

Social effects of proposed Kapiti expressway options

Technical Report

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Kapiti Coast Motorway Concepts: Social, amenity and cultural effects

1. The Brief

The brief for this piece of work sought the supply of technical advice to support KCDC's submission to NZTA on the potential social, amenity and cultural effects of each of the two options submitted by NZTA for achieving a 4-lane 100kmh limited access expressway from Poplar Ave at the Southern end of Raumati to Taylors Road at the north end of Otaki. Specific requirements of the brief:

1. Assess effects on the Paraparaumu Domain and any other similar amenity and recreational facilities
2. Briefly assess the cultural/tangata whenua/ Maori impacts of the options
3. Assess the social impact of the proposals including dislocation of private property and businesses.

2. Description of particular effects

2.1. Social Severance

Social severance is the term used to describe the effects that roads and traffic have on the social interaction within a community. It is the negative effect that roads and traffic have on social interaction and is exacerbated by the speed and volume of traffic, the width of roads and the quality and accessibility of crossing provisions for pedestrians and cyclists and local traffic. There are two aspects to social severance: physical severance and psychological severance.

Physical severance results from the direct effect on trips that encounter a barrier, such as delays to pedestrians crossing a busy road, or motorists having to travel extra distances to go around a barrier thus resulting in increases in journey costs. Psychological severance stems from feelings of being cut-off or from perceptions of danger associated with a road.

Within a highly mobile community such as New Zealand, people are members of more than one community. In addition to their geographical community based on residential location, they are also members of organisations, clubs, and networks. Their social interaction is a result of their mobility and accessibility as they travel to work, meetings and other activities.

It is the demand for mobility and associated choice which has given rise to social severance. Research has shown that the burden of social severance falls most heavily on those groups with low mobility for whom walking is the principal form of transport. These groups include children, the elderly, people with disabilities and people without access to private vehicles (students, spouses of car-commuters, and people who cannot afford a car). These population groups are most likely to be geographically constrained and most severely affected by the local effects of traffic which result from the mobility and accessibility of others.

Severance, whether physical or psychological, can result in a reduction in walking trips that involve crossing or walking along busy roads, a reduction (because of perceived risk) in freedom of movement (especially for children and other low mobility groups), a loss of social contact, and the use of less preferred community facilities.

Any measures to reduce the impact of severance (such as underpasses, over-bridges and controlled intersections) must be perceived to be safe both from accident and crime particularly for women and children if they are to be effective.

In assessing the effect of severance it is important to consider the relationship between residential areas and the location of schools, shops, community centres, recreational areas, public transport stops (rail and bus), libraries and other facilities and whether access to these is enhanced or impeded by roads and traffic speeds.

2.2. Amenity

Amenity refers to the quality and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes. Loss of amenity may result from real or perceived effects.

Major roads can affect amenity in many ways. They can reduce amenity through the removal of trees and general greenness and the loss of buildings that add to the character of an area. Traffic noise, vibration and fumes can reduce the quality and enjoyment of a person's home environment. Noise, fumes and traffic speed reduce the pleasure of walking and cycling.

On the other hand, new roads can increase amenity by diverting traffic away from residential and recreational areas and incorporating extensive landscaping and safe, pleasant facilities for cyclists and pedestrians.

2.3. Recreation

Recreation takes many forms – passive and active, organised and informal/social. Recreation is an important contributor to people's mental as well as physical wellbeing. The World Health Organisation provides conclusive evidence of the significant health benefits gained from regular sustained physical activity. A lack of exercise, pollution and social isolation are all factors which have been found to be associated with higher mortality and morbidity, particularly in the elderly (Dora and Phillips, 2000, p67).

In considering the impacts of roading proposals on recreation it is important to consider not only the extent to which sporting facilities and formal parks will be affected but also the impacts on walking and cycling. Research shows that physical activity is more likely to be adopted and sustained when it is integrated into the routines of everyday life. The easiest way for most people to achieve this is by walking or cycling to work or to facilities used on a regular basis (such as schools and shops). ((Knellstrom and Hill 2002, p. 32 quoting the Hillary Commission, EU Environmental Council 2004, p.4; Frank and Engelke 2001, p.214).

The quality of urban design can have a significant impact on the health of residents in the way it influences the quality of the environment in which people can walk and cycle. To provide walking and cycling routes that are connected is not sufficient in itself. A pleasant and safe environment increases the likelihood that people will walk. Another important factor is the visibility and quality of the connections. It is therefore important that any assessment of the impact of the proposed expressway routes on recreation look wider than specific sporting facilities by considering the impact on the walkways and cycleways throughout the District

3. Summary of effects – Western and Eastern options

3.1. Effects common to both options

3.1.1 *Negative effects of both options*

- **Private property:** Both options have a high negative effect in terms of the number of dwellings and businesses that would either be removed, or would experience a significant reduction in amenity and value due to new road construction or the loss of protection from the effects of traffic (existing buildings and vegetation).
- **Severance:** Both options will increase traffic volumes on the local streets of Ratanui, Marzengarb and Arawhata which will become extensions to the part-formed western link road. Increased road width and traffic speeds on the expressway will exacerbate the existing visual and psychological severance between the main Paraparaumu township and the east Paraparaumu community. Both options sever several CWBs including a walkway used by school children in Raumati and the Otaki River walkway.
- **Public Transport:** Both options are likely to have a negative effect on the quality and viability of public transport (particularly the train services) unless there is a significant increase in the quality of the service together with incentives to encourage the use of public transport. Negative impact will result from
 - > reduced patronage as a result of induced private car journeys
 - > reduced or less convenient park and ride areas
 - > more difficult links to train services.

A decline in the frequency of the services as a result of reduced patronage will particularly affect the independence and quality of life for those who do not have access to a car or who cannot drive (including children and the elderly as well as disabled).

Any increase in commuter traffic (as a result of faster driving times into Porirua and Wellington) will undermine the quality of living environment for residents in adjoining streets and neighbourhoods (both links and expressway) as well as in the destination cities (Porirua and Wellington). Increased commuter traffic will also undermine the efficiency of the local road networks.

- **Stress for affected property owners:** The uncertainty and loss of control that owners and occupiers of property affected by either option will cause significant psychological and emotional stress from now until the information they need to take control of their situation and begin planning for their future is available. It is important that the period of uncertainty be minimised. This can be achieved by:
 - > an early decision on which of the options will definitely not be considered,
 - > adjustments to the proposed alignment of the favoured route to minimise the impacts on private property where-ever possible
 - > the provision of clear information on the compensation packages on offer

- > the appointment of independent professional support for affected property owners to help them take control of their situation and decide their best course of action.
- **Planning blight:** Properties within the vicinity of both route options will experience “planning blight” from now until the decision is made on the preferred route. This will have economic impacts on households and businesses as the value of their property declines. Planning blight will affect their ability to sell their properties. Properties already on the market will be affected and those who now decide to sell to escape the stress may not be able to do so. Incentives to maintain property will decline. Unmaintained properties over time will lead to a loss of amenity for the property owners and the communities concerned. Once the route is decided, the impact of planning blight will increase for property owners affected by that route until NZTA purchases their properties.
- **Properties north of Paraparaumu overbridge:** Both options have a negative impact on the amenity of the Paraparaumu Domain and the residential properties immediately north of the Domain, Lindale Farm Park and Whiterea Polytechnic. These effects will be much more severe and widespread with the western option.
- **Businesses north of Paraparaumu overbridge.** Both options remove passing traffic from the small clusters of specialist businesses at Lindale and Te Horo. Both areas will need strong signage at the interchanges and active promotion campaigns to maintain their economic viability so that they are able to continue their contribution to the character of the Kapiti District.

3.1.2 Positive effects of both options

- Both options reduce severance for Raumati through the provision of a separate local road along the west side of the expressway and the provision of a local link to Paraparaumu.
- Both options have low positive effects on severance between west and east sides of Paraparaumu through the provision of underpasses and a local link road from Raumati South to Kapiti Road.
- Both options will improve access for properties on both sides of the stretch of road between Paraparaumu overbridge and Waikanae bridge by removing through-traffic. Access to Southwards Car Museum, including for Kapiti residents using the local service road will also be improved.
- Both options could have a low positive effect on severance for the community to the east of the current highway at Waikanae. The western option may achieve this by removing through-traffic from the current state highway although as the only link road between Waikanae and the adjoining communities, traffic on the local road (the existing SH) is likely to remain high. Reduced severance on the eastern option is achieved through the construction of grade-separated access routes across the current SH.
- The proposed alignment at Otaki will have moderate positive effects on severance in Otaki – between the retail outlets on either side of state highway and between the railway station and carpark and the retail centre.
- Both options could result in enhancement of the Waikanae town centre, and Otaki “Retail Village” shopping experience provided sufficient funding

is provided for the redevelopment of these centres as part of expressway funding.

3.2. Effects specific to the Eastern Option: Expressway following NIMT railway with local supporting roads

3.2.1 Positive effects of Eastern Option

- Improvement to severance by creating a local links between Paraparaumu/Otaihanga and Waikanae
- Route passes through an area already highly compromised by the existing transport corridor
- Route does not preclude the construction of a full Western Link Road in the future
- Route does not compromise the residential communities to the west of the current highway including the large eco-subdivisions planned at Waikanae North.
- Nga Manu Reserve will not be affected.

3.2.3 Negative Effects of Eastern Option

- Eastern option would result in the loss of 300 - 400 properties (reference NZTA).
- Increased road width and traffic speeds on the expressway will exacerbate the existing visual and psychological severance between the main Waikanae township and the east Waikanae community and potentially have an adverse impact on park and ride facilities at the railway station and access to those facilities for vehicles and pedestrians.
- The underpass at Te Moana road would remove several businesses on the south-east side.

3.3. Effects specific to the Western option: Expressway along two sections of Western Link Road and avoiding town centres

This option has the same effects (positive and negative) from Raumati to the Paraparaumu rail bridge and from Pekepeka to Otaki.

3.3.1 Positive Effects of Western Option

- This option would enable a portion of the expressway to be built away from the existing state highway thus reducing traffic disruption during the construction period resulting in time savings for motorists and commercial vehicles.
- In addition it would avoid the disruption to the Waikanae railway station posed by the eastern option.

3.3.2 *Negative Effects of Western Option*

- The Western option will result in the loss of 200-300 existing properties (NZTA) but many more potential properties as provided for in the future residential development at Waikanae North.
- While this option would result in the loss of fewer existing properties, it would have a higher negative effect on amenity for a greater number of properties. This is because the western option transgresses areas that are not currently subject to the impacts of close proximity to a major road and railway. The effect on residents of increasing an existing road from two or three lanes to four lanes (as in the Eastern option) will be less significant than the construction of a four-lane expressway where currently there is no road.
- This option has a higher negative effect between Paraparaumu Domain and Pekapeka Road than the Eastern option. Loss of property, severance and amenity for the residents of Otaihanga and Waikane are particularly high.
- Under this option there is a loss of productive land (including market gardens) and open space recreational values in Waikanae and Otaihanga including severe impacts on the amenity of the El Rancho holiday park and reduced amenity of Nga Manu reserve due to traffic noise.
- Depending on the alignment, this route could damage the urupa and listed archaeological sites in the Takamore area.
- This option passes through areas where residents have paid premium prices to secure a living environment away from traffic corridors and with high environmental values. This route would result in a severe loss of amenity and connectivity for the large-scale, low-impact eco-friendly urban development proposed for North Waikanae.
- This option does not address the existing physical severance issues for the east Waikanae community. Induced local traffic is likely to keep traffic volumes on the existing state highway high after it becomes a local road.

4. Summary of effects of the “Third Option”

Subsequent to the completion of this report, NZTA announced a third option which would involve a four lane expressway along the whole of the proposed Western Link route. This has become known as the Third Option. The Kapiti District Council sought comments on the social and amenity effects of this option relative to the east and west option.

4.1 **Negative effects**

- **Private property:** While this option would require the removal of fewer houses and businesses it would have a much more severe impact on amenity and property values of adjoining properties due to the introduction of a major road through an area where currently there is none.
- **Amenity:** Significant stands of vegetation and green open space would be replaced with tar seal and interchanges which would significantly reduce visual amenity. The introduction of noise from large traffic volumes including heavy traffic to an area which is currently residential and rural would have a major detrimental impact on the environmental amenity of both the Paraparaumu and Waikanae communities. Amenity along the existing state-highway would continue to be compromised by increasing local traffic volumes and the combined physical presence of a 3-4 lane road and the NIMT.

As with the other options, the increase in commuter traffic (as a result of faster driving times into Porirua and Wellington) will undermine the quality of living environment for residents in adjoining streets and neighbourhoods as well as in the destination cities (Porirua and Wellington) as well as the efficiency of the local road networks.

- **Severance:** This option would introduce severe visual and psychological severance in Raumati and between the beach settlements and town-centres of Paraparaumu and Waikanae where currently there is none and would remove the opportunity to provide a local link between the settlements for vehicles, cycles and pedestrians.
- The continuing existence of the current state highway together with the NIMT would mean that the physical and visual severance between the eastern suburbs of these communities and the main townships would remain.
- **Public Transport:** As with the other expressway options, this option is also likely to have a negative effect on the quality and viability of public transport (particularly the train services).
- **Stress for affected property owners:** As with the other options the Third Option will create psychological and emotional stress for the owners of affected properties.
- **Planning blight:** Properties within the vicinity of this route option will experience “planning blight” from now until the decision is made on the preferred route. If this route is selected, the impact of planning blight will increase for affected properties. While NZTA will purchase those properties required for the road alignment it is unlikely they will purchase the adjoining properties which are likely to experience a significant decline in amenity and property value as a result of the new roadway.
- **Loss of productive land:** As with the western option only more so, this option would result in a loss of productive land (including market gardens) and open space recreational values in Waikanae and Otaihanga including sever impacts on the amenity of the El Rancho holiday park and reduced amenity of Nga Manu reserve due to traffic noise.
- **Damage to Urupa and archaeological sites:** Because of the width of the road it is unlikely that this alignment could avoid damaging the urupa and listed archaeological sites in the Takamore area.

4.2 Positive effects of the Third Options

- As with the western option, the Third Option could have a low positive effect on severance for the community to the east of the current highway at Waikanae by removing through-traffic from the current state highway although as the only link road between Waikanae and the adjoining communities, traffic on the local road (the existing SH) is likely to remain high.
- This option could be constructed without disrupting the traffic on the current state highway potentially resulting in significant time-savings for motorists and commercial traffic.

5. Conclusion

- 5.1 On balance, the social effects of the eastern route are less in number and severity than for the western route or the Third Option which both permanently preclude the possibility of a two lane local link between Waikanae and Paraparaumu and sever a large area high in environmental and amenity values with a four-lane expressway.
- 5.2 While the eastern route will comprise a four lane expressway and will also have adjoining local service roads along most of its route, this will follow the existing road/rail transport corridor where adjacent land uses including residents are likely to be less sensitive to the impacts of heavy traffic volumes.
- 5.3 Therefore, from a social impact perspective, the eastern route option is recommended subject to the recommendations listed in the appendix to this report. There are several areas where adjustments to the proposed alignment could significantly reduce the negative impacts of the eastern option and these should be implemented wherever possible. The measures required to address the social effects of the eastern route expressway include:
- i) adjustments to the proposed road width and alignments to minimise the number of properties affected (especially properties immediately north of the over bridge at Paraparaumu) and to avoid removal of heritage properties and trees;
 - ii) completion of the full 2-lane Western Link Road from Raumati to Pekapeka (or preferably, to the northern edge of the Waikanae North area) to enhance connectivity and avoid the impact of traffic on local roads between the two proposed links
 - iii) reduction of travel speeds through Paraparaumu and Waikanae to 70kmh to reduce the effects of severance between east and west
 - iv) effective measures to ensure the drop-off and park and ride capacity at the Waikanae railway station is not compromised
 - v) all underpasses or overpasses to be user-friendly for cyclists and pedestrians (including elderly and disabled)
 - vi) extensive landscaping of the expressway and local service roads to reduce impacts on amenity, provide a clear separation between the expressway and the local road and reduce the sense of severance for local residents
 - vii) clear signage to local businesses and community facilities at interchanges (especially for businesses in Lindale and Te Horo) to enhance these areas as destinations
 - viii) funding packages for the redevelopment of Waikanae township as a local shopping centre, for Otaki Retail Village as a destination and local shopping area and for Te Horo as a unique experience
 - ix) reconnections of all CWB tracks severed by new roading (through underpasses or overpasses)
 - x) the provision of an independent negotiator and support person and the development of purchase option packages as soon as possible

to minimise the stress caused by uncertainty and loss of self determination for affected property owners,

- xi) provisions to ensure the maintenance of all properties purchased for the expressway until required for construction to minimise the effects of planning blight on adjoining areas.

5.4 Whichever route is selected, the effects on the public transport system through Kapiti District are likely to be significant. Faster routes between Wellington and Levin will almost inevitably lead to increased commuter traffic. Should the expressway proceed, NZTA should work with KCDC, GWRC and Kiwi Rail to fast-track improvements to rail services and facilities and promote the use of rail and car pooling. The establishment of teleworking centres and incentives for Kapiti residents to work from home may also help to limit the inevitable increases in traffic on the local service roads as well as the expressway.

Appendix 1: inventory of social impacts of Kapiti expressway options

Organisation of observations and classification of the level of effects

For ease of association and comparison my observations are set out in a series of tables. For each option, the tables show for each community, our assessment of the particular impacts we were asked to comment on. Impacts are classified in a rudimentary way into low (L), moderate (M) and high (H) depending on the number affected, the intensity of the effect and the ability to mitigate or the potential benefits from enhancement. Impacts are also grouped according to whether or not they are positive or negative.

Where a specific mitigation measure is recommended to either mitigate an adverse effect or enhance a positive effect, this is signalled by the letter “(R)” The specific measures recommended are contained in tables.3 and 4

Table 1

Eastern Option: SH1 expressway following rail line with supporting local roads

	Potential effects: positive and negative: Eastern Option					
Community/ segment	Severance	Community/ recreation facilities	Places of historic/ cultural importance	Private property	Local services/ businesses	Effects on amenity
Raumati: Poplar Ave to Raumati Road	<i>Negative effects</i> (L) Expressway wider and faster, but local access improved by new local link from Poplar Ave to Kapiti Rd and new service road alongside expressway. <i>Positive effects</i>	<i>Negative effects</i> (L) Walking track from Leinster to the greenbelt walkway (between Poplar and Raumati) would be severed. Used by school children walking to and from school (R) <i>Positive effected</i> (L) More direct	No sites located	<i>Negative effects</i> (H) Dwellings along west side of SH likely to be removed.	<i>Negative effects</i> (M) Chocolate Factory and Art Gallery may be removed by new local road	<i>Negative effects</i> (L) Amenity already reduced by existing high speed SH and railway line. Vegetation along frontages on West side will be removed (R)

Potential effects: positive and negative: Eastern Option						
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
	(M) Expressway will provide safer intersection for vehicles travelling to Wn.	route for Raumati residents to tennis courts on Sanwell Drive				
Raumati Rd to Otaihanga landfill (Paraparaumu)	<p><i>Negative effects</i> (L) Low impact for properties on existing SH because local service road from Raumati Rd to commercial centre on Ihakara Rd/ Rimu Rd corner will reduce severance of expressway for local shoppers. (L) Exacerbation of existing visual severance. (L) Exacerbation of psychological severance through increased traffic speed.(R)</p>	<p><i>Negative effects</i> (L) Local link road will cut across Wharemauku Stream pathway (CWB route) - used for access and recreation (L) Possible effect on Marzengarb Reserve due to increased traffic along local roads (Ratanui Rd, Marzengarb St and Arawhata St) which would become part of Paraparaumu-Waikanae local link. (This would not occur with completion of WLR) (M) Rail realignment</p>	<p><i>Negative effects</i> No known sites of importance to Maori (M) Noise impacts on War Memorial Arch at Domain associated with RSA Club rooms used for ceremonial occasions.</p>	<p><i>Negative effects</i> (H) Expressway and railway realignment will result in loss of at least 15 private properties along western side of SH from Kapiti Rd, behind the Domain and through to Waterstone subdivision. (M) Proximity of expressway is likely to lead to a significant loss of amenity and property value in the Waterstone/ Jade Garden area.</p>	<p><i>Negative effects</i> (H) Loss of businesses along western side of SH to the shopping centre on Ihakara Rd/Rimu Rd corner (including KFC, Liquor Store) and from both sides of SH from Kapiti Rd to the bridge. (H) Further loss of businesses possible on remaining length of SH due to loss of visibility from passing motorists (incl Service Station, Lindale Motor Park, Lindale Farm Park).(R)</p>	<p><i>Negative effects</i> (L) From Raumati Rd to rail over-bridge, but less severe than for western option due to compromised environment from existing SH and railway line.(R) ((H) Along Ratanui Rd, Marzengarb St and Arawhata St due to significant increase in traffic travelling between Waikanae and Paraparaumu on the new local link roads. (H) 18 properties directly north of</p>

Potential effects: positive and negative: Eastern Option						
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
	<p>Increased severance and traffic danger for residents east and west of Ratanui Rd, Marzengarb St and Arawhata St because of induced traffic travelling between the local links.(R)</p> <p>(L) Local link road will sever Wharemauku Stream pathway (CWB route)</p> <p>(L) Proposed CWB from Nikau Reserve to the sea would not be possible unless underpass provided.(Existing SH has a multipurpose underpass) (R)</p>	<p>will avoid encroachment on Domain but expressway will reduce utility of RSA, 2 rugby club rooms and petanque courts as well as sports fields.</p> <p>(L) Effect of traffic noise on community hall at the southwest corner of Domain.</p> <p>(L) Removal of through traffic (potential customers) for facilities on east side of SH including Bowling Alley.</p> <p>(L) Proposed CWB from Nikau Reserve to the sea would not be possible unless underpass provided. (Existing SH has a multi-purpose</p>			<p>(H) Loss of, or significant reduction in the drop-off and parking area servicing the railway from the SH (R)</p>	<p>Domain on Aorangi Rd, Lamberts Grove and Georgia Grove will have high loss of amenity.</p> <p>(H) Realignment of railway and Expressway through the back of the Domain will have significant negative effect on amenity of properties in Waterstone eco-subdivision, Lindale Farm Park and Whiterea Polytech due to traffic noise and fumes (R).</p> <p>.</p>

Potential effects: positive and negative: Eastern Option						
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
	<p><i>Positive effects</i> (L) Existing light-controlled intersection at Kapiti Rd to be replaced by underpass with provision for cyclists, pedestrians and cars crossing east-west. (R)</p>	<p>underpass (R) <i>Positive effects</i> (L) Conversion of SH to local road with less traffic (especially heavy traffic) will enhance amenity of Nikau Reserve (especially picnic area) and Paraparaumu Scenic Reserve.</p>				
Otaihanga	<p><i>Negative</i> Nil</p> <p><i>Positive effects</i> (M) More efficient and safer access for locals turning into/out of Otaihanga Rd either onto Expressway or existing-SH1.</p> <p>(M) Safer access to properties south</p>	<p><i>Negative effects</i> (M) Degradation of environment for BMX track near existing landfill site.</p> <p><i>Positive effects</i> (L) Improved safer access to Southwards Car Museum from Expressway and ex-SH1.</p>	<p>No sites of historic or cultural importance identified</p>	<p><i>Negative effects</i> None identified</p> <p><i>Positive effects</i> (M) Residents on current SH1 will experience significant improvement due to lower traffic volumes and reduced severance (access into/out of property).</p>	<p><i>Negative effects</i> Sand quarry on Otaihanga Rd probably removed. Level of impact dependant on ability to relocate.</p>	<p><i>Negative effects</i> (M) Expressway could reduce amenity for Southwards Car Museum (currently protected by belt of trees from existing SH1).R</p>

Potential effects: positive and negative: Eastern Option						
Community/ segment	Severance	Community/ recreation facilities	Places of historic/ cultural importance	Private property	Local services/ businesses	Effects on amenity
	<p>of Waikanae Bridge on east side of current SH when this road becomes local road</p> <p>(M) New link road will improve connectivity for locals (for cars, cyclist and pedestrians). Benefit would be greater if link completed.</p>					
Waikanae Town centre	<p><i>Negative</i> (L) less direct access to the centre for out of town residents and through-traffic</p> <p><i>Positive effects</i> (M) Grade-separated intersection between Elizabeth</p>	<p><i>Negative</i> (L) Less direct access to facilities in the town centre (library and Mahara Gallery) for out of town residents and through traffic.</p>	<p><i>Negative effects</i> (L) Less direct access to Whakarongatai Marae for expressway travellers</p> <p>(L) Some reduction in amenity for Marae due to increased proximity of road.</p> <p><i>Positive Effects</i> (M) Opportunity for</p>	<p><i>Negative effects</i> (M) Adverse effect on Parata Street residents as result in increased traffic (see Amenity effects)</p>	<p><i>Negative effects</i> (M) Removal of businesses west of SH1 between Otaihanga and Te Moana Rd (including Vella Restaurant, and businesses on south side of Te Moana Rd)</p> <p>(L) All businesses</p>	<p><i>Negative effects</i> (M) Residents from the north using the new service road to access facilities and shops in Waikanae Town Centre or New World will significantly increase traffic levels in Parata St</p> <p><i>Positive effects</i></p>

Potential effects: positive and negative: Eastern Option						
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
	Rd and Moana Rd for east-west access. (requested in local Outcomes statement)		improved access between Marae and Urupa with an underpass/overpass at TeMoana		in Waikanae Town Centre (from Te Moana Road north) will lose visibility and access from SH (ex-SH1). (R) <i>Positive effects</i> (M) Opportunity to redevelop town centre to increase its utility for local residents	(M) Opportunity to redevelop town centre to increase its amenity for local residents
Waikanae township	<i>Negative effects</i> (L) Exacerbation of existing visual severance for Waikanae East. (L) Exacerbation of psychological severance for Waikanae East due to increased traffic speed.(R) <i>Positive effects</i> Enhanced connectivity	Nil	Nil	Nil	Nil	Nil

Potential effects: positive and negative: Eastern Option						
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
	between Waikanae and Paraparaumu for motorists, cyclists and pedestrians					
Peka Peka	<p><i>Negative effects</i> Nil - already compromised by existing SH and railway.</p> <p><i>Positive effects</i> (L) Improved, safer access into/out of Pekapeka Road from the north via full diamond interchange.</p> <p>(M) Improved provisions for cyclists between Pekapeka and Otaki</p>	<p><i>Negative effects</i> Nil</p> <p><i>Positive effects</i> (L) Cycle lane included along new local road will improve current lack of facilities between Te Horo and Peka Peka.</p>	No sites of historic or cultural importance identified	<p><i>Negative effects</i> (M) New local road will bisect several farms and lifestyle blocks near the intersection and remove the frontages of several lifestyle properties on the western side through to Te Horo (including a large scenic garden on corner of Kowhai Rd).</p>	<p><i>Negative effects</i> Adverse effect of local service road on Harrison's Garden centre may lead to a decline in customers.</p> <p><i>Positive effects</i> (L) Improved access to Harrison's Garden centre from new local road and new interchange from north.</p>	<p><i>Negative effects</i> (M) Visual impact of diamond interchange for residents in the vicinity and on Harrison's Garden Centre.</p> <p>(H) Reduction in amenity of Harrison's Garden Centre and on rural lifestyle area from encroachment of new local road</p>
Te Horo	<p><i>Negative effects</i> (L) For properties on west side of existing SH.-</p>	<p><i>Negative effects</i> Nil</p> <p><i>Positive effects</i></p>	<p><i>Negative effects</i> (M- H) 2 registered heritage trees between Pekapeka and Otaki</p>	<p><i>Negative effects</i> (H) Loss of properties on eastern side of</p>	<p><i>Negative effects</i> (?) Businesses currently fronting SH1 (e.g. Red Barn,</p>	<p><i>Negative effects</i> (H) Expressway and new local road on eastern-side of</p>

Potential effects: positive and negative: Eastern Option						
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
	<p>service roads provide access to local roads.</p> <p>(M) Expressway and new local road will create psychological severance for community on east side of railway.</p> <p>Positive effects (M) Improved and safer access to/from Otaki Gorge Rd via underpass. (R)</p> <p>(M) Improved provisions for cyclists between Pekapeka and Otaki</p> <p>(M) Safer access for local traffic to businesses along</p>	<p>(L) Cycle lane included along new local road will improve current situation between Te Horo and Peka Peka..</p>	<p>may need to be removed.</p>	<p>railway due to Expressway and new local.</p> <p>(H) Loss of amenity for remaining properties due to proximity of roading and removal of vegetation. Some of these properties are currently for sale</p>	<p>Hyde Park complex, Toad Hall) will lose access to SH. Impact depends on extent to which these rely o passing traffic for viability.</p> <p>(M) Otaki Lodge and Camping Ground will possibly be removed. If not, amenity will be compromised.</p> <p>Positive Effects (M) Access for locals to these businesses will be improved by the new service road.</p>	<p>railway will significantly reduce amenity for remaining residents.</p> <p>(M) New 4-lane bridge over NIMT railway will have significant visual impact on rural character.</p> <p>Positive effects (M) Improved safety and connectivity between local residents and commercial and recreational activities in Te Horo will increase amenity for local residents</p>

Potential effects: positive and negative: Eastern Option						
Community/ segment	Severance	Community/ recreation facilities	Places of historic/ cultural importance	Private property	Local services/ businesses	Effects on amenity
	current SH.					
Otaki	<p><i>Negative Effects</i> (H) Possible realignment of the railway line would affect the railway station, platform and reduce the size of the commuter car-park. (R)</p> <p><i>Positive effects</i> (H) Conflict between through-traffic and shoppers at Otaki Retail Village removed.</p> <p>(M) Access to railway station improved by removal of through-traffic.</p> <p>(H) Grade-separated access at Mill Rd/ Rahui</p>	<p><i>Negative effects</i> (M) Pedestrian and cycle route from Rahui Rd to Arthur Street removed. (R)</p> <p>(H) Otaki River Walkway severed by Expressway. (R)</p> <p>(H) Otaki Scenic Reserve (off County Road) severed by new Service Road.</p>	<p><i>Negative effects</i> (M – H) Possible realignment of the railway could require the relocation of the historic Otaki Railway Station.</p> <p>(M-H) Rahui Factory Social Hall and Rahui Milk Treatment Plant (both Category II Historic places) may require relocation or demolition. (R)</p> <p>(H) Expressway north of township crosses land in Maori ownership (Nga Hapu o Otaki)</p>	<p><i>Negative effects</i> (H) Homes lost between County Rd and existing SH1 due to Expressway and relocated railway. Some of these have recently been sold or are for sale.</p>	<p><i>Negative effects</i> (H) Negative effect for businesses that rely on impulse shoppers from through-traffic. (R)</p> <p>(M) Two basket weaving businesses removed.</p> <p>(H) Quarry operation on eastern side of expressway will lose access</p>	<p><i>Negative effects</i> (M) For area north of Rahui Rd including County Rd as a result of interchange and new service road.</p> <p><i>Positive effects</i> (M-H) Destination shoppers and local residents will have an improved shopping environment, which may increase business.</p> <p>(H) By-passing of shopping area is consistent with Local Outcomes statement for Railway area.</p>

Potential effects: positive and negative: Eastern Option						
Community/ segment	Severance	Community/ recreation facilities	Places of historic/ cultural importance	Private property	Local services/ businesses	Effects on amenity
	Rd for local east- west traffic replacing current roundabout (R) (M) Improved provisions for cyclists between Pekapeka and Otaki					

Table 2
Western Option: SH1 expressway that follows western link alignment avoiding the town centres

	Potential effects: positive and negative: Western Option					
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
Poplar Ave to Raumati Rd	As for Eastern Option.	As for Eastern Option.	As for Eastern Option	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.
Raumati Rd to Otaihanga landfill (Paraparaumu)	As for Eastern Option	As for Eastern Option	As for Eastern Option	<i>Negative effects</i> (H) As for Eastern Option, loss of private properties and amenity impacts on Waterstone/Jade Garden subdivision higher than for Eastern option (R)	As for Eastern Option.	(H) As for Eastern Option but impact more severe on Waterstone/ Jade Garden subdivision. Properties most affected are the 12 in Bluewater Rd. (R)
Otaihanga	<i>Negative effects</i> (H) Significant severance from Otaihanga to Waikanae Bridge. (H) Loss of opportunity for local link road to service Waikanae and Paraparaumu communities.	<i>Negative effects</i> (M) Degradation of environment around BMX track near landfill site (noise, fumes) <i>Positive effects</i> Amenity at Southwards Museum not	As for Eastern Option	<i>Negative effects</i> (H) Significant loss of high quality residential properties including Camelot subdivision (H) Severe reduction in amenity for remaining	<i>Negative Effects</i> No businesses identified <i>Positive Effects</i> Sand quarry on Otaihanga Rd not affected with this option.	<i>Negative effects</i> (H) Significant effect on amenity of along route between Otaihanga Rd and river.

Potential effects: positive and negative: Western Option						
Community/ segment	Severance	Community/ recreation facilities	Places of historic/ cultural importance	Private property	Local services/ businesses	Effects on amenity
	(M) Otaihangā cycle path between the railway line and Ratanui Rd would be severed (currently services pupils cycling between Camelot and Paraparaumu College. <i>Positive effects</i> As for Eastern Option	affected by interchange		residential properties along proposed route. <i>Positive Effects</i> As for Eastern Option		
Waikanae Town Centre	<i>Negative effects</i> (H) No grade separation between east and west to improve severance issues as requested in Local Outcomes and Inquiry by Design processes.	<i>Negative effects</i> Nil	<i>Negative effects</i> Nil	<i>Negative effects</i> Nil	<i>Negative effects</i> (L) Loss of access for through traffic. Impact will depend on the extent retailers rely on trade from passing traffic.	<i>Negative effects</i> Depends on ability to redevelop and enhance town centre. <i>Positive effects</i> (M) provides opportunity to redevelop town centre (L) Opportunity to enhance streetscape on current SH

Potential effects: positive and negative: Western Option						
Community/ segment	Severance	Community/ recreation facilities	Places of historic/ cultural importance	Private property	Local services/ businesses	Effects on amenity
Waikanae township	<p><i>Negative Effects</i> (H) The integration and cohesiveness of the low impact eco-friendly urban development proposed for north Waikanae would be severely compromised.</p> <p>(H) Proposed CWB links connecting Otaihanga with Waikanae via the new bridge not possible</p> <p>(H) Proposed CWB links (Nth-Sth and E/W) precluded from future development.</p>	<p><i>Negative Effects</i> (L) Nga Manu. Driveway severed and amenity affected by traffic noise.</p> <p>(H) El Rancho severely compromised – more so than in Eastern Option</p>	<p><i>Negative effects</i> (H) Urupa and battleground at Takamore</p> <p>Listed Archaeological Sites 38 and 39 could be affected</p>	<p><i>Negative effects</i> (H) Significant loss of high quality residential properties</p> <p>(H) Severe reduction in amenity for remaining residential properties along proposed route.</p>	<p><i>Negative Effects</i> Loss of market gardens on south side of Te Moana Road</p>	<p><i>Negative effects</i> (H) Amenity of Nga Manu reduced by traffic noise</p> <p>(H) Amenity of residential properties and rural lands along the whole route severely affected.</p>
Peka Peka					<p><i>Negative effects</i> (M) Effects on Harrison’s Garden Centre potentially greater than</p>	<p><i>Negative effects</i> (M) potentially greater for rural lifestyle area near Harrison’s</p>

Potential effects: positive and negative: Western Option						
Community/segment	Severance	Community/recreation facilities	Places of historic/cultural importance	Private property	Local services/businesses	Effects on amenity
					eastern option.	
Te Horo	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.
Otaki	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.	As for Eastern Option.

6. Recommendations to mitigate effects

Eastern Option: SH1 expressway following rail line with supporting local roads

The two link roads should be completed before work on the Expressway begins, to avoid longer travel times and significant costs that would occur for local traffic moving between Waikanae and Paraparaumu. This is particularly important for Waikanae residents as the Expressway does not provide access into/out of Waikanae.

Table 3: Recommendations Eastern Option

Community/segment	Severance	Community/recreation facilities affected	Places of historic/cultural importance	Private property effects	Local services/businesses	Amenity
Raumati - Poplar Ave to Raumati Beach Road		Provision to reconnect walkway off Leister across /along new local road		Minimise number of properties affected by reducing road width, tweaking alignment and landscaping. Develop purchase	Minimise number of properties affected by reducing road width, tweaking alignment and landscaping. Develop purchase	Replanting of vegetation along both sides of link road will enhance amenity and reduce severance

Community/ segment	Severance	Community/ recreation facilities affected	Places of historic/cultural importance	Private property effects	Local services/ businesses	Amenity
				<p>packages ASAP</p> <p>Funding for a full-time independent negotiator to assist home owners and those renting properties in their negotiations with NZTA</p> <p>Secure funding for person to help affected residents to assess options, identify potential mitigation requirements and decide future.</p>	<p>packages ASAP</p> <p>Funding for a full-time independent negotiator to assist home owners and those renting properties in their negotiations with NZTA</p>	
Paraparaumu	<p>Underpass to be a high quality design (wide and well- lit) to provide a pleasant experience for pedestrians.</p> <p>Traffic speeds through Paraparaumu be reduced to 70kmh</p>	<p>Provide underpass suitable for pedestrians and cyclists under expressway to link proposed CWB from Nikau Reserve to the sea.</p>		<p>As above</p>	<p>Road and rail alignments should avoid the loss of any parking provisions servicing the railway.</p> <p>Pedestrian and car access to the railway station should be enhanced.</p>	<p>Replanting of vegetation along both sides of link road will enhance amenity and reduce severance</p>

Community/ segment	Severance	Community/ recreation facilities affected	Places of historic/cultural importance	Private property effects	Local services/ businesses	Amenity
	Completion of the 2-lane western link road to avoid impacts of increased traffic on Ratanui Rd, Marzengarb St and Arawhata St.				<p>Consideration should be given to moving the expressway to the east side of the railway line to avoid affects on Waterston Subdivision Jade Garden area.</p> <p>Signage at Otaihanga interchange directing motorists south to Lindale and neighbouring activities.</p>	
Otaihanga				As above		Provide vegetation along southwards car museum to replace current situation.
Waikanae town centre	Traffic speeds through Waikanae section be reduced to 70kmh			As above	Funding should be included in the construction costs to provide for the redevelopment and	

Community/ segment	Severance	Community/ recreation facilities affected	Places of historic/cultural importance	Private property effects	Local services/ businesses	Amenity
					enhancement of the Waikanae town centre as a local shopping centre.	
Waikanae township						
Pekapeka				As above	As above	Comprehensive landscaping to reduce the visual impacts of the Expressway for local residents and to create a visual barrier between the new local road and the Expressway.
Te Horo	Otaki Gorge/ Addington Rd underpass to be a high quality design (wide and well-lit) to provide a safe, pleasant route for pedestrians and cyclists.			As above	Positive effects of improved connectivity with local communities could be enhanced by promoting Te Horo as a special village associated with local produce.	Comprehensive landscaping to reduce the visual impacts of the Expressway for local residents and to create a visual barrier between the local road and the Expressway.
Otaki	Underpass connecting Rahui and Mill Roads to	Create walkway/ cycleway underpass (of high quality) to	In the event the Rahui Social Hall and Milk Treatment	As above	Promotion of Otaki as a destination shopping centre	

Community/ segment	Severance	Community/ recreation facilities affected	Places of historic/cultural importance	Private property effects	Local services/ businesses	Amenity
	<p>be a high quality design (wide and well- lit) to provide a pleasant experience for pedestrians.</p> <p>Ensure any realignment of the railway does not separate the railway station and platform from Arthur St. and does not reduce the size of the commuter car-park</p> <p>Replace pedestrian and cycle route between Rahui Rd and railway station.</p>	<p>re-link Otaki River Walkway.</p>	<p>Plant are affected, appropriate mitigation measures be developed in consultation with the Otaki Historical Society</p> <p>Ensure any realignment of the railway line does not affect the location of the railway station.</p>		<p>with speciality outlets.</p> <p>Funding should be provided as part of the construction costs for the redevelopment and enhancement of the town centre to ensure the on-going viability of the Village Retail Centre as a destination shopping centre</p>	

Table 4: Recommendations Western Option

Community	Severance	Community/ recreation facilities	Places of historic/cultural importance	Private property effects	Local services/ businesses	Amenity
Raumati - Poplar Ave to Raumati Beach Road	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option
Paraparaumu	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option
Otaihanga	Traffic speeds between Otaihanga and Waikanae should be reduced to 70kmh			As for Eastern option		
Waikanae town centre		Signage at the interchanges for the facilities that serve the district e.g. Maharangi Art Gallery		As for Eastern Option	As for Eastern option	
Waikanae township	Traffic speeds between Waikanae and Pekapeka be reduced to 70kmh			As for Eastern Option		
Pekapeka			As for Eastern Option	As for Eastern Option		As for Eastern Option
Te Horo	As for Eastern Option			As for Eastern Option	As for Eastern Option	As for Eastern Option
Otaki	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option	As for Eastern Option

