

Appendix AA

Urban Design



**Peka Peka to Otaki Expressway
Scheme Assessment Report Addenda (SARA)**

Urban Design Specialist Assessment



Peka Peka to Otaki Expressway Scheme Assessment Report Addenda (SARA) Urban Design Specialist Assessment

Prepared By

.....
Bruce Curtain
Urban Designer

Opus International Consultants Limited

Opus Architecture
Level 9, Majestic Centre, 100 Willis Street
PO Box 12 003, Wellington 6144,
New Zealand

Reviewed By

.....
Chris McDonald
External Urban Design Peer Review

Telephone: +64 4 471 7000
Facsimile: +64 4 471 7770

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1 Executive Summary

From an urban design perspective the key issues for the Peka Peka to North Otaki expressway project are around amenity; community severance; connectivity with and across the expressway; effect on underlying urban form and land use patterns; and the impact on the existing State Highway 1 (SH1).

The structure of this assessment is as follows:

- **Project Description** – setting out the underlying context for the project including wider Wellington RoNS and specific project objectives, and specific urban design objectives as per the Urban Landscape Design Framework (ULDF) document.
- **Site Description / Existing Environment** – outlining the existing urban design to set a baseline for assessment of urban design.
- **Effects** – the criteria and methodology for effects assessment is outlined and then review each predefined project section from north to south
- The remaining components of this urban design assessment address the degree of effects; any policies, protocols, objectives or principles that have informed the urban design requirements; how the preferred option alignment has addressed the effects and meets these requirements and any potential urban design mitigation costs.

In general terms under the SARA stage Preferred Proposal alignment the overall urban design outcome is rated as neutral / minor positive. The existing cross corridor connections are retained, with one exception at Old Hautere Road, and in the case of north Otaki is in fact enhanced with improved pedestrian and cycleway provision. This has a positive outcome on the potential for community severance and also maintains the current underlying urban form. Land Use patterns are not overly disrupted as the new expressway alignment broadly follows the existing rail corridor on what is currently rural land. The legibility of the north and south Otaki interchanges that bookend the township may have an impact on the business viability of the current Otaki Railway Retail through the reduction of passing through traffic (covered by the Assessment of Business Viability) but equally provide excellent connectivity for the industrial / 'clean tech' area, and other future land use development/growth for the Otaki township and the wider region.

It is important to clarify that community severance effects are also covered in the Social Effects specialist assessment. For the purposes of this urban design specialist assessment community severance is based on physical separation by infrastructure elements and the impact of urban form and networks, rather than social or community effects of the severance.

Important urban design issues moving forward will be the finer level of detail design around the bridge and other structures, resolution and integration of the network of walking and cycling routes, the interfaces with key public realm spaces including Pare-o-Matangi Reserve and the Otaki Railway Retail area.

It is noted that the proposal for the existing SH1 in the re-configuration as local arterial is outlined in alignment and connectivity but the specific detail are yet to be resolved as part of the revocation negotiations between NZTA and Kapiti Coast District Council (KCDC).

2 Project Description

The planned upgrading of State Highway 1 between Peka Peka and Otaki North is “part of the Wellington Northern Corridor Road of National Significance (RoNS) – a planned four-lane expressway from Wellington Airport to Levin.” SH1 is the major route in and out of Wellington, linking the centres of Palmerston North, Wanganui and Levin with Wellington. By improving transport networks through the Kapiti Coast, this project will contribute to economic growth and productivity.

Currently the Peka Peka to North Otaki section of SH1 has a relatively poor and worsening safety record. It also experiences high levels of congestion during peak periods, weekends and holiday periods. This congestion is compounded by a high proportion of local traffic, and an increasing level of shopping-generated parking and pedestrian movements in the Otaki urban area. A bypass of Otaki, and the provision of a high-standard highway through the area will increase the efficiency of movements between Wellington and the North, will ease local congestion, improve safety, and will facilitate local, regional and national economic development.

The scope of this project is therefore to construct a high quality four-lane expressway bypassing the township of Otaki and the settlement of Te Horo. Together with the MacKays to Peka Peka section to the south, it forms the Kapiti Expressway and when both sections are completed will provide a superior transport corridor providing much improved, reliable and safer journeys through the Kapiti Coast. The project seeks to safeguard for double tracking of the main trunk rail line and also involves the relocation of the track through Otaki in order to accommodate the proposed expressway.

The project scope, and this urban design assessment, also includes effects of the sections of the North Island Main Trunk (NIMT) rail corridor that require realignment due to the new SH1 expressway corridor.

From an RMA perspective, The New Zealand Transport Agency’s (NZTA) objectives for the Wellington Northern Corridor RoNS and the Peka Peka to Otaki project are:

- To build a modern, high standard four lane highway between Peka Peka Road and Taylor’s Road bypassing Otaki Village, and including a new four lane bridge over the Otaki River, and the Te Horo expressway.
- To provide high quality connections to the realigned SH1 at Otaki Village and maintain connections to local roads at Otaki Gorge, Te Horo and Gear Road/School Road.
- To achieve the highest standards of design and construction.
- To provide a reliable and resilient route offering superior ride comfort, convenience and journey time savings.
- To contribute to the economic growth and productivity and significantly improve transport links to the lower North Island.

- To enhance the urban and rural landscape where practicable using urban design principles and environmental best practice.
- To mitigate where practicable the social and environmental impact of construction.
- To provide connectivity to local road network and provide a safe experience for vulnerable road users e.g. cyclists and walkers.
- To commence construction by 2012/2013 or earlier.
- To complete the Otaki Bypass and Te Horo expressway by 2016/17 or earlier.
- To ensure efficient, local and stage-able interfaces with the adjacent RoNS projects to the North and the South.

NZTA's urban and landscape design related priorities for the expressway include:

- Develop an integrated solution that achieves an appropriate balance between the functional performance requirements of local and State Highway traffic; and
- Addresses the social, land use and environmental impacts of the project in the context of the aspirations of territorial authorities.

3 Site Description / Existing Environment

The project is located within the bounds of the Kapiti Coast within the jurisdiction of the Kapiti Coast District Council as the local Territorial Authority. The Peka Peka to Otaki section is at the northern end of the district.

A considerable amount of work has already been undertaken to establish the underlying urban form along the proposed expressway route corridor. As sited above the ULDF is a key document in recording this work – in particular Sections 1-3, which describe the context of the overall expressway corridor and route alignment. More detailed sector analysis is available under Section 5. This is summarised below for the Urban Design Specialist Assessment.

The overall land form of the Kapiti region is characterised by the dominant ranges to the east and the coastal edge to the west. The existing state highway, rail and new expressway corridor track across the alluvial plain between the two crossing numerous streams and rivers on its journey south to Wellington. The specific project area (Peka Peka to North Otaki) is located at the northern end of the Kapiti Coast region, approximately 70km north of Wellington.

Otaki township is the northernmost urban centre of the three dominant settlements Kapiti Coast and the Wellington Region. The wider district is a developing urban area, with a population increasing faster than the NZ average, however this is mostly to the south around Waikanae and Paraparaumu. The urban boundaries of Otaki are the Otaki River to the south and Waitohu Valley Road to the north. The predominant population, including community amenities, is located west of the corridors with a smaller residential population to the north east on the Waitohu Plateau. The key connectivity between the two areas is via the existing SH1 and Rahui Road.

The Otaki retail area located along the existing SH1 in the form of a 'high street retail strip' between Waerenga Road and Mill Road/Rahui Road roundabout. There is also a New World supermarket at the southern end and various petrol stations at the northern end that would cater for local community as well as passing traffic. The economic viability of the businesses in this area would be particularly sensitive to the form and legibility of off/on ramps to Otaki by the expressway bypass. The natural centre of the area is the Arthur Street intersection which acts as a minor axis to the major axis of the SH1. The historic railway station is located to the east of this minor axis.

The Otaki Community Vision document has specifically described the enhancement of the town centre with a individual sense of place. This has been instigated at the local town centre on Main Street. With the reduction in through traffic there are certainly opportunities to create a experientially rich character precinct around this central retail / transport core of Arthur Street that could significantly enhance the urban environment

The area surrounding Otaki is predominantly of rural character, with the economy of Otaki relying largely on the farming communities. The exception is the southern edge of Otaki along the northern bank of the Otaki River which is dominated by an industrial zone including aggregate extraction and precast concrete works. This area around Riverbank Road is the subject of a very recent KCDC plan change and is now a designated growth area with a focus on 'clean tech' industries.

The other much smaller settlement within the study area is located at Te Horo, which is split by the current SH1 and rail corridors with a more remote Te Horo Beach settlement located on the west coast.

There are more minor connections towards the east and west off the existing State Highway 1 which provide access to rural residential areas, and recreational amenities along the coast to the west and east towards the Tararua Ranges, notably at Otaki Gorge.

State Highway 1 and the adjacent North Island Main Trunk (NIMT) rail corridor severs connectivity to Te Horo and Otaki. This is particularly an issue in Otaki as there is only one main east-west connection (Rahui Rd) providing access across the corridor/s

The Mary Crest section of the SH1 corridor follows a gentle S curve broadly in line with the underlying topography. The landform to the east and west of the existing corridor are noticeably different, with the east being the fertile foothills and the west more typically described as undulating sand dunes. The NMIT rail corridor and SH1 continue to run parallel through this section and define a boundary between these landform typologies.

The Mary Crest section is fundamentally rural in character with only a handful of local property access points. The largest aggregation of buildings is at 'Mary Crest' itself, a former Catholic School, which sits prominently at the top of a small sand dune hill on the western side of the corridor. The eastern side of this section is a mix of pasture and horticultural land, the west is predominantly pasture with also some small remnants of native bush.

Expressway Route

The context for the proposed expressway context within the study area is predominantly to the east of the existing SH1 and rail corridors running across rural land.

The existing route is well developed. It passes through the town of Otaki between Waitohu Valley Road (RP 915/4.38) and the Otaki River Bridge. The existing highway is the main road within

Otaki, and is intersected by many side roads. South of the Otaki River, between Addington Road and the Old Hautere Road intersection, there are a range of mainly market garden businesses on the western side of the highway. The route is flanked on the western side by the town of Te Horo,

This crosses to the western side of the corridor at both the northern and southern ends. This route has relatively minimal impact on the bypass section through Otaki as it passes over less developed land on both sides of the existing corridor. The key cross over point is at Rahui Road, and It should be noted that the current rail corridor is to be future proofed for dual tracking.

This expressway project creates the opportunity generate better connections and networks and have a positive impact on the urban form of Otaki and Te Horo. However, failure to properly consider the way in which Otaki and Te Horo has, and could develop in future, may result in infrastructure that leads to poor urban form and negative community outcomes.

2002 Scheme Assessment

While the majority of the previous 2002 assessment the context for Urban Design assessment remains unchanged there are a couple of notable exceptions regarding land use which have a bearing on this assessment.

- *'The urban development strategy for the district provides for long –term growth north of Otaki and west of the railway.'* **(2002 Report)**
- *The growth over the next 15 years in Otaki would be accommodated within the existing residential zoned land, based on the existing urban areas. Growth beyond the next 15 years would need new land development. The recently completed Kapiti Coast District Council Urban Growth Study has identified two areas for residential development over the next 15 to 25 years, and both would have an effect on the State Highway.*

The proposed additional development areas are north of Otaki and at Te Horo. At Otaki the land identified for long-term residential development is an area of 40 hectares north of Otaki, adjacent to Haruatai Park and Otaki Cemetery.

The proposal at Te Horo involves 300 hectares west of the state highway. The land is slightly elevated, comprises a small number of large properties, and has frontage to three roads. While it has no bulk services and would require significant infrastructure investment, the area is likely to be developed if a high level of growth continues beyond 15-20 years.
(2002 Report)

This has since changed and KCDC confirmed during our initial stakeholder discussions have confirmed

- that there is little residential growth pressure in Otaki and what there is should be concentrated in medium density land use development around the rail station transport hub.
- The major commercial growth node is the existing industrial area along Riverbank Road and that has been supported by a recent plan change for the former orchard area a 'clean tech' business park. The intention is for this area to have a regional focus for and as such requires good access to/from the RONS.

- That Te Horo is now NOT considered an area of future commercial or residential development with the emphasis on maintaining quality productive agricultural land and containing urban / peri-urban growth within existing boundaries or designated growth areas.

4 Effects

The following describes the potential Urban Design effects of the SARA stage Preferred Proposal scheme, including where the option may improve social and environmental outcomes as they relate to Urban Design.

The Urban Design assessment requires an evaluation of often intangible or subjective social / design issues. To form a robust report these issues must be set out in a clear structure.

For the purposes of this assessment the term Urban Design is used to cover aspects of the interrelationship of buildings and structures that create and urban space.

As per the previous Scoping stage assessment the intention for this SARA assessment (and for the subsequent AEE), is to apply a progressively finer level criteria evaluation of the options through to a preferred scheme. To this end the initial criteria used have now been cross referenced to key urban design principles and policies found in the *New Zealand Urban Design Protocol* (MfE) and the *Urban Design Policy* (NZTA) (see **Attachments** Section at end of this letter). Therefore the following methodology is being proposed for the assessments:

Criteria
• establish recognised Urban Design principles, policies and objectives
• from these principles provide a baseline evaluation of existing urban design environment.
• assess the effects of each option against the baseline environment evaluation
• where applicable/practical provide guidance for each option on further mitigation measures around key urban design principles to create more positive outcomes.

The project has been assessed for effects in sections from north to south as follows:

Otaki North	Otaki Railway Retail Area	Otaki South	Te Horo	Mary Crest
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The key areas for assessment of effects are as follows:

- **Urban Form & Land Use**
- **Amenity Values**
- **Connectivity**

These effects under these headings are rated against the wider project objectives and recognised urban design principles such as the NZTA Urban Design policy and New Zealand Urban Design Protocol.

4.1 Otaki North

This section starts just north of the junction with Taylors Road and includes the north facing on and off ramps with the off ramp utilising the existing state highway and Waitohu stream bridge . It also includes a new underpass (local bridge over expressway), adjacent to the current alignment, diagonally connecting the Waitohu residential area with the Main Otaki township, and a new underpass (local bridge over expressway) on the current alignment of Rahui Road. (Drawing sheets 1101 and 1102). The new expressway alignment broadly follows the existing NMIT rail corridor through in a section of generally open space of dunescape and the Pare-o-Matangi reserve, and between the built up areas on either side. It is noted that a small number of residential dwellings will need to be removed on Rahui Road due to the new corridor alignments.

4.1.1 Urban Form & Land Use

The urban form of Otaki is primarily unchanged from its current state due to the existing dislocation caused by NMIT rail corridor and topography (i.e. elevation of the Waitohu Plateau) by recreating the existing connections. Ideally the diagonal connection would run from Mill Road/Rahui Rd roundabout to Te Manuao Road on the east as this is the main road through Waitohu plateau area as this is the dominant desire line. The proposed alignment differs from this due to restrictions around the geometry of the expressway, rail corridor, on ramps and underpass (local road of expressway) at this location. Also a key factor in earlier options analysis of this area was limiting the number of residential properties that would be impacted in this location. The current alignment reflects the compromise with all these competing criteria.

The effect on current and future land-use is limited to the removal of the northern dunescape and Pare-o-Matangi reserve. Connectivity is both maintained and enhanced by enabling further development/growth in the northwest of the Otaki township. A separate study (by transport team?) has shown there is capacity in the two connections to the Waitohu and Rahui area for future growth. It should be noted that the current access to Taylors road does not support future growth nodes to the north of Waitohu stream (around Taylors Road) have not been catered for as the KCDC growth vision is to the immediate north of the Otaki township (i.e. south of Waitohu Stream), densification around the railway station/ transport hub and to the southern edge of the town ship along Riverbank road in a 'clean tech' industrial/commercial precinct. Should the Taylors Road area be developed this may require a different local access strategy towards the Otaki township.

4.1.2 Amenity Values

The existing SH1 will be de-powered though the removal of the through traffic which will have a positive effect on the remaining local roads, improving the amenity of the adjacent properties and supporting a potential increase in walking and cycling along and across the new local road. While this will still include a southbound off-ramp and north bound on ramp the overall traffic volume should be noticeably reduced with the removal of the current state highway through traffic.

Walking and cycling routes to the Taylors Road area could be considered under further mitigation as under the proposal the expressway is the only northbound southbound route available. They could utilise the existing SH1 / southbound off ramp and then traverse under the new Waitohu Stream expressway bridge and travel west to connect to Taylors Road. The Waitohu stream section could be part of a longer recreational WCB corridor.

4.1.3 Connectivity

It should be acknowledged that there are already severance effects through this area given the existing rail corridor, the displacement of the built-up areas due to rail corridor and topography and the high volume of traffic on the existing SH1 discouraging pedestrian and cycle activity.

The new alignment has the potential for a significant increase in the severance effect due to the adjacent corridors - a four lane expressway and allowance for double track rail corridor is a in itself a very wide barrier passing the through the overall urban form. There are however several mitigating factors which in fact create a net positive outcome for the local community. By running the new expressway broadly along the toe of the plateau and in cut the visual severance effects are minimised. The current two local cross connections at “The Ramp” and Rahui Road are maintained and for “The Ramp” will be de-powered from the current volume of State Highway through traffic but not local traffic using the on and off ramp (refer to Transport Assessment). The new “ramp” underpass (local bridge over expressway) will also have improved walking and cycle facilities – important for local journeys to and from residential area to the transport, educational, community, commercial and retail destinations within the township.

Bridge 4 at Rahui Road expressway underpass (local bridge over expressway) reconnects the Rahui Road and Otaki Racing Club to the Mill Road roundabout with a vehicle bridge and walkways both sides. Embankments either side are required to get this 130m long, 5 span bridge over County Road, the expressway and the double track allowance for the NMIT rail corridor. The realignment required at the eastern end effects two properties on Rahui Road and goes close to the Milk factory. Key will be getting pedestrian connectivity across and under the bridge at the embankments to connect to the Rail station to the south and reconfigured Pare-o-Matangi reserve to the northwest.

Connectivity can be described at the macro level of the expressway, the legibility of interchanges and business viability of Otaki Retail Area, and a micro level of the interconnectivity and cross connectivity of local access and network of walking and cycle routes that are either maintained or enhanced. In this instance both macro and micro connectivity work well and are improved.

4.2 Otaki Railway Retail Area

4.2.1 Urban Form & Land Use

The urban structure of the Otaki Railway Retail Area from the roundabout at Mill Road/Rahui Road south to Waerenga Road intersection is unaffected by the new expressway alignment as this is to the east of the rail corridor and does not disrupt the overall urban form or the current underlying street pattern. (See Sheet 1102).

4.2.2 Amenity Values

The biggest effect will be the removal of SH1 through traffic. This de-powering of the traffic volume would have positive effect on the quality and amenity of the public realm environment. And on the other hand potentially negative consequences of removing a proportion of passing trade for the outlet shop in the Retail Centre (refer to Assessment of Business Viability).

4.2.3 Connectivity

Two other more minor effects to note are the Rahui Road local bridge as opposed to the current at grade rail crossing covered in the previous section, the minor realignment / rotation of the railway station building at the end of Arthur Street. The connectivity effects of Bridge 4 at Rahui road are considered previously under 4.1.3. The change in realignment of the historic railway station is negligible from a wider urban design perspective as the interrelationship of the station building and entrance from Arthur Street is virtually imperceptible at the scale of the urban form. Effects on the historic character are considered separately under Heritage Assessment.

4.3 South Otaki

This section includes the north bank of the Otaki river, the bridges including existing SH1 bridge, rail bridge and new expressway bridge and the new southern interchange with south facing on and off ramps, link to the Otaki Gorge Road and to the existing State Highway 1 / new local arterial. There is also a new local road running parallel to the new expressway alignment on the eastern side, which is the extension of Old Hautere Road. (See Sheet 1103 and 1104).

4.3.1 Urban Form & Land Use

The corridor footprint in the section on the southern side of Otaki river is approximately 110m wide which is made up of local access road to Old Hautere Road, swales, 4 lane expressway corridor, swales, NMIT double track rail corridor and the existing SH1 / local arterial. The land used by the new expressway corridor for this section is rural, or river / recreational. As the new expressway corridor is adjacent and parallel with the existing SH1 and Rail corridors. The South Otaki interchange is an efficient footprint reducing the potential impact of a grade separated interchange in this location through use of the underlying topography.

4.3.2 Amenity

Bridge 5, the new Otaki River bridge is a significant structure with a span in the order of 330m. It has a number of important recreational activities that occur underneath it including the Chrystalls Bend walkway / recreational area and also potentially providing access to a new recreational area "Otaki Lakes" development to the north of the Stresscrete concrete precast yard. The detail quality of the bridge structure and in particular the soffit and piers has been well considered at this stage and should be a focus of future design development to ensure the recreational amenity is enhanced. Access to the recreational area along the Otaki Gorge road is maintained and enhanced with a safer grade separated interchange.

The recreational / layby area on the south side of the existing Otaki Bridge is maintained with access assumed to be off the new roundabout. This provides important access to the south bank of the Otaki River including various walking and cycling tracks along the stop bank.

4.3.3 Connectivity

The South Otaki grade separated interchange re-provides all the east-west connectivity to the Otaki Gorge Road that exists with the current SH1 alignment.

In this preferred proposal existing connection of Old Hautere Road to SH1 which includes an at grade rail crossing is removed and re-provided by a grade separated connection at the Otaki South interchange. For southbound traffic this is a deviation of approximately 2.9km, while for north bound traffic towards Otaki township and beyond there is no deviation. In reality the existing NMIT rail corridor and SH1 provided effective severance of east and west. The new expressway is depressed into the underlying topography which further reduces the perception of severance. With the new grade separated interchange located within 60m of the existing local bridge the underlying movement patterns are maintained. It is noted that connection to Old Hautere Road is changed but given the low rural / peri-urban population density and consequent low traffic movements this appears to be a reasonable compromise, over building a separate grade separated expressway underpass (local bridge over expressway) within 1.4km of the South Otaki interchange.

4.4 Te Horo

The physical severance effect for the Te Horo community of the existing SH1 due to its traffic volume and 80km speed limit, and the NMIT rail corridor already has an impact on the connectivity of the eastern and western areas of the Te Horo settlement. The preferred proposal for Te Horo has no connection to the new expressway. East - west community connectivity is re-provided by a new expressway underpass (local bridge over expressway) to the northern edge of the settlement (See Sheet 1105 and 1106). The overall corridor width is significant at approximately 110m due to the need to re-provide local access from School Road to the new underpass to the north, and to Gear Road to the south.

4.4.1 Urban Form & Land Use

It is noted that this option was originally Option B in the first community consultation with the Design team preferred option for a connection directly connecting School road on the east to just south of The Red Café on the west and a new road parallel to SH1 connecting to Te Horo Beach Road in a conventional urban grid arrangement. Clear feedback from KDCD and the local community favoured the alternative Option B proposal and that is what is reflected in this new Preferred Proposal. While the new preferred link does leave significant residual land areas, does not support a conventional urban street patterns, it does have less direct individual and impact which is the dominant reason for the adoption of this alignment.

4.4.1 Amenity Values

The northern location of the new expressway underpass (local bridge over expressway) outside the desire line serves to reduce the perception of urban cohesion of the eastern and western halves of the Te Horo community, particularly as the eastern area contains the majority of the community assets – primary school, Town Hall/community centre, tennis club, volunteer fire brigade, etc

In this section the expressway is marginally elevated by about 2.5m over the surrounding topography which will also further emphasise the visual severance effect through this section. Careful consideration should be undertaken of the landscape planting through this section in mitigation.

4.4.1 Connectivity

By offsetting the new local cross connection to the north the severance effect of the new expressway is less successfully resolved at Te Horo. The deviation may discourage walking and cycling users with a 1.9km detour. While walkers and cyclists are currently unlikely to brave crossing SH1, the opportunity for improved WCB outcomes has potentially been lost with the placement of the local crossing point to the north.

4.5 Mary Crest

At Mary Crest the Preferred Option (see sheet 1107 and 1108) has a tight alignment of the new expressway and new local arterial to the existing SH1 and NMIT rail corridors. A large over bridge structure (Bridge 9 Mary Crest Rail Bridge) is required where the new expressway crosses the existing alignments with raised approach embankments of approximately 10-15m high.

4.5.1 Urban Form & Land Use

This is essentially a rural section of the Peka Peka to North Otaki expressway with no underlying urban condition and only local access requirements.

4.5.1 Amenity Values

By keeping the new alignments as tight to the existing topographical boundaries the impact of the new corridor on the underlying rural dunescape is improved against the scoping stage alignment which was further to the west. This new alignment also does not affect the stand of native trees at Mary Crest, which is a positive outcome and residual land areas between the various corridor alignments are also minimised. It is noted that there have been discussions about a future easing of the NMIT rail corridor curves through this section and the Bridge 9 Mary Crest Rail Bridge should be designed with this in mind.

4.5.2 Connectivity

The connectivity through this section is local access to rural / residential properties. The preferred option clearly demonstrates that this is maintained on the eastern side of the new expressway with the new Bridge 9 structure and utilising the existing SH1 as a local access road. There is insufficient detail at this stage regarding access to individual properties on the western side of the new corridor and this is assumed to be off the new local arterial. Careful design of the connectivity at Te Hapua Road should be considered further due to the new raised level of the new local arterial through this section.

5 Degree of effect

The degree of effect has been based on NZTA PSF/13High (H) / Medium (M) / Low (L) / or Not Applicable (NA). These

These ratings criteria are applied to the key areas for assessment of effects which are Urban Form and Land Use, Amenity and Connectivity and are against the existing baseline.

The Degree of Effect is summarised in the following table:

Effect	PSF / 13 Urban Design Effects Commentary	Degree of Effect
Connectivity	The key potential adverse effect for consideration under Urban Design for this project is 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.	Low (L)
Urban Form & Land use Connectivity	The Otaki Retail Centre and transport hub around the historic Railway Station, there will be potential adverse effects on business access and viability, the general urban fabric and amenity of the this distinct area. Key issue to resolve in this area is the east-west connection of Rahui / Mill Road and access to/from Waitohu Plateau residential area.	Low (L)
Amenity	Amenity of the existing SH1 as it becomes a local arterial following revocation	Medium (M)
Urban Form (Te Horo only)	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.	Medium (-M)
Overall Single Effects Rating		Low (L)

Notes:

For the Existing SH1 criteria – Medium (M positive) Note this is based on the assumed reduction in State Highway traffic volume and possible lower speed environment creating enhanced amenity for local communities and other users – walking cycling, etc. It is understand that the final design will be further determined through the NZTA – KCDC revocation process, which will have a significant bearing on the final effect rating.

Te Horo – Medium (negative) as the location of the new bridge connection does not support the peri-urban form.

6 Requirements

The following documents have been used in the urban design assessment :

References

- *Urban Design Policy (NZTA)**
- *New Zealand Urban Design Protocol (MfE)**
- 440 / 442PN Project Objectives*
- 440PN Urban and Landscape Design Framework (ULDF)
- Otaki Vision Document (Otaki Community Board/KCDC)
- KCDC's submission to the 2009 consultation in particular the Urban Design Review carried out by Common Ground Studio.
- KCDC's submission to the 2011 consultations (March 18th 2011 received, and future submission anticipated following late 2011/early 2012 second consultation)
- Project MCAT Assessments Urban Design Criteria - (Note: Urban Design is an aggregated generic criteria under the MCAT process but the AEE will also outline an alignment and integration from the generic to the more detailed criteria).

* *Note: included in Appendix*

A matrix setting out the urban design criteria correlations and interdependence is also located in the appendix section.

Urban and Landscape Design Framework (ULDF) vs Urban Design SARA Assessment

It should be noted that purpose of the Urban and Landscape Design Framework (ULDF) is to describe/set out urban and landscape design principles, objectives and high level concepts of the Peka Peka to Ōtaki expressway project. The ULDF will continue to evolve during the project scheme phase and will inform the design development for the project.

The ULDF document is intended for use as a guiding tool for the project consultants and engineers from concept through to detailed design. The ULDF should be included with the detailed design package, so that the construction team is also aware of the objectives and guiding principles of the project.

In contrast this Urban Design SARA Assessment is a specific assessment of effects for this discipline based on the criteria and methodology outlined in section 4 and the appendix.

7 Addressing effects and meeting requirements

The preferred option will avoid, rather than mitigate adverse social and environmental (urban design) effects.

- 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.
- The proposed route to be designed to New Zealand Transport Agency's urban design policy.

Key urban design documents produced by the team are the:

- ULDF.....
- Bridge Design Framework document....
- Landscape mitigation plans

Where avoidance cannot occur please describe how effects will be mitigated - list actions to be taken to meet specific social and environmental (urban design) requirements and objectives and address all effects identified.

and from PSG 13 (refer page 6) also consider:

- Reducing long term maintenance costs and risk by incorporating environmental treatments into the option.
- Pursuing land use planning actions with the relevant territorial authority to manage access expectations and avoid reserve sensitivity effects.
- Identifying urban design context of the option and how opportunities for context-sensitive design will be pursued.
- Identifying the cost and time implications of urban design treatments of each option for design and construction phases and for maintenance.

8 Costs

The following is an indication of costs for Urban Design mitigation that will need to feed in to the cost estimate for the project.

- Walking, cycling and bridleway (WCB) access from Otaki township to Taylors Road with potential route under new Bridge 1 Waitohu Stream crossing – Cost TBC
- Reconfigured Pare-o-Matangi reserve. Cost - see Landscape and Visual assessment.
- Public realm mitigation works around the realigned/rotated historic Otaki Railway Station – Cost approx. \$200k (Not including building move and new train platform).
- Enhancement of Bridge 4 at Otaki River to match precast sectional Bridge 3 at Rahui Road, including reduction in Piers from 11 to 8. Cost approx. 10% uplift
- Bespoke artistic bridge solution for Walking/cycleway clip-on to existing SH1 bridge at Otaki River. Cost approx. 50% uplift on standard solution.
- Future proofing Bridge 9 at Mary Crest for future easing of the curves of the NMIT rail corridor – Cost TBC

