



NZ TRANSPORT AGENCY
WAKA KOTAHI

WAIKATO EXPRESSWAY

Project Summary Statement
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ROAD OF NATIONAL SIGNIFICANCE: WAIKATO EXPRESSWAY

1. PURPOSE OF DOCUMENT

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

2. STRATEGIC CONTEXT

2.1 Population, employment and growth

The Waikato region contains nine per cent of New Zealand's population. The population is forecast to grow by more than 14 per cent by 2026, with the majority of this growth in Hamilton city. By 2061 the region's current levels of population and employment are expected to have doubled.

FutureProof, a sub-regional growth strategy, has recently been proposed by the Waikato Regional Council, Hamilton City Council, Waikato District Council, Waipa District Council and Waikato-Tainui to manage the impact of this growth. NZTA was also involved in the development of the FutureProof strategy.

The Waikato is the fourth largest regional economy in New Zealand. There are a diverse number of industries within the region, the main one being dairy and beef farming. Other industries include tourism, forestry, mining and business services.

The main economic centres within the region are Hamilton, Cambridge, Te Awamutu, Taupo and Thames. Hamilton is by far the largest and is growing the fastest. The Waikato Expressway will facilitate business development, particularly in the Te Rapa district, north-west and east of Hamilton, near Hamilton airport, and at Crawford Street Rail Village (Hamilton's inland port).

2.2 Existing routes

State Highway SH1 is New Zealand's principal arterial highway running the length of the North and South Islands. It links the cities of Auckland and Hamilton through to Wellington as well as forming the key north-south section of New Zealand's 'Golden Triangle' of population and economic growth (Auckland, Waikato and the Western Bay of Plenty), linking the sea ports of Auckland, Tauranga and inland freight hub of Hamilton.

The existing route is becoming increasingly congested between Auckland and Cambridge with significant traffic delays in urban areas like Huntly, Ngaruawahia, Hamilton and Cambridge. The lack of passing opportunities in rural areas leads to driver frustration and can lead to vehicle crashes. To address the current level of service and safety problems on SH1 in the north Waikato region, NZTA will complete construction of the Waikato Expressway between the Bombay Hills and south of Cambridge.

2.3 Objectives of the Waikato Expressway RoNS project

Within this context, the objectives of the Waikato Expressway are:

- To enhance inter regional and national economic growth and productivity
- To improve journey time reliability and relieve congestion through the main urban centres along SH1;
- To improve safety and reduce crashes on regional arterials including SH1;
- To focus freight movement onto SH1 rather than upgrade alternative routes; and
- To provide improved local network operation and opportunities for improved urban design, travel choice and community connectivity within the major urban areas bypassed by the Expressway.

3. BENEFITS

3.1 National network benefits

The Waikato Expressway project is expected to deliver several significant benefits. They include:

- Reducing travel time between Waikato and Auckland;
- Providing better journey time reliability;
- Providing a safer route and reducing the number and severity of road crashes.

To be effective, SH1 needs to be free of any capacity and loading constraints that may hamper the movement of freight and people. It should also be designed to minimise road accident potential and generally bypass urban areas.

When fully complete, the Waikato Expressway will deliver around 100 kilometres of new or improved state highway to a divided four-lane expressway standard along its length. The Waikato Expressway will substantially reduce travel time between Waikato and Auckland, with a 20 percent (11 - 14 minute) reduction in travel time between Auckland and Hamilton and up to a 35 minute travel time reduction between Auckland and Tirau. This travel time reduction and improved trip reliability will be especially valuable to inter-regional freight and tourism operators, as well as long distance business travellers.

Completing the Waikato Expressway will significantly reduce the severity and number of vehicle crashes and help the Waikato region reduce its poor crash record by providing a streamlined route with increased passing opportunities. This will reduce driver frustration caused by the current highway congestion and few passing opportunities, and subsequent vehicle accidents due to unsafe passing actions. The separation of traffic flows in each direction (by a grass median strip or crash barrier) will also prevent head-on crashes. The annualised national benefit of crash reduction due to the Waikato Expressway development by 2016 is predicted to be \$15.3 million and rising.

3.2 Regional Growth Benefits

The Waikato Expressway project is expected to deliver significant growth benefits to the region when it is complete by:

- Enhancing connections between Waikato and the Auckland market;
- Encouraging economic development opportunities in the Waikato region by supporting industrial growth areas and providing better supply routes for industry, freight and tourism; and
- Improving access to Hamilton International Airport and the major ports in Auckland, Tauranga and Hamilton.

The Waikato Expressway forms a common thread through all of the Waikato's strategic planning process. The Waikato Regional Land Transport Strategy identifies the Waikato Expressway as the number one strategic project for the region. This is confirmed by the Regional Transport Committee in the current Regional Land Transport Programme.

The Waikato Expressway plans have been developed in conjunction with the region's local authorities, ensuring consistency with and contribution towards the region's land use plans. FutureProof development is reliant on the Waikato Expressway as the primary transport infrastructure.

Completion of the Waikato Expressway will enable firms based throughout the regions south of Auckland to better service the Auckland region, increasing output, trade and competitiveness. At the same time, it will increase the economic viability for existing firms from Auckland to relocate to the Waikato. This provides a national benefit by improving the allocation of land to its highest value use.

Additionally, completion of the Waikato Expressway will facilitate commercial and industrial development, particularly in the Te Rapa district north-west of Hamilton, the 'Innovation Park' in east Hamilton, and at 'Titanium Park' near Hamilton airport, contributing to productivity increases. Further benefits to the region's industry will eventuate from more reliable, quicker and safer supply routes and from the indirect effects of a stronger and more functional regional economy.

The largest benefit of this kind will be from reduced congestion in the commercial area in the Te Rapa district of Hamilton. This reduction will be as a result of the Hamilton, Ngaruawahia and Te Rapa sections, which in turn, will reduce the cost of travel for consumers within the city.

The Waikato Expressway will assist the development of Hamilton International Airport, and enable it to compete more strongly with Auckland and Rotorua International Airports. Effective and sustained competition between the airports will improve levels of service to air transport users as well as reduce travel demand between the Waikato, Bay of Plenty and Auckland Airports. It will also improve access to New Zealand's major import and export ports in Auckland and Tauranga, as well as accessibility to Hamilton's inland port.

Ultimately, the completion of the Waikato Expressway will provide a more reliable, quicker and safer route between the Waikato and Auckland regions, and provide improved links between the Waikato and Bay of Plenty regions.

3.3 Local network connectivity

Network connectivity is a critical element in developing the Waikato Expressway. A network plan is being developed by NZTA in collaboration with its FutureProof partners. This will ensure that the completion of the Expressway and complementary local network development provides opportunities to improve urban design and encourage other modes of transport. It will also allow better community connectivity through the removal of through traffic. This study is at a preliminary stage and results will be reported once they are known.

4. PROJECT SCOPE AND ECONOMICS

The completed Waikato Expressway will provide a continuous four-lane divided carriageway between the Bombay Hills and south of Cambridge. The route will bypass Huntly, Ngaruawahia, Hamilton and Cambridge and connect with the existing lengths of the SH1 Waikato Expressway.

Generally the Waikato Expressway form will be to either widen the existing highway (e.g. Longswamp to Rangiriri four-laning) or develop a new green fields route (via bypasses).

The forecast outturn costs of the RoNS corridor (in 2009 dollars) at the most likely level is \$1.9 billion within a confidence range of \$1.7 billion to \$2.1 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 sections depends on the time frame for the construction. If a section 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 section effects are less marked. Thus the forecast outturn cost of the RoNS corridor would be \$2.4 billion with a confidence range of \$2.2 billion to \$2.6 billion.

The standard benefit cost ratio (BCR), as currently calculated is based on an 8 per cent 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 per cent and 4 per cent 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.

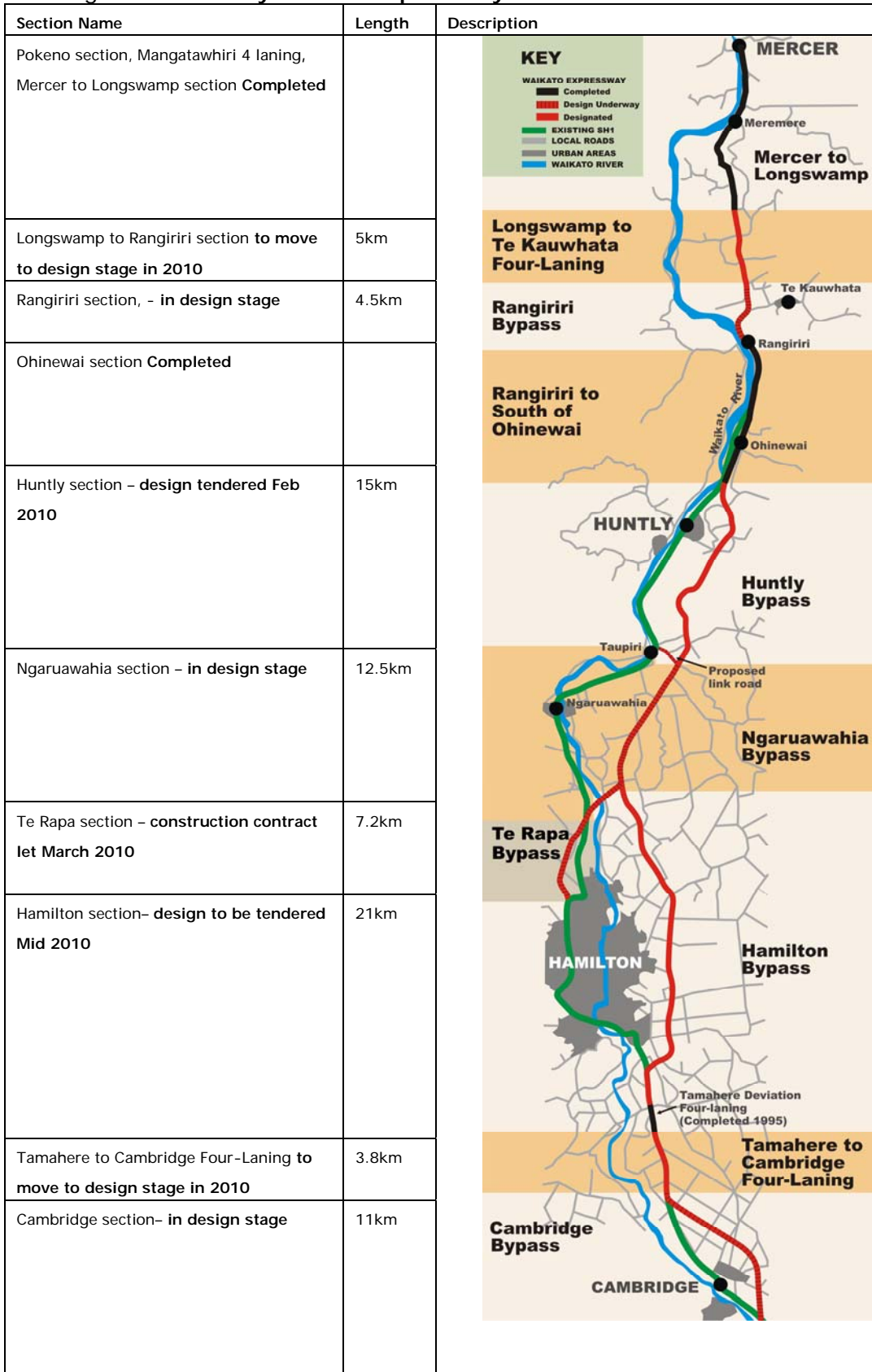
Discount Rate	Standard NZTA BCR	BCR inc Wider Economic Benefits
8%	1.4	1.8
6%	1.9	2.4
4%	2.7	3.4

5. IMPLEMENTATION PLAN

5.1 *Current status*

Over the last 10 years the Waikato Expressway has progressed south from the Bombay Hills, with the construction of the Ohinewai section, Pokeno section, Mangatawhiri four-laning and Mercer to Longswamp four-laning. This provides a high standard of travel from Auckland to Huntly with one two-lane section through Rangiriri. The completed sections and the current status of the remaining sections are depicted on figure 1 below.

Figure 1: Summary Waikato Expressway Sections



Project development

The development work for the Waikato Expressway is largely complete with primary designation in place for all elements.

NZTA is currently working on a number of alterations to designations and resource consents. All of these issues can be managed effectively through the traditional consenting processes.

Property purchase is proceeding on critical sections so as to ensure a timely construction start. Design work on the remaining sections of the Waikato Expressway will be completed by 2015.

Project delivery

The delivery strategy is to begin construction as soon as each section is ready. The target is to complete the Expressway within 10 years recognising the importance of Hamilton as a key destination (and origin) for trips along SH1 in the Waikato.

The construction contract for the Te Rapa section of the Expressway will be let in March 2010.

The programme is to complete the four-laning to Hamilton including Longswamp to Rangiriri, Huntly, and Ngaruawahia sections from the north, and the Tamahere to Cambridge and the Cambridge sections from the south. Based on the current programming the Huntly section would be ready for construction in 2014/15, the other sections north and south of Hamilton would be in the construction phase or complete by this date.

The Hamilton section provides for the connection of the Waikato Expressway between the north and south of Hamilton. Based on current programming this is targeted to be ready for construction by 2015/16, in line with the Regional Land Transport Strategy.

5.2 Stretch targets

Construction will start on the Te Rapa section and enabling work through Taupiri in 2010.

Ngaruawahia and Cambridge sections will start construction in the 2011 and 2012 respectively.

Based on current progress, NZTA stretch targets will be achieved on the Rangiriri section with construction starting in early 2011. The Rangiriri section is targeted for completion in time for the 150th commemoration of Battle of Rangiriri in 2013.