

# Wairarapa Corridor Study

## Preliminary Considerations of Options

### 1. Introduction

The Wairarapa Corridor Study seeks to develop a set of proposals to address the transportation aspects of identified needs and issues in the Wairarapa. A report by Opus International Consultants called “Wairarapa Corridor Study – Economic Review” was commissioned to examine possible development scenarios for the Wairarapa and to identify the transportation constraints on these scenarios.

This paper seeks to develop policy options to address these constraints. These policy options will be subsequently evaluated against the objectives of the Regional Land Transport Strategy.

### 2. Vision and Objectives of the Regional Land Transport Strategy

The vision, objectives, and principle of network balance outlined in the Regional Land Transport Strategy are as below:

#### ***Vision***

*The vision or ultimate goal for transport in the Wellington region is expressed as:*

*“A balanced and sustainable land transport system that meets the needs of the regional community.”*

***Balance*** – achieving an integrated transport network with capacity balanced within and between each mode.

***Sustainability*** – developing a transport system which is environmentally and economically sustainable.

#### ***Accessibility and economic development***

*To provide a transport system that optimises access to and within the region.*

#### ***Economic efficiency***

*To ensure that all users of land transport are subject to pricing and non-pricing incentives and signals which promote decisions and behaviours that are, as far as possible, in accordance with efficient use of resources and of optimal benefit to the user.*

#### ***Affordability***

*To plan for a land transport system that recognises funding constraints and ability to pay.*

### **Safety**

*To provide a safer community for everyone through a transport system that achieves or improves on the targets of the National Road Safety Plan through the Regional Road Safety Strategy.*

### **Sustainability**

*To provide a land transport system that:*

- *operates in a manner that recognises the needs of the community;*
- *avoids, remedies or mitigates adverse effects;*
- *uses resources in an efficient way; and*
- *supports an optimal demand for energy.*

Network balance is an important principle in developing the region's transport network.

### **Network balance**

*The Wellington strategic road and rail network needs to be operated and developed in a way that carefully balances road capacity in one part of the network with other parts of the road and rail network. Accordingly, improvements in one part of the network cannot be thought of as independent to the rest of the network. The impacts of an improvement elsewhere in the network must be provided for if efficient network performance is to be maintained.*

It should be noted that in this work "economic efficiency" is considered from the national perspective. That is, the economic benefits generated for the nation (as recognised by Transfund New Zealand) per dollar spent. When we consider "economic development" we wish to recognise that transport proposals are likely to generate regional and local economic benefits that will assist the region competitively. These are very important to the Wairarapa and the Wellington region and will be a key driver in the Corridor Plan development.

## **3. Needs and Issues Identified in the Regional Land Transport Strategy**

The current Regional Land Transport Strategy identifies a number of needs and issues for the Wairarapa corridor. A copy of these needs and issues is provided below:

- Low or declining population growth in the Wairarapa
- Continuing regional employment in Wellington CBD (this requires the need for commuters from the Wairarapa to Wellington to be provided for, albeit that the numbers of such commuters are low)
- Above average (for the region) growth in forestry
- Increase in freight traffic on arterial freight routes to the Port
- Growth of tourism in the region
- Increases in recreation and shopping journeys; and
- Poor passenger rail commuter frequency

The Wairarapa corridor plan provides an opportunity to address these issues.

#### 4. Demographics of the Wairarapa

The following table shows the usually resident population from the Census. In essence the population of the Wairarapa has been static over the last ten years. However, it has fallen by five percent in South Wairarapa.

| <b>Territorial Authority</b> | <b>1991<br/>Census</b> | <b>1996<br/>Census</b> | <b>2001<br/>Census</b> | <b>1996/1991<br/>Change</b> | <b>2001/1991<br/>Change</b> |
|------------------------------|------------------------|------------------------|------------------------|-----------------------------|-----------------------------|
| Masterton District           | 22,566                 | 22,755                 | 22,614                 | 101%                        | 100%                        |
| Carterton District           | 6,867                  | 6,813                  | 6,849                  | 99%                         | 100%                        |
| South Wairarapa District     | 9,156                  | 8,937                  | 8,742                  | 98%                         | 95%                         |
| Wairarapa                    | 38,589                 | 38,505                 | 38,205                 | 100%                        | 99%                         |

Source: Census 2001; Usually Resident Population Count

Behind these figures are two migrations. The first is the migration of young people to Wellington or to the northern cities. The second is the movement of older people to the Wairarapa for pre or actual retirement.

The general picture of the Wairarapa is an ageing population, average age is around 40 years, except for Maori where the average age is around 20 years. The population is less well off on average than New Zealand citizens as a whole.

Examination of journey to work data shows that the level of commuting from Wairarapa to Wellington and the Hutt Valley is very small. On Census day 2001 there was a total of 1047 people who travelled by road and public transport of which 450 used public transport. It is likely that this low level of commuting is a reflection of the problems encountered on SH2 south of SH58, at Kaitoke and the Rimutaka Hill and a reflection of the level of service provided by the rail connection. Access to and from Wellington is limiting the attractiveness of the Wairarapa as a place to live in and commute from. This is likely to be a factor in the static or declining and ageing population.

It is unclear whether a major upgrade in the transport links, both road and rail, will lead to a significant increase in people choosing to live in the Wairarapa and commuting to Wellington or the Hutt Valley. The performance of the local economies in Wellington and the Hutt Valley will be a determinant in this issue. It is likely, however, that improving the transport links between the Wairarapa and Wellington will reduce the perception that the journey is a major barrier in living in the Wairarapa and commuting to Wellington and the Hutt Valley.

Increasing population in the Wairarapa, particularly with those who will commute to Wellington or the Hutt Valley for work, is likely to have economic benefits for the Wairarapa. These benefits include increased levels of expenditure in the Wairarapa and an increased demand for services for a growing population.

## 5. Economic Issues

The Wairarapa is predominately a rural economy, heavily dependent on pastoral farming, horticulture, services to agriculture and tourism. Forestry and wood processing is growing in importance. There is some commercial fishing.

From the Wairarapa's point of view access north to Palmerston North and Napier is easier than access south to Wellington and CentrePort. It is possible that in the future the Wairarapa is predominately serviced from Palmerston North and uses the Port at Napier for exports. Moreover, that the Ohakea base is being developed as a joint commercial/defence airport with full 747 and larger capacity. Whereas Wellington international airport does not have this capacity and there are no longer any aircraft with freight capacity using the airport. They have all moved to Auckland.

In addition, Ports of Auckland in association with Tranz Rail was going to open an inland port at Palmerston North. Since most of New Zealand's imports come through Auckland an inland port makes sense and Palmerston North would become the distribution centre for the bottom half of the North Island – not the Hutt Valley.

Finally, the target route for international and (non Wellington region) domestic tourists is to come from Napier. In this case it is felt that the Rimutaka Hill Road would be less of an issue.

Accordingly, access for produce to the Port in Wellington and the volume of trade handled by the Port are important issues and will be a constraint on the Wairarapa's economic potential. As a consequence, access to the Port is likely to be negatively affecting the Port's performance and therefore the region as a whole.

In the Opus International Consultants report "Wairarapa Corridor Study – Economic Review" economic development scenarios are considered. These are:

- Wairarapa irrigation: increased land productivity
- Tourism: domestic tourism and international wine trial based tourism
- Education: an expansion of the Masterton Polytechnic
- Forestry and timber processing: a few years into the future but would likely require a new timber processing mill
- Continuing decline in Wellington CBD (head office and finance functions): a decline in the Wellington CBD is likely to lead to a general region wide decline in population

The Opus report identified the transport constraints for each of the economic development scenarios. The development of viticulture is recognised as important to the Wairarapa but is not expected to be a major generator of transport demand. It is important to note that a significant increase in logging trucks on the Rimutaka Hill Road will adversely affect the tourist traffic.

If the Wairarapa develops in these ways the likely transport constraints are as follows:

| <b>Scenario</b>                | <b>Constraint</b>  |
|--------------------------------|--|
| Irrigation                     | SH2 south of SH58, Rimutaka and Kaitoke Hills  |
| Tourism                        | SH2 south of SH58, Rimutaka and Kaitoke Hills, and Wairarapa rail connection   |
| Education                      | SH2 south of SH58, Rimutaka and Kaitoke Hills, Wairarapa rail connection (as it is likely that many of these students may prefer to live in Wellington and the Hutt Valley and commute to the Wairarapa)   |
| Forestry and timber processing | <ul style="list-style-type: none"><li>• Ability of local roads to cope with volume and loads</li><li>• SH2 heavy traffic bypasses needed around Wairarapa townships</li><li>• Rail freight yards may need moving out of the townships</li><li>• The Rimutaka and Kaitoke Hill roads will need addressing otherwise tourism and general business activity will suffer</li></ul> |
| Wellington CBD decline         | This may not generate transport constraints other than the Rimutaka and Kaitoke Hill roads which is identified as a constraint now   |

The key transport constraints and related issues for the Wairarapa corridor are identified below.

- a) SH2 south of SH58 which is being considered as part of the Hutt corridor study – it should be noted that some relief may be provided by the improvement of the SH2/SH58 intersection and the Dowse-Petone project. However, there are a number of other areas on SH2 south of SH58 that are problems and with increased demands will become greater problems. These are the subject of the Hutt Corridor Study.
- b) Rimutaka and Kaitoke Hill roads
- c) the Wairarapa rail link to the Hutt Valley and Wellington
- d) the impacts on local roads of forestry
- e) SH2 heavy traffic bypasses of Wairarapa townships
- f) the location of rail freight yards in Wairarapa townships
- g) the retention of rail freight and passenger services.

## 6. Options

**6.1 Issue:** Linkages from the Wairarapa to Wellington and the Hutt Valley – this leads to a conflict of logging trucks on the highway with commuters, students, and tourists.

**Key user groups:** Commuters, students, tourists, forestry, and timber products.

**Option 1.1 Road Focus:** Upgrade of SH2 south of SH58 as envisaged in the Hutt corridor plan, major upgrade of Rimutaka and Kaitoke Hills (most probably a 4 lane road). This proposal would provide for all user groups on road.

**Option 1.2 Rail Focus:** Upgrade rail passenger services and rail freight. This would envisage four half hourly peak services and off peak services consistent with tourism demand, which could be built up to hourly. Rail would be the primary mode of moving freight; this proposal would require careful coordination at the Wairarapa end to be consistent with strategies there. Rail would be the primary mode of moving commuters, students, and tourists.

**Option 1.3 Mixed Focus:** An upgrade of both SH2 south of SH58, Rimutaka and Kaitoke Hills and the rail passenger and freight operations. The respective road and rail upgrades would be less extensive than those envisaged by options 1 and 2 respectively.

**Option 1.4 Truck and Barge:** Freight traffic from the Wairarapa is carried by truck to Lake Ferry where it is then carried by barge to Wellington. A less extensive upgrade of Rimutaka and Kaitoke Hills than option 1.1 is required to deal with increased numbers of travellers and pulp grade logs travelling from south of Rimutaka Hill to the Wairarapa.

**Option 1.5 Napier:** Medium road and passenger rail improvement to provide for commuters, students, and tourists but the major share of forestry, timber products, and other freight are transported to Napier.

**Option 1.6 Palmerston North:** Medium road and passenger rail improvement to provide for commuters, students and tourists is required but the major share of forestry, timber products and other freight are transported to Palmerston North.

**Comments:** An increased level of local processing of logs should lead to a reduced volume of goods requiring transport to a port or other destinations. Similarly the setting up of a pulp operation on the Wellington side of the Hills would reduce the volume that needs to be transported to Masterton for pulping as there is a significant quantity of pulp grade forestry located on the Wellington side of the Kaitoke and Rimutaka Hills.

Option 1.1 requires a major upgrade of roads over Kaitoke and Rimutaka Hills to enable travel by commuters, students, and tourists to be unimpeded by logging and other trucks. The volumes of traffic are such that tolling is unlikely to make a significant difference to the viability of the project.

This is likely to be a very expensive option. Such a four lane road could have far reaching consequences for SH2 south of Kaitoke and into Wellington and is likely to add significant volumes of traffic in that part of the network. The cost of this option

includes not only the cost of upgrading Rimutaka and Kaitoke Hills to four lanes, which in itself will be very expensive, but also the cost of upgrading SH2 south of Kaitoke to provide for additional traffic generated by this option. Consequently it is unlikely that this option would be affordable and cost effective. However, it is important that this study demonstrates in a transparent way that this is the case before the option is dismissed.

Option 1.2 could take advantage of alternative to roads (ATR) funding made available by Transfund New Zealand. This option has significant risks, particularly with the rail freight aspect, as this option plays into the hands of a monopoly rail provider. Such a risk may be alleviated if the rail tracks became publicly owned and a competitive market, or the threat of competition, established for the movement of passengers and freight.

Option 1.3 provides a middle ground between options 1.1 and 1.2. A number of different combinations of road and rail improvements could be established which were economically efficient. However, the monopoly rail operation again remains a problem that could be resolved by public ownership of the rail tracks and the establishment of a competitive rail market. Alternatively public ownership of the rail tracks with user charges applied for use could allow the market place to establish the balance between road and rail use. The setting of the rail user charges would be critical in determining the balance of road and rail use.

Option 1.4 will place significant demands on local roads to transport forestry, timber products and other freight to Lake Ferry. There will be increased capital and maintenance costs on the local network as a consequence. The barging operation may attract ATR funding from Transfund New Zealand. However, the difficult water conditions encountered travelling from Lake Ferry to Wellington by sea may be a problem with this option.

Options 1.5 and 1.6 are legitimate options and are likely to be default options if one of the options 1.1 to 1.4 is not implemented. These options are likely to have comparatively low public sector capital costs but may require higher public sector operating costs for maintenance. These options may result in higher user costs, which may increase the cost of commodity production. These options are likely to have the least favourable economic prospects for the Wellington region and will provide economic benefits to locations outside the Wellington region but may be in the national benefit.

**6.2 Issue:** Movement of forestry within the Wairarapa – this leads to problems on secondary roads to forests being able to withstand the loads and the conflict of logging trucks with the day-to-day activities of people living in the townships.

**Key stakeholder groups:** Township dwellers, mill operators, forestry and timber products.

The task of the various options below is to transport logs from forests to either a mill or a major transport corridor (either SH2 or a rail yard) for transportation out of the district consistent with one of the options described above.

**Option 2.1 Road Focus:** Upgrade appropriate forestry and other secondary roads to withstand expected loads and provide heavy traffic bypasses on SH2 around Wairarapa townships.

**Option 2.2 Rail Focus:** Provide spur lines from mills and the rail corridor to forests.

**Option 2.3 Mixed Focus:** As it is likely to be uneconomic to provide spur lines to all forests from mills and the rail corridor, some forestry roads and other secondary roads are upgraded instead. This approach may require selected SH2 heavy traffic bypasses around some Wairarapa townships and the relocation of some rail freight yards outside the townships.

**Comment:** Option 2.1 will be difficult to implement. Funding of local roads can be problematic in the context of a demand profile that would be very intense over a discrete time period but otherwise low. Heavy traffic bypasses around townships also have their problems. These will invariably be supported by some segments of a population but strongly opposed by others. It is possible that the upgrade of local roads might attract regional development funding from Transfund New Zealand given this situation has similarities with Gisborne and Northland in its logging issues.

Option 2.2 is likely to be uneconomic in many situations because the size of forestry lots needs to be sufficient to justify a spur line. Again there are risks associated with the monopoly provision of rail freight services, which again leads to the argument for public ownership of the railway tracks. ATR funding may be available to support this option but as the costs associated with the do minimum road option are unlikely to be very large as it is doubtful whether there would be sufficient funding to make this option financially viable.

Option 2.3 again provides a middle ground between options 2.1 and 2.2. The precise balance between road and rail will be determined by the relative costs of each alternative. ATR funding may assist the financial viability of the rail alternative but this may be undermined by the monopoly provision of rail freight services. A competitive rail environment facilitated by the public ownership of rail tracks could address this. The economic viability of relocating rail freight yards would also be problematic.

## 7. Evaluation of Options

Each of these options will require evaluating. It is proposed to use a planning horizon but to 2021. This will require a quantitative expression of the economic development scenarios proposed in the Opus report. Estimates of commuter numbers, student numbers, tourist numbers, and quantities of logs and timber products consistent with the development scenario are required. Consequently a series of scenarios rather than forecasts, will be developed for the first stage of option evaluation. This will identify which are the key variables for more detailed evaluation of options in a subsequent stage of the evaluation.

The evaluation of each proposal should provide:

- Option cost (capital and annual operating cost)



- User transport financial costs aggregated and by passenger-km/tonne-km
- Road traffic volumes and rail tonne-km
- Rail passenger numbers and tonne-km
- Road journey time
- Volume to capacity ratios at key location on the road
- Option benefit-cost ratio
- A broad level estimate of accident costs by on road vehicle-km travelled
- Economic benefit to the Wairarapa and the Wellington region
- Environmental impact – tonnes CO<sub>2</sub> produced, litres of petrol consumed.

The above information should enable each of the options to be evaluated against the objectives of the Regional Land Transport Strategy.