

# Appendix R

## Social and Environmental Screen



## Social and Environmental Management Form (PSF 13)

Option Description: Peka Peka to Otaki Expressway					
Social and Environmental Screen			Social and Environmental Assessment		
Issue	Effects	Degree of Effect	Requirements	Addressing effects and meeting requirements	
<i>Social and environmental issues</i>	<i>Describe the potential social and environmental effects of the option, including where the option may improve social and environmental outcomes</i>	<i>H/ M / L / NA</i>	<i>List all legal requirements and relevant Transit social and environmental objectives</i>	<i>List actions to be taken to meet specific social and environmental requirements and objectives and address all effects identified. Include an estimated cost.</i>	
				Specific Actions	Estimated Cost (\$)
<b>Road-traffic noise</b>	Opening year AADT approx – 20,000 vpd PPFs within 200m – 164 houses  The project closely follows an existing state highway in both urban and rural areas. However, in some locations there will be an appreciable increase in road traffic noise.	M	TEP Objective N2 NZS 6806:2010  KCDC District Plan (Transit Guidelines)	Determine the BPO in accordance with NZ 6806, based on findings of the SARA but with input from the project team and NZTA national and regional staff.  Based on the SARA, the indicative BPO is: <ul style="list-style-type: none"><li>- 6.3km PA-10</li><li>- 114 m long, 2 m high noise wall (timber fence)</li></ul> Consult with all property owners adjacent to any proposed barriers	\$2,173,000
<b>Construction noise and vibration</b>	The project will involve substantial earthworks and construction of several major structures. There are houses near to many parts of the works and will be affected by construction noise. Several areas such as on the north bank of the Otaki River are remote from houses, so provide options for a site	M	TEP Objective N3 and V3 NZS 6806:2010  KCDC District Plan (NZS 6803P:1984)	Conduct a construction noise and vibration assessment to: identify activities, predict typical noise and vibration levels, propose indicative mitigation measures and prepare a draft construction noise and vibration management plan.	TBC

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	compound/staging areas/batching plant, which would not cause noise disturbance. As most works are for a new alignment night works should be limited.				
<b>Rail noise</b>	The project results in the rail line moving closer to properties to the west. The move results in 3 properties falling within 80 metres of the rail noise effects corridor.	M	TBC with KiwiRail	Using the KiwiRail reverse sensitivity guidelines as a reference, it is likely that noise barriers on the property boundary of 3 houses will be required (2.5 m high barrier, total length 70 m). Confirm the criteria and mitigation with KiwiRail.  Consult with all property owners adjacent to any proposed barriers.	\$28,000
<b>Road-traffic vibration</b>	There are no Protected Premises and Facilities (PPFs) immediately adjacent to the new road and vibration would be expected to be within reasonable limits. There are PPFs near altered road sections which might currently experience road-traffic vibration.	N/A	TEP Objective V1 NZS 8176	Conduct vibration measurements by existing road to confirm levels and indirectly ground conditions.	TBC
<b>Rail vibration</b>	No properties are within 40 metres of the moved rail corridor	N/A	TBC with KiwiRail	Confirm the criteria with KiwiRail, and conduct further investigations if necessary.	TBC

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<b>Air Quality</b>	<p>Air dispersion modelling indicates that reductions in the concentration of vehicle air pollutants (NO<sub>2</sub>, CO and PM<sub>10</sub>) can be expected in the Township of Otaki along the existing SH and especially around the Mill Road/State Highway (SH) 1 intersection.</p> <p>Dust during construction could be an issue, with limited ongoing effect once earthworks completed.</p> <p>Location of stockpiles of soil, gravel, chip can create dust, sediment and visual disturbances.</p>	L	National Environmental Standards for Air Quality TEP Objective A1	<p>Adopt best practice to avoid adverse effects resulting from objectionable dust emissions on the receiving environment (eg. use of watercarts, fixed sprinklers, wheel washes)</p> <p>Construction management plan to include dust emissions.</p> <p>Consider where to locate stockpiles if required to minimise dust and visual nuisances.</p> <p>Limiting the area of the site opened up for construction at one time.</p>	TBC (dependent on construction process and timeline)
<b>Water (stormwater) resources</b>	<p>Stormwater effects on this project are primarily associated with: increased road connectivity (level of service) during flood events, increased downstream flooding levels from increased impermeable area; and short term and long-term changes to the pollutant load in the road runoff.</p> <p>The expressway is being built with the best</p>	L	TEP Objective W1, W2, ES1	<p>Inclusion of peak flow attenuation to mitigate the increase in downstream flood levels. The peak flow attenuation takes the form of attenuation swales and stormwater attenuation ponds.</p> <p>Erosion and sediment control measures installed, monitored and maintained throughout the works to control and</p>	TBC (Provision of fish passage in culverts approx \$200/m)

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	<p>practicable road runoff treatment, overall pollutant load entering the waterways, from the road users will considerably decrease.</p> <p>The Project has the potential to block fish migration patterns at all the streams that it crosses.</p>			<p>mitigate the effects of sediment runoff until the site is stabilised.</p> <p>Inclusion of fish passage in culverts.</p>	
<b>Erosion and sediment control</b>	Sedimentation issues could arise during construction phase due to potential for exposed soil to be washed into streams when it rains. Erosion issues could arise post construction. During construction there will be the potential for exposed	L	TEP Objective ES1	<p>Preparation of an Erosion and Sediment Control Plan and Construction Management Plan.</p> <p>Compliance with Regional Council erosion and sediment control guidelines.</p>	TBC
<b>Social and Community</b>	<p>Key positive outcomes are:</p> <ul style="list-style-type: none"> <li>• Grade separated crossings which will improve pedestrian and cyclist safety;</li> <li>• Removal of at grade level crossings at Te Horo and Old Hautere Road;</li> <li>• Reduction in traffic (particularly freight traffic) and a reduction in vehicle speeds on the existing SH1, resulting in</li> </ul>	L - M	TEP Objective SR1	<ul style="list-style-type: none"> <li>• Direct physical severance to be avoided through the inclusion of overbridges which will provide connections between the communities on either side of the Expressway.</li> <li>• Include the community in the ongoing design process to help reduce the feeling of severance.</li> </ul>	TBC

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	<p>safety improvements for local residents;</p> <ul style="list-style-type: none"> <li>Improvement to the pedestrian and shopping atmosphere of the Otaki Railway Retail Precinct due to a reduction in through traffic</li> <li>Provide for better connections both within the Kapiti Coast region as well as to key facilities in Wellington to the south and across the rest of the North Island to the north; and</li> <li>Furthering of the Greater Otaki Vision, by supporting growth and development in Otaki (eg. upgrading the Otaki Railway Precinct and Otaki Main Town streetscapes).</li> </ul> <p>The most significant negative outcomes are:</p> <ul style="list-style-type: none"> <li>Severance of the Te Horo and Otaki communities;</li> <li>Impacts on the Te Horo and potentially</li> </ul>			<ul style="list-style-type: none"> <li>Direct consultation with local businesses as to opportunities to ensure they remain viable and that the potential loss in passing customers will not force businesses to close.</li> <li>Undertake a specific study on retail in Te Horo to confirm existing customer base and new customer opportunities.</li> <li>Develop signage and marketing plans for Te Horo, Otaki Railway Retail Precinct and Otaki Main Township.</li> <li>Provide relevant and timely information to the community throughout the project so they are adequately informed about the process. Appoint a community liaison person to assist people with the property acquisition process.</li> <li>Preparation of a Construction Management Plan to minimise adverse effects of construction activities.</li> </ul>	

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	<p>the Otaki retail areas in terms of less visitor numbers, loss of employment opportunities as a result in a reduction in business from less passing traffic;</p> <ul style="list-style-type: none"> <li>• The loss of a proportion of the Pare-o-Matangi Reserve;</li> <li>• Construction impacts (noise, vibration and dust) on houses within close proximity of the route;</li> <li>• Stress and anxiety to landowners whose properties are directly affected, particularly relating to uncertainty during the property acquisition process.</li> </ul>			<ul style="list-style-type: none"> <li>• Preparation of a Communications Plan to provide information about timing and duration of construction works.</li> <li>• Utilise CPTED principles when designing the route, particularly the overbridge sections</li> </ul>	
<b>Culture and Iwi</b>	<p>The preferred option will result in both cultural and iwi impacts on recorded or known and potentially unknown sites of significance along the route.</p> <p>Sites of significance to iwi that have been identified are:</p> <ul style="list-style-type: none"> <li>- Taylors Road end – hosts Pa sites</li> </ul>	L - M	TEP Objective H1	<p>Preparation of a Cultural Impact Assessment to assist with the identification of relevant Maori cultural values and associations to the area and key areas/sites potentially affected.</p> <p>Prepare a mitigation and Iwi Management Plan for mitigation factors relating to native</p>	<p>TBC</p> <p>(costs associated with preparation of CIA and Iwi Management Plan along with ongoing consultation, engagement and</p>



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	<p>and a burial ground (urupa) west of the far west rail corridor.</p> <ul style="list-style-type: none"> <li>- Sand dunes and earth dune hills</li> <li>- Otaki and Rahui Rd end – wetland and spring (puna) identified by iwi as waahi tapu.</li> <li>- Waitohu Stream – flows from the Tararua's to the Tasman sea – recreation and kai moana.</li> </ul> <p>The expressway will pass directly through the wetland and spring, both of which will be destroyed.</p> <p>Three sand and earth dune hills will be completely destroyed.</p> <p>Realignment of the railway line is of concern to iwi.</p> <p>There may be satellite pa sites and settlement traces in the dunes to the south of the Mary Crest bush area that may be</p>			<p>bush areas, wetlands, waterways and springs.</p> <p>Impacts to the sand dunes will require further investigation as there may be midden sites and settlement evidence.</p> <p>Establishment of a new wetland on nearby land and/or development of stormwater wetland ponds in such a way that they provide wetland habitat for native flora and fauna. Consultation with iwi to ensure enhancements are culturally considered.</p> <p>Tangata whenua require that the sand and earth from the sand and earth dunes be used within the location and not in any other area of the designation.</p> <p>Further consultation with iwi regarding realignment of the railway line is required.</p> <p>Accidental discovery protocols implemented in consultation with iwi.</p>	<p>participation of iwi throughout the project)</p>

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	impacted.  Potential discovery of taonga and koiwi during the course of the works is of major concern for iwi.				
<b>Heritage and Archaeology</b>	<p>Several recorded archaeological sites and built heritage resources will be physically impacted on including the site of the historic Otaki Railway Station. The Otaki Railway Station will need to be moved slightly on its current site.</p> <p>Te Horo (former) Railway Station and former workers cottage will need to be moved from its present site.</p> <p>Buildings on the former Mirek Smisek property (990 State Highway 1) should be moved.</p> <p>There is also potential along the route for there to be unrecorded archaeological sites that may be impacted on, particularly within the area of Te Hapua Rd and the Waitohu</p>	L-M	<p>Historic Places Act 1993</p> <p>TEP Objective H1</p>	<p>Obtain archaeological authority under HPA for all work that has the potential to impact on archaeological sites, whether known or not.</p> <p>Archaeological monitoring be carried out within areas identified as being of archaeological risk (Waitohu Stream; Te Hapua R area) and an accidental discover protocol be developed in consultation with tanata whenua.</p> <p>Specialist advice from a conservation architect be sought in regard to moving the Otaki Railway Station and relocation of Te Horo (former) Station and workers cottage on Mirek Smisek property.</p>	TBC

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	Stream.				
<b>Ecological resources</b>					
- Terrestrial ecosystems	<ul style="list-style-type: none"> <li>Loss of indigenous bush habitat</li> <li>Edge effects resulting from vegetation clearance.</li> <li>Potential effects on threatened fauna (eg. long-tailed bats)</li> <li>Loss of one significant wetland area adjacent to the railway in Otaki.</li> <li>Avoiding a regionally significant area of indigenous bush and wetland near Mary Crest as a result of road realignment considered positive.</li> </ul>	M	TEP Objective E2	<p>Increasing protection of existing areas of bush by fencing, weed removal and /or planting additional areas of bush to compensate for the areas lost.</p> <p>Establishment of a new wetland on nearby land and/or development of stormwater wetland ponds in such a way that they provide wetland habitat for native flora and fauna.</p> <p>Undertake further assessment and investigation to confirm potential effects on threatened fauna (eg. presence/absence surveys to determine long-tailed bat occurrence).</p>	\$200,000 to \$300,000  (dependent on specific nature of works required)
- Aquatic ecosystems	<p>Potential effects to freshwater ecosystems include:</p> <ul style="list-style-type: none"> <li>Sediment effects;</li> <li>Interruption of fish passage through bridges and / or culverts;</li> </ul>	L	TEP Objective E2	<p>Adopt sound design and engineering practices (eg. provision of fish passage, planting of native vegetation at sites above and below the State Highway to improve ecological functions of riparian margins).</p>	TBC

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	<ul style="list-style-type: none"> <li>• Interruption of aquatic insect passage through bridges and / or culverts;</li> <li>• Potential adverse effects from stormwater derived run-off;</li> <li>• Loss of stream habitat through piping and culverting.</li> </ul>			<p>Timing of potential construction work needs to consider potential upstream and downstream migration of some of the diadromous fish, ie. Fish needing uninterrupted access to and from the sea to complete their life cycle (eg. native fish such as koaro and banded kokopu)</p> <p>Minimise construction work in the wetted area of the river bed.</p> <p>Minimise operations in the river during whitebait season (September to end of November).</p>	
<b>Spill response and contamination</b>	<i>To be assessed at AEE stage</i>			Work currently being undertaken to determine the risk and likelihood of identifying contaminated areas along the Expressway corridor.	TBC
<b>Resource efficiency</b>	During the SARA phase design the team have aimed to achieve a cut /fill balance for the project, thus significantly reducing imported and export fill material and associated energy consumption. The			Further work to be undertaken as part of the AEE phase of the project.	TBC

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	<p>project is also ideally located for the supply of river aggregates from the Otaki River and precast concrete from Stress Crete.</p> <p>Other effects associated with resource efficiency include:</p> <ul style="list-style-type: none"> <li>• Cut to waste being used for landscaping, bunds and batters.</li> <li>• Topography of the project being largely flat, thus reducing fuel consumption during construction and operation.</li> </ul>				
<b>Climate change: adaptation and mitigation</b>	<p>The proposed expressway runs along a narrow coastal plain. This coastal plain is made up of a series of floodplains for one major river (the Otaki River), one medium sized river (the Waitohu Stream), and several smaller streams (including the Mangaone Stream at Te Horo and the Mangapouri Stream through Otaki Township).</p> <p>The existing SH1 has a history of being</p>	L	TEP Objective C1	As part of the conceptual design phase, mitigation measures have been evaluated (eg. culvert construction) with the objective of achieving hydraulic neutrality with respect to the existing situation	TBC  (required mitigation measures have been included in the overall scheme construction cost)

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	inundated by floodwaters every few years at a number of locations including the bridge over the Waitohu Stream immediately to the north of Otaki Township and the culvert system crossing the Mangaone Stream at Te Horo.				
<b>Visual and landscape quality</b>	<p>The following visual and landscape quality effects have been identified:</p> <ul style="list-style-type: none"> <li>- Effect of the proposed expressway on existing landform, existing vegetation</li> <li>- Effect of a change in landuse from rural or urban to the landuse of an intensive transport corridor</li> <li>- Over its entire length, the proposed expressway will 'double' the landscape and visual effects of the existing transport corridor by adding the 'footprint' of a four-lane expressway and its local road connections to that of the existing retained SH1 and NIMT</li> </ul>	L	TEP – VQ1	<p>Consideration of revegetation species relevant to soil types, topography and location.</p> <p>Consider integration or re-establishment of the existing contours, existing vegetation patterns, and landscape noise mitigation rather than noise walls.</p> <p>Implement design principles identified in the 'Peka Peka to Otaki Urban and Landscape Design Framework' Opus 2011.</p>	<p>TBC</p> <p>(Yet to be defined (but influenced by the size and nature of the buffer and landscape treatment within it)</p>

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	railway.				
<b>Landuse and transport integration</b>	<p>The Expressway will improve accessibility within and between Kapiti and Wellington to the south, and the rest of the North Island.</p> <p>The construction of the Expressway results in some properties losing direct access to existing roads (especially existing SH1). Changes to local property access arrangements may result in some residents having to travel further to reach their destination. However, the new access arrangements are much safer with no direct access onto the Expressway and five of the eight existing railway level crossings being removed.</p> <p>Access to the Otaki railway station will be improved for pedestrians, cyclists and motor vehicles due to enhanced linkages north and south of the station, and the removal of through traffic from the Otaki</p>	L		<p>Undertake an assessment of construction effects as part of the traffic management plan for the project.</p> <p>Undertake a pre and post construction road safety audit.</p> <p>Active management of traffic during construction and limited disruption at peak time through traffic movements.</p> <p>Signage and information for motorists, cyclists and pedestrians.</p> <p>Modelling completed to date has focused on weekdays; however there is recognition of significant demands occurring on holidays and weekends. Further work is needed to understand the implication of weekend and holiday demands.</p>	

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	<p>Railway Area.</p> <p>Construction effects on existing SH1 potentially resulting in disruption, delays and congestion.</p> <p>Significant opportunity to provide for enhanced rail provision in the future (eg. double tracking of the main trunk line)</p>				
<b>Urban design</b>	<p>Potential for increased community severance created by the 4 lane expressway, whose effective corridor is even wider as it runs adjacent to the existing NMIT rail line for the majority of the study area.</p> <p>There will be potential adverse effects on business access and viability, the general urban fabric and amenity of the Otaki Retail Centre and transport hub around the historic Railway Station.</p> <p>Improved amenity of the existing SH1 as it becomes a local arterial following</p>	L	<p>TEP Objective VQ1</p> <p>PPM Urban Design Policy (PP6)</p>	<p>Key issue to resolve in this area of the Otaki Retail Centre and transport hub around the historic Railway Station is the east-west connection of Rahui / Mill Road and access to/from Waitohu Plateau residential area.</p> <p>The social and environmental benefits of the expressway will be promoted by using good urban design principles, and the establishment of comprehensive landscape mitigation measures.</p>	TBC



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	<p>revocation.</p> <p>The southern part of the proposal is in a rural location with the focus being on landscape and visual effects. Urban design matters will be critical particularly in the Te Horo Beach/School Road/Gear Road areas and will be integrated as appropriate.</p>				
<b>Public health</b>	<i>Assessed under the noise, vibration and air quality effects assessment.</i>				
<b>Cycling infrastructure</b>	<p>Facilities for cyclists will be completed as part of the SH1 Revocation project. This will include a shared use path the length of the project.</p> <p>New clip on facility is proposed for the existing Otaki River bridge.</p>	H	<p>TEP Objective SR1</p> <p>PPM Walking and Cycling Policy (App 6)</p>	<p>Addressed as part of the detailed design process. As appropriate, facilities for pedestrians and cyclists have been incorporated into the project as part of the SH1 Revocation project. This will include a shared use path the length of the project.</p>	
<b>Cycle crossing facilities</b>	<p>Cycling facilities are proposed to be provided on the local roads and the existing SH1 corridor, consisting of a shared off road path and on road</p>	L	<p>TEP Objective SR1</p> <p>PPM Walking and Cycling Policy (App 6)</p>	<p>Develop up cross corridor and interchange solutions that achieve a safe cycle facility.</p>	

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	<p>shoulders.</p> <p>Provision will also be provided on local road east / west connections.</p> <p>As cycles will not be prohibited from the Expressway, there will be a need to ensure the design is safe for cyclists that may choose to use the Expressway (e.g. crossing on and off ramps).</p>				
<b>Walking infrastructure</b>	<p>All local road connections will include grade separated crossing facilities as part of the bridge structure.</p> <p>An off road path is proposed from north to south adjacent to the existing SH1, which will significantly improve pedestrian facilities over the length of the corridor.</p> <p>Old Hautere Road residents will have longer travel distance, however improve facilities with a shared facility on the link back to Otaki Gorge Rd.</p> <p>Expressway will significantly reduce</p>	L	<p>TEP Objective SR1</p> <p>PPM Walking and Cycling Policy (App 6)</p>	<p>Addressed as part of the detailed design process. As appropriate, facilities for pedestrians and cyclists have been incorporated into the project as part of the SH1 Revocation project. This will include a shared use path the length of the project.</p>	

Option Description: Peka Peka to Otaki Expressway					
Social and Environmental Screen			Social and Environmental Assessment		
Issue	Effects	Degree of Effect	Requirements	Addressing effects and meeting requirements	
<i>Social and environmental issues</i>	<i>Describe the potential social and environmental effects of the option, including where the option may improve social and environmental outcomes</i>	<i>H/ M / L / NA</i>	<i>List all legal requirements and relevant Transit social and environmental objectives</i>	<i>List actions to be taken to meet specific social and environmental requirements and objectives and address all effects identified. Include an estimated cost.</i>	
				Specific Actions	Estimated Cost (\$)
	congestion and improve safety and accessibility for pedestrians in the Otaki Railway precinct.				
<b>Pedestrian crossing facilities</b>	No pedestrian facilities on the Expressway, however there are a number of locations in which crossing points have been identified on the local roads and the existing SH1.	L		Crossing facilities to be considered as part of the SH1 revocation process and detailed design.	
<b>Bus related infrastructure</b>	Assessment using the Wellington Transport Strategy Model (WTSM) has shown that the project will have minimal impact on the provision of passenger transport in the region.	L	TEP Objective SR1		
<b>Priority lanes</b>	No priority lanes provided on the Expressway.	NA			
<b>Traffic management</b>	Construction of the Expressway results in improved journey times for most journeys through and within the study area.  Safety is significantly improved with the high quality design standards proposed for the Expressway, removal of five at grade	M		Construction management plans will address traffic management plans, however much of the construction is off line and will have minimal impact on existing traffic flows.	

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				Specific Actions	Estimated Cost (\$)
	rail crossings and significant reduction in traffic on the Local Arterial.				
<b>Other: Business Viability</b>	<p>The Expressway is likely to make Otaki a more vibrant retail environment (and give rise to positive economic benefits) by reducing traffic congestion and volumes on the main road through Otaki and improving amenity with the following results:</p> <ul style="list-style-type: none"> <li>• The quality of the pedestrian environment can be improved: crossing the road will become easier and less dangerous and air quality and vehicle noise will be likely to improve.</li> <li>• Less traffic means parallel parking directly outside stores will become easier, increase the accessibility of businesses.</li> <li>• Lower traffic volumes may provide the opportunity for different types of businesses to locate in the RRA, such</li> </ul>	L-M		<p>Some of the measures that might be employed to address the potential economic effects of the project include:</p> <ul style="list-style-type: none"> <li>• Signage on the Expressway indicating that there is a retail/service area in Otaki/Te Horo, and some indication as to what is available (service stations, food, accommodation, visitor information centre, gateway to the Tararuas etc.).</li> <li>• Publicising the attributes of the new environment (the local arterial road) compared to the existing (SH1) environment.</li> <li>• Ensure potential mitigation measures are employed pro-actively and begin some time prior to the project being completed to allow sufficient lead-time</li> </ul>	TBC

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				Specific Actions	Estimated Cost (\$)
	<p>as outdoor eating areas.</p> <p>However adverse economic effects may result as follows:</p> <ul style="list-style-type: none"> <li>• The Expressway will realign SH1 from passing the front of many (RRA (Railway Retail Area) and Te Horo) businesses to a new route away from those businesses, likely to be a decrease in the sales made by those businesses.</li> <li>• Decrease of vehicle traffic along the new local arterial road will mean that potential customers of businesses that currently front SH1 will need to deviate from the new SH1 to visit those businesses. Currently no such deviation is required, providing a more 'captive' market for those businesses.</li> <li>• The decrease in accessibility of the entire Otaki township from SH1 will be likely to decrease the number of</li> </ul>				

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				<b>Specific Actions</b>	<b>Estimated Cost (\$)</b>
	<p>consumers visiting other Otaki businesses as well, such as those in the MSRA (Main Street Retail Area).</p> <ul style="list-style-type: none"> <li>Businesses in the RRA and Te Horo are likely to experience more significant adverse economic impacts than the MSRA will experience due to the high proportion of non-local consumers that patronise them.</li> </ul>				

### Glossary

H	High	Permanent, serious and widespread adverse effects and/or opportunities for social and environmental improvement. Adverse effects to be avoided; opportunities to be actively pursued.
M	Medium	Major, medium-term adverse effects and/or opportunities for social and environmental improvement. Where cost effective, adverse effects to be avoided and opportunities to be pursued (significant mitigation may be required).
L	Low	Limited, short-term adverse effects and/or opportunities for social and environmental improvement. Where cost effective, adverse effects to be avoided and opportunities pursued (mitigation may be required).
NA	Irrelevant	No effect and/or opportunity. No action required
TEP		Transit Environmental Plan
PPM		Planning Policy Manual