



NZ TRANSPORT AGENCY
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WESTERN RING ROUTE

Project Summary Statement

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ROAD OF NATIONAL SIGNIFICANCE: WESTERN RING ROUTE

1. PURPOSE OF DOCUMENT

This paper provides information on the context, strategic benefits and implementation plan for the completion of the Western Ring Route project, one of the seven Roads of National Significance (RoNS).

2. STRATEGIC CONTEXT

2.1 Population, employment and growth

Boosted by economic growth, tourism and immigration, the population of the Auckland region is projected to grow to two million people within the next 25 years, an increase of over 40% in the current population. This is the equivalent to a city the size of Dunedin being added to Auckland's population every four to five years.

Auckland faces unique transportation challenges because of its geography. The city is located on an isthmus and this means that its motorways are structured around a north south access with two motorway crossings of the Waitemata Harbour providing access between North Shore and Auckland. There is also limited east-west motorway access across the city serving key locations, such as the airport.

Commuters' needs, at this stage of the region's expansion, are only partially accommodated by passenger transport services, while commercial and industrial traffic is almost wholly dependent on the region's existing road system. As a consequence, Auckland's car ownership levels have increased to 1.6 motor vehicles per household, putting it on a par with Southern California, currently the world leader in private car ownership.

The current Auckland network primarily comprises four motorways: SH 1 (Northern and Southern), SH16 (Northwestern, interconnected through the Central Motorway Junction), as well as SH18 (Upper Harbour), and SH20 (Southwestern).

The region as a whole is very vulnerable to queues and delays caused by traffic congestion, which is no longer confined to morning and afternoon peak periods, with many sections of the network becoming increasingly congested through the middle of the day and on weekends. Without road improvements, congestion and the subsequent delays will continue to worsen, with serious potential consequences for the economic and social wellbeing of the region, and the nation.

The Western Ring Route comprises the SH20, 16 and 18 motorway corridors. When complete it will consist of 48km of high quality motorway linking Manukau, Auckland, Waitakere and North Shore Cities. It will provide a high quality alternative route to SH1 and the Auckland Harbour Bridge, and take unnecessary traffic away from Auckland's CBD.

2.2. Existing routes

The Western Ring Route will be a 48 kilometre motorway giving an alternative to SH1 between Albany and Manukau City via SH20, SH16 and SH18. It will bypass the city to the west and link Manukau, Auckland, Waitakere, and North Shore cities. Many of the individual projects that make up the Western Ring Route are already completed (SH18 Upper Harbour Bridge Duplication, SH18 Greenhithe Deviation, and SH20 Mt Roskill Extension) or in construction and expected to be completed in 2011 (SH18 Hobsonville Deviation, SH20 Manukau Extension, and SH20 Manukau Harbour Crossing). The full benefits of the Western Ring Route, however, will only be realised once the whole route is opened, with all of the planned new capacity.

2.3 Objectives of the Western Ring Route RoNS

The objectives of the Western Ring Route project are:

- To enhance inter regional and national economic growth and productivity
- To provide an alternative route through the region that reduces dependency on SH1 and the Auckland Harbour Bridge and unlocks the growth potential of development nodes along the length of the corridor;
- To deliver improved trip reliability for travel from the west to the south, from the north to the southern isthmus and in particular from the CBD to the southern Auckland isthmus and airport;
- To provide for current and future traffic demands by providing new transport capacity for the fast-growing western suburbs of Auckland and linking them with the airport and other important growth destinations within the central and southern isthmus; and
- To enhance the efficiency of the overall network of roads in Auckland by separating local and regional traffic, bringing particular benefits to commuters, transport carriers and residents of adjacent local streets.

Map 1: Proposed and existing routes



3. BENEFITS

3.1 National network benefits

Completing the Western Ring Route is critical to New Zealand's economic transformation in that it will help to enable more efficient movement of people, goods and services in Auckland, the powerhouse of the national economy. The Western Ring Route is expected to deliver several significant benefits to the national network when it is complete by:

- Improving the resilience of the transport network by providing an alternative to SH1 for North-South movement;
- Reducing congestion in other parts of the network by providing an alternate route;
- Improving travel times across substantial areas of the motorway corridor and across the wider Auckland roading network, delivering productivity gains;
- Enhancing access to Auckland International Airport and Ports of Auckland that are strategically important for New Zealand as entry and exit points for tourism and freight; and
- Improving other regions' access to Auckland as a market and as an export hub.

Reductions in travel times are expected in both areas adjacent to the Western Ring Route and to other parts of the transport network that will experience reduced congestion as a result of the Western Ring Route providing an alternative route. For example, in comparison to a 'do nothing' option, the Central Motorway Junction (CMJ) is predicted to experience a reduction of 13,000 vpd (6% of AADT) in 2026 as vehicles use the Western Ring Route. The diversion of these trips will improve traffic flows through CMJ.

The Western Ring Route will deliver significant time savings of 20 to 30 minutes between West Auckland and the airport at peak time. This is a saving of more than 20% of the trip time. It will also lead to more modest savings, averaging around five minutes, for trips between the CBD and airport, and from five to 15 minutes in the peak times between Silverdale in the North and Manukau in the south on SH1.

On the local arterial network time savings include 10 minute reductions during peak hour travel along the Rosebank Road business growth corridor, and five to six minutes savings along important urban corridors such as Dominion Road, Tiverton/Wolverton and Great North Road. The total time savings and subsequent increase in levels of accessibility for businesses will have a significant impact at a regional level.

3.2 Regional growth benefits

The Western Ring Route is expected to deliver significant growth benefits to the region when it is complete, by:

- Supporting the growth aspirations of the Auckland local authorities;
- Improving economic growth and productivity for Auckland and the main industrial belt (around Penrose) through more efficient movement of freight and people, particularly between Waitakere City and Auckland/Manukau City; and
- Increasing accessibility to the western part of Auckland, supporting planned commercial and residential expansion into this area.

The Western Ring Route corridor supports the continued intensification and employment growth within the Rosebank Road area, supports the growth areas within the Westgate, Massey and Hobsonville corridor; and improves regional access to Onehunga, Auckland International Airport, Wiri and Manukau City. The new road

also provides improved intra regional connections to the major growth area of Albany in North Shore City, and the Onehunga-Mount Wellington-Tamaki area in Auckland City.

Forecasts show potential growth in job numbers of up to 19,000 (2,000 new jobs and 17,000 relocated jobs) within the key growth areas identified above. The provision of a new road will support this employment growth, by providing increased accessibility to the area for workers, allowing businesses to better attract new employees.

The certainty provided by the construction of the Waterview Connection will also be a catalyst for change in the western part of the isthmus. Little development has occurred, in part, because current accessibility is poor. However, Auckland City is now planning a higher density mixed use commercial/residential corridor on Stoddard Road bordering the SH20 section of the Western Ring Route.

Waitakere City has already made changes to its district plan for the development of land along the route. These changes will provide opportunities for housing up to 18,000 new residents and employment opportunities for 14,000 new workers.

3.3 Local network connectivity

The benefits of the Western Ring Route RoNS will be made more effective by related improvements to the local road, passenger transport, and walking and cycling networks.

Specific improvements that are being discussed in conjunction with local authorities include arterial road capacity improvements around the Te Atatu and Lincoln Road interchanges (with Waitakere council already having schemes designed in anticipation of the motorway development) and the extension and linking of existing cycle ways to provide a cycle lane along the full length of SH16.

There are also improvements to be made to bus lanes on Great North Road and Mt Albert Road. Both Mt Albert Road and Great North Road are on ARTA's Quality Transit Network and these projects will provide the opportunity to increase the frequency and reach of bus services between the CBD and Waitakere, the CBD and southwest Auckland, and cross town services.

4. PROJECT SCOPE AND ECONOMICS

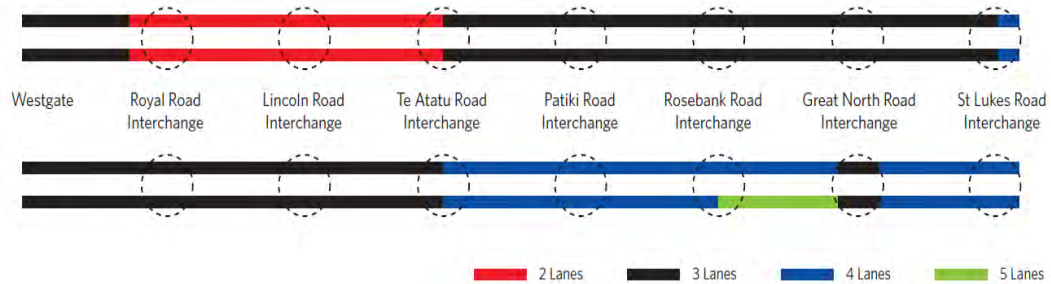
To date, the Western Ring Route has primarily been designed as a four-lane facility, future proofed to be expanded to six-lanes. The main elements of scope are as follows:

SH20 Waterview Connection: The Waterview Connection section of SH20 will be built with the same profile as the adjacent SH20 Mt Roskill project. It will include a full diamond interchange at Maioro Street and will be built at surface from there to south of New North Road where the tunnels commence. Two three-lane bored tunnels will continue under the Avondale Heights residential area to Great North Road adjacent to the Oakley Creek Reserve. From here the tunnels will be built by 'cut and cover' construction to cross under Great North Road emerging at Waterview Park where SH20 will then connect to SH16 at the current Great North Road interchange.

As part of the ongoing design process, the project will be developed to enable it to be part of the region's Quality Transit Network for bus passenger transport. The WRR could potentially be an ideal future route for express bus travel from the Auckland CBD to the Auckland International Airport.

SH16 Corridor Capacity Improvements: The proposed SH16 works generally consist of an additional lane in both directions between St Lukes interchange and Westgate, with interchange improvements at Te Atatu, Lincoln Road and Royal Road. The section from Waterview (Great North Road) to Rosebank requires two additional lanes westbound to accommodate the merging traffic travelling west from the SH20 connection.

Figure 2: Existing and planned lane configuration for SH16.



The SH16 causeway to the west of the Waterview interchange (Great North Road) will be raised to address issues of flooding from the sea which is forecast to increase in frequency as a result of both the gradual continuing sinking of the current causeway and potential sea level rises due to global warming.

The forecast outturn costs of the RoNS corridor (in 2009 dollars) at the most likely level is \$1.65 billion within a confidence range of \$1.49 billion to \$1.82 billion.

The final costs of the RoNS corridor will include future years 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. Thus the forecast outturn cost of the RoNS corridor would be \$1.94 billion with a confidence range of \$1.75 billion to \$2.13 billion.

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 are set out in the table below.

Discount Rate	Standard NZTA BCR	BCR inc WEBs
8%	2.1	2.7,
6%	2.7	3.5
4%	3.5	4.7

5. IMPLEMENTATION PLAN

5.1 Current status

The Western Ring Route is made up of a number of separate projects that have been implemented to give both continuity and capacity for the route to function as a motorway.

Project development

The remainder of the Western Ring Route is currently in the development stage with the main focus on confirming project scope and preparing for the statutory approval process. The SH20 and SH16 corridor development are being considered in two sections:

Section 1: Waterview Connection and its integration into SH16 through capacity improvement works from St Lukes interchange to the Te Atatu Interchange. The scope and form of the works in this section are well developed. We are continuing to optimise the scheme design, particularly for the tunnelled section of SH20 and its southern approach. There are also mitigation details being developed with stakeholders related to urban design, stormwater management, environmental protection and noise mitigation.

We intend to seek all RMA approvals through the 'call-in' process. Pre-lodgement discussions have commenced with the EPA and we are planning to have draft reports ready in February 2010. After a review period the EPA will make a recommendation to the Minister to refer the application to a Board of Inquiry for a decision. Public notification of the application is expected in June 2010.

Some statutory approvals cannot be addressed through 'call-in', and the necessary approvals under the Reserves Act, Marine Reserves Act and Historic Places Act will be sought separately. The Marine Reserve Act approvals require consent from both the Minister of Transport and the Minister of Conservation.

The timing of a construction start will depend on the timing of statutory approval decisions, property acquisitions and the construction procurement model adopted. We currently anticipate an early 2012 construction start based on a design and construct procurement model.

Within this section there are potential opportunities to make early construction starts, ahead of 2012 e.g. at the Maioro Street interchange, on Oakley Creek stream diversion works and on sections of SH16 widening. At Maioro Street, part of the proposed new interchange is within an existing designation, but key property acquisitions are still required even to develop this. However, these enabling works packages are being actively explored to assist the main construction delivery.

Section 2: Capacity improvements from the Te Atatu interchange to Westgate.

The statutory approvals for this section are to be sought through the traditional process. This is likely to be in the form of two separate applications: one for the Lincoln Road interchange designation and consents; and a second for the Lincoln Road interchange to Westgate designation adjustments.

The separate applications allow the Lincoln Road interchange improvements to be progressed as an extension to an initial construction works package planned to commence at Lincoln Road interchange in 2010. This initial work to widen the Lincoln Road bridge structure over the motorway can commence within the existing designation. The negotiated Early Contractor Involvement 'design and construct' contract will enable the work to be extended to include the balance of the interchange upgrade once the necessary statutory approvals are obtained.

The contract for the first stage of the Lincoln Road works should be awarded by January 2010 with a construction start later that year.

The designation adjustments for the balance of this section from Lincoln Road to Westgate will be lodged in April 2010. Progress on delivery of these sections will be based on east to west i.e. Te Atatu to Lincoln followed by Lincoln to Westgate.

5.2 Stretch targets

A stretch target of December 2010 has been set for the start of construction at Lincoln Road interchange. Early completion of this upgrade will assist in improving journey times and safety at one of the most constrained sections of the Western Ring Route. It will also simplify the future construction of the mainline motorway improvements.