9 Conclusions and Options for Public Consultation

A key feature of the existing road network in Kapiti is that SH1 currently provides for both local and inter-regional movements. The additional demand from motorists making short, local trips results in congestion and delays, particularly at the SH1 intersections. The additional traffic associated with permitted development within the district is forecast to exacerbate this situation.

This study has found that it would be possible to build an expressway from north of Otaki to MacKays Crossing and that there are four options for doing so. Although limiting access to the expressway improves travel conditions for those making inter-regional trips, it would also result in more congestion and longer trips for Kapiti residents wishing to drive within the district. The provision of additional local arterials is therefore a necessity for some options in order to mitigate negative impacts. This study has also found that where additional arterials are provided, they not only mitigate the negative effects of an expressway but add additional value.

9.1 Conclusions

(a) SH1 is currently the only north-south route within the study area, serving local and inter-regional trips. In future years, SH1 is predicted to attract 40,000 vpd, which is well above its theoretical capacity for a two lane road, parts of which pass through urban areas. Furthermore, this shared use requires SH1 to connect with the local arterials, and these intersections are predicted to operate well over capacity in future years. Travel times along SH1 between Waikanae and Paraparaumu are predicted to increase by 25% in the morning peak and 75% in the evening peak in future years.

(b) The Western Link Road, being a local north south arterial that provides an additional crossing over the Waikanae River provides an alternative route for north-south trips, has been shown to significantly reduce the number of vehicles using the SH and hence reduce congestion both now and in future years.

(c) In terms of staging road building, the section of the Western Link Road between Te Moana and Otaihanga has the highest benefit cost ratio of all elements being considered, including those elements forming part of the expressway.

(d) Starting at the top of the study area. NZTA Board have considered a four lane expressway from Poteau Bridge (just north of Otaki) to Peka Peka (just north of Waikanae). At a cost of $215M to $355M, this section of the expressway has a BCR between 0.5 and 0.9. We concluded that the interchange originally proposed at Te Horo is unlikely to be justified and consideration should be given to not including it the final scheme. We also concluded that the some of the ‘on and off ramps’ around Otaki could be simplified – with some cost savings. Ideally, the final design should seek to provide north-facing ramps north of Otaki and south-facing ramps south of the Otaki River.

(e) We concluded that the four lane expressway from Pukehou Bridge (just north of Otaki) to Peka Peka (just north of Waikanae) must be constructed as one section.

(f) The long term plan for that part of the study between Peka Peka (just north of Waikanae) and Popular Avenue (south of Paraparaumu) is to have a single high speed expressway supported with one or more north-south arterials and numerous west-east arterial. Multiple arterials will distribute traffic throughout the district. This will avoid concentrating traffic along a limited number of key arterials and prevent congestion at a limited number of intersections. We concluded that building the expressway so as to allow for both a western arterial (the proposed Western Link Road) and an eastern arterial (the Old SH) was desirable.

(g) The strategy is built around creating a strong roading hierarchy. It will provide a 4 lane high speed expressway for inter-regional traffic providing no property access and limited access to key local arterials with high speed interchanges. It will provide several local arterials for local traffic, passenger transport and cyclists. These local arterials will provide access to properties, key activities and trip generators. Arterials will connect and link to local residential streets. By developing this hierarchy, we accept that roads have different functions and that all roads are not necessarily for all modes.

(h) Given the need to serve both inter-regional and local trips, both the SH1 expressway and parts of the Western Link Road are required to be built. Other sections of the Western Link Road are desirable. We can draw several conclusions from our work: -

(i) The economic benefits of - $230M for the SH1 expressway are negative because, when constructed as a stand alone project, it removes a number of key connections which create longer travel distances and journey times for local trips within the district. The cost of these longer journey times for local vehicles is significant, and is greater than the benefits of reduced journey time for inter-regional vehicles using the expressway. This means that some elements of the Western Link Road must be built at the same time as (or even before) the expressway.

(ii) The economic benefit of $470M from having both the expressway and the Western Link Road operating is much greater than the sum of the economic benefits of the two individual projects ($390M - $230M = $160M). The reason for this is synergy. The two projects need each other. They work together: one delivering significantly reduced travel time for inter-regional vehicles and the other delivering reduced travel distance and travel time for local trips. The cost of providing both is, however substantially more than providing one or the other.

9.2 Options for Public Consultation

Four alignment options for the SH1 expressway were investigated between Peka Peka (just north of Waikanae) and Popular Avenue (south of Paraparaumu). The project team decided that two of these were worthy of further investigation and discussion with the community.

Option 1 was seen as inferior to the other options because of its higher cost and likely difficulties during construction. Its negative impact on trips between Waikanae and Paraparaumu was also seen as a serious failing. It was therefore decided that this option should not be progressed further. Although Option 2 is inexpensive compared to the other three options, its impact on future developments in Paraparaumu was considered a serious flaw.

The options the project team decided to progress to public consultation are: -

- Option 3: - Expressway located along the NIMT railway.
- Option 4: - Expressway located along the NIMT railway from Paraparaumu to Otaihanga and then following the Western Link Road designation between Otaihanga and Peka Peka.

The key benefit of Option 3 is that it allows the construction of the Western Link Road as a local arterial serving the west of the district. This is an important function in the roading hierarchy. The key benefits of Option 4 is that it by-passes the Waikanae Town Centre, allowing its amenity, walkability and sense of place to be retained.

Preliminary analysis of staging for the WLR found that the river crossing between Te Moana Road and Otaihanga Road would have the highest BCR of between of between 4 and 7. The project team therefore concluded that although not a necessity for creating a SH1 expressway through Kapiti, this part of the WLR would significantly improve transport economic efficiency. In the longer term, building the full WLR would improve the route coherence of the district and local accessibility. The options that will be consulted on are shown in Figure 9.1 and Figure 9.2, below.

9.3 Recommendations

(a) That a four lane expressway be built as part of the Government's Road of National Significance for Wellington between MacKays Crossing to Pukehou Bridge. As part of this work, key elements of the Western Link Road also need to be constructed to mitigate the effects that an expressway will have on local trips.

(b) Further work is undertaken during the next phase of the project to rationalise and simplify the on and off ramps around Otaki.

(c) Consideration is given to not providing the interchange at Te Horo.

(d) That the expressway is one component of the roading network within the study area, and that this expressway needs to build in conjunction with a number of key north-south and west-east arterials, including the Western Link Road.

(e) That NZTA consult with the public on the proposal to provide a four lane expressway from MacKays Crossing to Pukehou Bridge. As part of this consultation, seek views on two options that remain between Peka Peka and Popular Avenue: one that avoid the Western Link Road Designation and the other that avoids Waikanae Town Centre.

(f) While the expressway would not ban access by cyclists, it is recommended that the north-south arterials should be designed to accommodate cyclists, and provide a cycling route for recreational cyclists and tourists through the study area.

(g) If Option 4 is selected, it is recommended that road improvements still be undertaken at Waikanae to mitigate the effects of delays at Elizabeth Street caused by the new passenger rail service to Wellington.

(h) The section of the study area between Poplar Avenue (south of Paraparaumu) and MacKays Crossing is already a four lane expressway. The only remaining impediment is intersection between SH1 and Waterfall Road. There are plans to extend Waterfall Road to MacKays Crossing interchange. This would remove the rail crossing. However, the BCR for this would be very low. As an interim measure, providing a left in, left out to Waterfall Road as well as removing right turns is worth considering.

MacKays Crossing to Peka Peka - Concept Map

Option: SH1 Expressway with local supporting roads

Project Sections

1. SH1 Expressway
2. Otaihanga Road to Te Moana Road - local road
3. Poplar Avenue to Kapiti Road - local road

North
W
E
S

2

Urupa

Te Moana Rd

New bridge over Waikanae River

Interchange

Otaihanga Rd

Nga Manu Wildlife Sanctuary

Peka Peka

Interchange

Waikanae

New bridge over Waikanae River

Underpass for Te Moana Road

Paraparaumu Airport

Paraparaumu

Landfill site

Southwards Car Museum

3

Mazengarb Rd

Coastlands

Kapiti Rd

Ihakara St

Raumati Rd

Localised rail re-alignment allows expressway to avoid Paraparaumu Domain

Demolition of Paraparaumu bridge over rail

Underpass for Kapiti Road

Raumati

Poplar Ave

Possible rail re-alignment

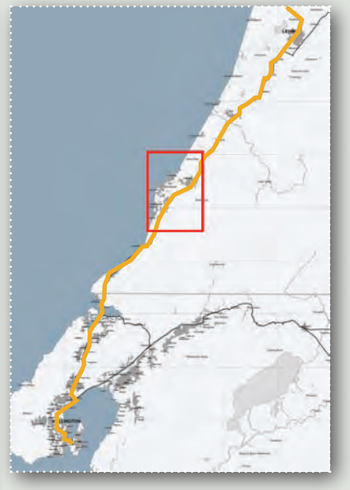
QE2 Park

Interchange

1

Legend

- Upgraded/New SH1 Expressway
- Upgraded/New Local Road
- New Service Road
- Existing SH1 that will become local road
- Existing Local Road
- No Access
- Traffic Signals
- Roundabout
- Railway Station
- New Structures
- Paraparaumu Domain
- Local Landmarks



MacKays Crossing to Peka Peka - Concept Map

Option: SH1 Expressway that avoids town centres

Project Sections

1. SH1 Expressway
2. Poplar Avenue to Kapiti Road - local road

North
W
E
S

Peka Peka
Interchange
Urupa
Potential interchange
Nga Manu Wildlife Sanctuary
Te Moana Rd
Waikanae
New bridge over Waikanae River
Paraparaumu Airport
Paraparaumu
Interchange
Otaihanga Rd
Landfill site
Southwards Car Museum
Mazengarb Rd
2
Coastlands
Kapiti Rd
Localised rail re-alignment allows expressway to avoid Paraparaumu Domain
Demolition of Paraparaumu bridge over rail
Underpass for Kapiti Road
Raumati
Raumati Rd
Poplar Ave
Possible rail re-alignment
QE2 Park
Interchange
1

Legend

- Upgraded/New SH1 Expressway
- Upgraded/New Local Road
- New Service Road
- Existing SH1 that will become local road
- Existing Local Road
- No Access
- Traffic Signals
- Roundabout
- Railway Station
- New Structures
- Paraparaumu Domain
- Local Landmarks