palmerston North and Hawke's Bay.