

# Multi-Criteria Analysis Report – District Development and Local Road Impacts

The following report assesses and scores the impacts of O2NL alignment, interchange, and local road connection options on Horowhenua District Development (i.e. the extent to which the options enable or constrain existing and potential growth and development opportunities) and Horowhenua local road impacts. This report contains the final scores, following the MCA workshops after which some scores were altered.

## Introduction and Background

The report is a combination of the ‘technical’ assessments Waka Kotahi have requested (District Development Opportunities and Local Road Impacts) and local community knowledge (noting that Waka Kotahi has not yet commenced engagement). This is considered an appropriate approach for Council officers to take, as technical assessments and local context are both valuable inputs to the process.

HDC note that there is considerable uncertainty about how each option presented in the alignment, interchange, and local road connection categories will perform. This uncertainty is the result of the following factors:

- Delays in receiving the traffic model means that there has been insufficient time to properly understand or peer review;
- Limited information about mitigation options;
- That community engagement has not yet been undertaken.

For this reason, HDC have been conservative in our scoring. This recognises that based on the information available at present most options will conceivably have both benefits and costs. Once Waka Kotahi have more information available, some scores may be able to be changed. Overall, HDC request that all practicable options are taken forward to the community engagement process.

## Growth Context

Horowhenua District has been growing faster than expected. At the time of preparing the Long Term Plan 2018-2038 and the Horowhenua Growth Strategy 2040 (adopted by Council November 2018), Council growth projections indicated that the Horowhenua population would grow at approximately 1.1% per annum until at least year 2040, resulting in approximately 10,000 additional people by this time.

However, Census 2018 figures have since shown that the population is growing much faster than this, at an average of 2% growth per annum between 2013 and 2018. This dramatically increases the amount of land required for housing. If this trends continues, we could need to provide land for housing up to 20,000 people by 2040.

In addition to higher than anticipated growth, other factors have changed since the Horowhenua Growth Strategy 2040 (HSG 2040) was adopted – this includes confirmation of the S6 and N4 corridors, timeframes for O2NL proceeding and various pieces of national direction that will influence our growth plans (National Policy Statement – Highly Productive Land and National Policy Statement – Urban Development). For this reason, Horowhenua District Council has recently commenced a review of the HGS 2040 to be responsive to both the changing context the district is facing on multiple fronts and to the faster than anticipated growth over the previous five years.

In our assessments we have taken into account areas that, at a principle level, have the potential to become a growth area (based on contiguousness with existing growth areas, land suitability, anticipated greenfield vs consolidation target, and alignment with national direction). It is assumed that growth will be a combination of

densification of existing 'nodes' such as Ōhau, Manakau, and Levin and greenfield development contiguous with existing urban areas or growth areas. These 'potential' growth areas are looking out to a 30 year horizon and are based on inclusive approach as to what could be considered a potential growth area, so as not to prematurely close off opportunities. Further assessment and consideration would need to occur before progressing any of these potential growth areas. Any resulting plan changes would require public engagement.

It is accepted that areas not identified in either the Horowhenua District Plan or the Horowhenua Growth Strategy (HGS 2040) have not yet been through any assessment or engagement process and therefore cannot be afforded significant weight, but in the interests of being responsive to a changing context and achieving a good outcome, it is important to consider likely future growth patterns rather than be constrained by previous assumptions.

## **District Development Methodology**

### **Information taken into account**

1. Updated growth expectations of 2% p.a. until year 2040.
2. Horowhenua District Plan 2015 (existing zoned and deferred zoning areas).
3. Horowhenua Growth Strategy 2040 (referred to as identified growth areas).
4. Horowhenua Growth Strategy review scope and guiding principles (referred to as potential growth areas).
5. Horowhenua District Plan Changes and Master Plans in preparation.
6. Principles of resource management national direction.
7. Draft Ōhau and Manakau Community Plans.
8. Wellington Regional Growth Framework Principles.

### **Assumptions and Exclusions**

1. Reasonable mitigation will be applied, based on current and future land uses identified in either the Horowhenua District Plan or the HGS 2040. In particular, it is noted that Gladstone Green will become an urban environment. Council's plans for this area have been well communicated with Waka Kotahi and it is expected that design and mitigation will be based on this knowledge.
2. The effects of the different options on RMA matters (e.g. landscape, cultural, social, archeological effects, productive land value etc.) outside of District Development impacts as these are being covered elsewhere.
3. The potential impact of COVID-19 on growth projections have not been considered. No such information is available yet and, given the 20-30 year timeframe of our growth planning, any impacts on growth projections are likely to be short term and impact timing of demand rather than location.

### **Assessment Criteria**

1. Priority is given to existing, established activities (e.g. Levin Town Centre) and existing zoned areas or growth areas where planning is well advanced (e.g. Gladstone Green). Less weight is given to impacts on less certain growth areas.
2. Impact on current/future expected land use in terms of:
  - a) Severance (i.e. does the option create severance effects or reduce/improve access for existing/future development areas)
  - b) Impact on usability of current/future growth areas (i.e. does the option render pieces of land too small/of an impractical shape precluding development opportunities)
  - c) Risk of causing nuisance effects (noise, visual, vibration) on expected future 'sensitive' land uses (based on the Horowhenua District Plan definition of 'sensitive activities').
  - d) Impact on access to existing activities or growth areas (residential, commercial, industrial)
  - e) Whether the option unduly constrains long term future growth opportunities

3. Other (i.e. does the option would have serious impacts/constraints on any land use that would be difficult to shift/mitigate)

## **Local Roads Methodology**

### **Information taken into account**

1. Horowhenua Integrated Transport Strategy
2. Government Policy Statement on Land Transport 2021 (Draft)
3. Updated growth expectations of 2% p.a. until year 2040.
4. Horowhenua District Plan 2015 (existing zoned and deferred zoning areas).
5. Horowhenua Growth Strategy 2040 (referred to as identified growth areas).
6. Horowhenua Growth Strategy review scope and guiding principles (referred to as potential growth areas).
7. Horowhenua District Plan Changes and Master Plans in preparation.
8. Draft Ōhau and Manakau Community Plans.

### **Assumptions and Exclusions**

1. Options which include retaining access to local roads which conflict with the expressway will be engineered in a way to enable the same level of service (or better) as currently provided, i.e. underpasses or overpasses will be fit for purpose for current vehicle use including agricultural vehicles, cyclists and pedestrians.

### **Assessment Criteria**

1. Options have been assessed on their effect on the Land Transport Network as a whole, not in isolation to HDC's local roads.
2. Consideration has been given to impact on current/future expected land transport network use in terms of:
  - f) Severance (i.e. does the option create severance effects or reduce/improve access for existing social, recreational and economic activities)
  - g) Impact on the safety of current/future transport network i.e. will an option increases traffic through areas of the Transport Network which present higher levels of risk to road users.
  - h) Impact on the accessibility and efficiency of current/future transport network i.e. will an option increases travel time, vehicle operating costs and emissions, either positively or negatively.
  - i) Impact on active transport, in terms of accessibility, severance, safety and level of service.

**Table 1: Scoring of Alignment Options in Relation to District Development and Local Roads**

All alignment options across all zones score a '3' in terms of fit with the local road system. This is because all options conceivably have both positive and negative impacts. It is not possible to quantify the significance of these positive and negative effects independent of the interchange and local road options, as the nature and design of these options provides opportunities to address the majority of local road impacts caused by the alignment. However, Council do reiterate the importance of ensuring the traffic model used to influence these interchange and local road options is peer reviewed and takes into account Council's growth projections.

Due to the above comments, all discussion contained within the following table relates to District Development only.

Zone	Colour	Discussion	District Development Score	Local Roads Score
A	Green	Not within Horowhenua District, no score given.	NA	NA
A	White			
B	Green	The green option in Zone B presents few challenges for Horowhenua District Development. The growth areas identified in the HGS 2040 are located to the north of Zone B and are therefore not impacted by the alignment options in this Zone. Future development of scale is not expected in this area due to heavy presence of streams and the railway impacting the relatively small piece of land in between current State Highway 1 and the alignment options.	1	3
B	White	As above, this option presents few issues from a Horowhenua District Development perspective.	1	3
B	Cyan	As above, this option presents few issues from a Horowhenua District Development perspective.	1	3
B	Summary	All options within Zone B score similarly in that all present few difficulties from a Horowhenua District Development perspective.		
C	Green	The green option within Zone C presents few difficulties from a Horowhenua District Development perspective. The green option runs nearest to the HGS 2040 Manakau growth areas (approximately 150-200m away). However, it is assumed that noise, vibration, and visual mitigation will be applied so as to minimise effects on this growth area. Long term, some additional development may occur on the land between the existing settlement and the new highway. However, presence of streams likely limits the scale of this.	1	3
C	Purple	The purple option is the next nearest to the HGS 2040 Manakau growth areas. However, there is a reasonable separation and mitigation is assumed given the identified growth area. Therefore, the option presents few difficulties.	1	3

C	White	The white option is considered to present few difficulties from a District development perspective. It is the furthest from HGS 2040 growth areas and therefore maximises opportunities for development.	1	3
C	Summary	The white option is slightly preferred from a District development perspective, but the difference between options is not significant.		
D	Cyan	The cyan option in Zone D will have a reasonably significant impact on connection to a growth area identified in the HGS 2040 to the north of this zone. As this area would provide an option for residents displaced by O2NL to relocate in the area, it is considered desirable to preserve the potential of this block of land. Mitigation is also recommended.	3	3
D	Dark Blue	The dark blue alignment has a minor impact on District Development in regard to both the potential growth area and Māori land referred to above, but to a much lesser extent than the cyan alignment.	2	3
D	Summary	The dark blue alignment is preferred from a District development perspective.		
E	Cyan	The cyan option has a reasonably significant impact on a growth area (O3) identified in the HGS 2040 and would result in approximately 15-20% of this growth area being lost. The alignment runs near the southern corner, fragmenting the growth area and leaving part of it unlikely to be developed. This is considered undesirable, due to high levels of growth expected in Ōhau and the need to provide opportunities for local residents displaced by the highway to remain in the local area.	3	3
E	Green	The green option impacts the same growth area referred to above but to a lesser extent than the cyan option as it does not leave a corner of the growth area 'fragmented'.	2	3
E	Summary	Green is the preferred option from a District Development perspective.		
F	Purple	All three options in Zone F have a reasonably significant impact from a District Development perspective, with all options cutting through the middle of growth area LS7 identified in the HGS 2040. While planning for this growth area is less advanced than the growth area directly to the north, it is expected that this area will develop at a residential scale. All options result in a significant loss of land available for new housing in this area, potential noise and vibration effects, and segregation effects for housing on the eastern side of the alignment.	3	3
F	Orange	As above, the orange alignment runs almost midway through growth area LS7 and will therefore have a reasonably significant impact.	3	3
F	White	For the same reasons as above, this alignment option has a reasonably significant effect on growth area LS7.	3	3
F	Summary	All three alignment options through this zone have a reasonably significant effect of almost equal value. Therefore, no option is preferred over another. Regardless of the option selected, mitigation will be required. Some potential mitigation includes:		

		<ul style="list-style-type: none"> <li>- Noise, vibration and visual mitigation</li> <li>- Consideration as to how to reduce severance effects.</li> </ul> <p>Some effects of the alignment options in this zone cannot be mitigated; namely the loss of land for housing. Offsetting of this impact may be required.</p>		
G	Purple	<p>As with Zone F, all of the alignment options within this zone have significant effects as they run through a very large growth area. The growth area affected is identified as LS6 in the HGS 2040 and is the subject of a mixed zone Master Plan, known as the Gladstone Green Master Plan (GGMP). The GGMP is Horowhenua’s most significant growth area, with planning fairly well advanced. The area expected to accommodate approximately 2,500 houses, a small commercial centre, community assets such as parks and reserves and a primary school.</p> <p>Therefore, all alignment options within this zone will result in a loss of land that would otherwise been available for housing and create severance effects for a significant number of people. In addition, all of the alignment options create strip of land between the new highway and Arapaepae Road that will have serious constraints on its usability.</p> <p>HDC has been in conversation with Waka Kotahi regarding developing an integrated stormwater option for Gladstone Green and the highway within the wider 300m corridor, as a means of ‘offsetting’ some of the impacts that the N4 corridor creates for Gladstone Green. Therefore, the purple alignment is slightly more favourable than the white and cyan alignments in that it is the furthest from the bulk of the Gladstone Green area and provides slightly more space for stormwater management. In addition, this option may reduce the amount of land needed to achieve a roading connections across the highway into Levin. These connections are important mitigation of potential severance effects between Gladstone Green and the rest of Levin.</p> <p>However, as this alignment is closest to Arapaepae Road it will result in the strip of land between the highway and Arapaepae Road being the narrowest, therefore resulting in the most constraints on the usability of this land.</p>	4	3
G	White	<p>As per the above assessment, this alignment creates significant issues from a District Development perspective. The white alignment provides a slightly better outcome for the strip of land between the new highway and Arapaepae Road, but a slightly worse outcome for the bulk of the Gladstone Green</p>	4	3

		area given it runs closest to this area, potentially worsening noise and vibration effects, and would reduce the space available for stormwater management.		
G	Cyan	The cyan option creates many of the same effects as the white and purple options, but as it runs in the centre of the other two options for the majority of its extents, does not deliver on the slight benefits of these other two options.	4	3
G	Summary	<p>As discussed, all options within this zone present significant difficulties for District Development. However, the purple option is slightly preferred in that it provides the most opportunity for an integrated stormwater management approach and because it creates more separation between the highway and the bulk of the Gladstone Green area. While this option creates the worst outcome for the land in between the highway and Arapaepae Road, I have given more weight to achieving a better outcome for the bulk of the Gladstone Green area, due to both relative scale and certainty of expected development compared to the strip between the highway and Arapaepae Road. However, the difference between this option and the other options is not significant enough to differentiate scoring.</p> <p>Regardless of the option selected, significant mitigation will be required including:</p> <ul style="list-style-type: none"> <li>- An integrated stormwater management approach for Gladstone Green and O2NL as a means of 'offsetting' of the loss of land for housing caused by selecting the N4 options.</li> <li>- Providing several connections across the highway into Levin to reduce severance effects.</li> <li>- Noise, vibration and visual mitigation.</li> </ul>		
H	Cyan	<p>Both options in Zone H present only minor difficulties for District Development, although the cyan option is slightly preferred as it is further from growth areas LN2, LN3, and LN4 all identified in the HGS 2040. It is possible that an additional growth area might be identified between LN3 and LN4 as part of the Growth Strategy review, meaning that creating as much separation between these growth areas and the highway as possible is preferred. The cyan option is some distance from the identified growth areas so would likely present only minor issues that could be mitigated through noise, vibration and visual mitigation.</p> <p>Additional residential development of some form may also establish in the strip created between Arapaepae Road and the new highway. Therefore, providing slightly more space (as is delivered by the cyan option) for this to occur is considered preferable from a District Development perspective. However, development in this strip would have been unlikely to occur if it were not for O2NL, so effects on the development potential of this strip of land represents an opportunity loss rather than a direct</p>	2	3

		effect as is the case in Zone G where development planning was well underway before the preferred corridor was selected.		
H	Purple	For the same reasons as outlined above, purple is slightly less preferred than cyan, but due to the distance between the alignment option and the identified and potential growth areas, the potential difficulties are considered minor and likely able to be mitigated.	2	3
H	Summary	As discussed above, cyan is slightly preferred over purple but not to an extent that different scores are assigned. Both options presents relatively minor difficulties.		
K	Cyan	All options within Zone K have varying degrees of negative impact on growth area LN2 identified in the HGS 2040 as all options pass through this growth area. The cyan option is considered to have the least impact (minor difficulties) as it only just clips the furthest extent of the growth area as does not create a segregated piece of land identified as a growth area as the other options do. Noise and vibration mitigation is assumed given the expectation of residential activities establishing in this area.	2	3
K	Yellow	The yellow option is the least preferred as it impacts more of the identified growth area than the other options and segregates a piece of the growth area. The segregated piece of growth area is small enough to render it unlikely to be developed, meaning that the land covered by this alignment and the land to the east of it will not be available for housing. These 'loss of land' effects cannot be mitigated.	3	3
K	Dark Blue	The dark blue option impacts a greater portion of the growth area than the cyan option, but is not as significant as the yellow option as it does not segregate a piece of the growth area. However, this option is still considered to present reasonably significant difficulties for District Development that cannot be easily mitigated.	3	3
K	Summary	Cyan is the preferred option for Zone K from a District Development perspective as it has the least impact on growth areas. Although noise, vibration and visual effects are possible, these are likely able to be mitigated whereas 'loss of land' effects cannot be.		
L	Purple	The purple option is the preferred option in Zone L from a District Development perspective as it is the furthest from growth areas LN1 and LN2 identified in the HGS 2040. There is a potential growth area located north of LN1 and LN2 and south of the highway identified for consideration as part of the Growth Strategy review. The purple alignment is clear of this area. Therefore, this option presents only minor difficulties from a District Development perspective. Any noise, vibration and visual effects on the growth areas are assumed able to be mitigated.	2	3
L	Green	The green option performs similar to the purple option and therefore presents minor difficulties from a District Development perspective. It is slightly less preferred than the purple option as it passes slightly closer to the growth areas, but not to an extent to justify a different score.	2	3



L	Orange	The orange option is the least preferred in Zone L, as it passes closest to growth areas LN1 and LN2 identified in the HGS 2040. It also passes directly through the potential growth area referenced in 'purple' above, between the highway corridor and LN1 and 2. In this area, it is considered likely that the highway would form an urban edge, with additional growth areas 'filling in' the space between existing identified growth areas and the highway. The orange alignment would compromise the potential for this to occur, resulting in a loss of potential development land. This effect that cannot be mitigated. This is considered to represent a reasonably significant difficulty for District Development.	3	3
L	Black	The black alignment performs in a similar manner to the orange alignment, although the impact on potential growth areas identified for consideration as part of the Growth Strategy review is less significant. This alignment may constrain opportunities for the land adjacent to existing State Highway 1, due to the shape of the land parcel that would be created by this option.	3	3
L	Summary	The purple option is preferred from a District Development perspective, closely followed by the green option. It is assumed noise and vibration effects on the growth areas near to these options will be mitigated. The orange and black alignments result in loss of land effects that cannot be mitigated and therefore present a reasonable degree for District Development.		

**Table 2: Scoring of Interchange Location and Type in Relation to District Development and Local Roads**

The location and type of interchange will in many cases result in a loss of land in growth areas. However, access into these areas is vitally important to enable them to be developed. Therefore, interchanges are generally considered to have a positive impact on District Development as they improve access opportunities for both existing activities and growth areas. In most cases, further information is required to accurately understand local road impacts.

Location	Type	Discussion	District Development Score	Local Road Impacts Score
Manakau South	Service Interchange	<p>This interchange location does not impact on any identified or potential growth areas. It will have a positive impact in that it provides access options for the existing Manakau village and for Manakau growth areas. This option also provides access opportunities for Waikawa Beach (existing settlement and growth areas) and Ōhau (existing settlement and growth areas). Under this option, Manakau, Waikawa, and Ōhau residents are all likely to continue passing through Manakau Village, meaning this option provides opportunities for existing and future ‘village commercial’ development. This option also provides an opportunity to create an attractive ‘gateway’ to the Manakau Village and wider District.</p> <p>However, it is also noted that an interchange could have negative impacts on the local community in terms of the size of the structure and compatibility with village character. It is also noted that an interchange at Manakau South could encourage a lot of traffic to come off the expressway and onto existing State Highway 1 and onto the local road network. A number of intersections in Manakau are at capacity. If significant traffic volumes continue to use the existing State Highway, these issues could continue. This would have safety and maintenance implications for the local road network.</p> <p>It is noted that the Interchange Options report states that there may not be sufficient demand for an interchange in Manakau at this time and that an interchange could instead be constructed in the future. HDC note that the District’s population has been growing at twice the rate initially expected and that there has been private developer interest in the southern parts of the District. As such, demand for an interchange in this location may come sooner than the Waka Kotahi model currently suggests.</p>	3	3

		Overall, there are both positive and negative impacts associated with this option and it therefore scores a 3 from both a District Development and Local Roads perspective.		
Manakau South	At-grade roundabout	No significant difference from the service interchange option from either a District Development or a Local Road perspective, although the challenges of having roundabouts in an expressway environment are noted.	3	3
Manakau North	Service Interchange	<p>This interchange location does not impact any identified or potential growth areas, though does impact on Māori land and associated development opportunities. This option has some positive impacts in that it provides good access for Manakau growth areas and is likely to be used by Ōhau residents (existing settlement and growth areas).</p> <p>However, this option is unlikely to be used by either Manakau Village or Waikawa Beach residents (existing settlement and growth areas). This has the potential to negatively impact existing and future village commercial options as well as potentially isolating Manakau growth areas from the existing village. As within the Manakau South option, another possible negative is that significant traffic volumes may come off the expressway onto existing State Highway 1, which could mean existing intersection capacity issues remain a challenge to District Development. If significant traffic volumes came off the State Highway and onto the local road network, this would have safety and maintenance implications for the local road network.</p> <p>Comments made above in ‘Manakau South – Service Interchange’ above regarding the possibility of delaying construction of an interchange in this area also apply here.</p> <p>Overall, there are both positive and negative impacts associated with this option and it therefore scores a 3 from both a District Development and a Local Roads perspective.</p>	3	3
Manakau North	At-grade roundabout	No significant difference from the service interchange option from a District Development or a Local Roads perspective. Previous comments about roundabouts in an expressway environment also apply here.	3	3
No Manakau Connection		No interchange is considered to have some negative impacts on District Development, given the level of growth expected in the southern part of the District. Given the growth expected and the need to provide opportunities for people displaced by the expressway to remain in the local area, providing good access and connectivity into Manakau and Ōhau growth areas is very important. With no interchange, all those located between	3	3

		<p>Ōtaki and Levin would need to use the existing State Highway which is constrained by dangerous intersections and resilience issues. Therefore, no interchange would impact on the access opportunities for these communities both north and south.</p> <p>The impact this would have on Local Roads is difficult to determine with the information currently available; while traffic going to Levin and beyond would have to continue on the expressway (and not the local road network), all those between Ōtaki and south Levin would be forced to use the existing State Highway and local road network. Greater testing and understanding of the model is required to understand the impact of this.</p> <p>It is recognised that an interchange in any location is likely to have some negative impacts on the local community in terms of the size of the structure and compatibility with village character. These effects are avoided by having no interchange.</p> <p>Overall, there are both positive and negative impacts associated with this option and it therefore scores a 3 from a District Development perspective.</p>		
Manakau Summary		<p>All Manakau options have both positive and negative effects. As the traffic model has not been tested or peer reviewed and there is limited information about the design of the interchange options (including mitigation options) it is difficult to determine how significant these positive and negative effects will be. The community's perspectives on these options will be very important. Therefore, Council recommend that all Manakau options are taken forward to community engagement. The scores for these options may be able to be refined once community engagement is completed and further design detail is available.</p>		
Kimberley	Service Interchange	<p>An interchange in this location will result in some of growth area LS7 identified in the HGS 2040 being lost. When compared to having no interchange in the vicinity of this area, this option would have a positive impact in terms of providing access opportunities into LS7, southern Levin, and potential industrial growth areas. However, when compared to the option of having an interchange at Tararua Road this option performs far less favourably.</p> <p>This option is considered to have a negative impact on the Levin Town Centre that cannot be mitigated. This is because it is located too far away to encourage people to travel into the Levin Town Centre. Furthermore, road users would have to drive through a relatively</p>	3	2

		extensive industrial area before reaching the Town Centre. Industrial areas are, by their nature, relatively low amenity. Passing through this area before reaching the Town Centre could have a negative impact on perceptions of the Town Centre, which would work against the objectives of 'Transforming Taitoko/Levin – Town Centre Strategy' which seeks to enhance the appearance and pedestrian experience of the Town Centre as a means of boosting vibrancy and attracting investment. It would give the experience of a back door entrance rather than a positive gateway that celebrates and announces the arrival at Levin.		
Kimberley	At-grade roundabout	No significant difference from the service interchange option from a District Development perspective.  A roundabout performs less favourably from a Local Roads perspective, due to the risk of reducing the attractiveness of the expressway which could result in traffic using the local road network instead.	3	3
Tararua	Service Interchange	An interchange at Tararua Road will have a significant positive impact on both District Development and Local Roads. It provides strong local connectivity benefits (and as a result, District Development benefits) by opening up access into all four corners of this area, providing direct access into Gladstone Green, LS7, Industrial Growth areas and better access into Levin Town Centre than the Kimberley option.  While this location will result in a loss of land in Gladstone Green, this has already been accounted for in the Master Plan and lot yield analysis. HDCs strong preference for an interchange in this location, given the anticipated positive impact, meant that this was factored into the Master Plan process. As such, this loss of land is not considered a negative impact.	1	1
Tararua	At-grade roundabout	No significant difference from the service interchange option from a District Development perspective.  A roundabout performs less favourably from a Local Roads perspective, due to the risk of reducing the attractiveness of the expressway which could result in traffic using the local road network instead.	1	2
Kimberley/Tararua Summary		A full service interchange at Tararua Road is strongly preferred from a District Development and a Local Roads perspective.		

SH1/SH57 split	System Interchange	<p>An interchange of this type in this location will result in a reasonably significant loss of land and negative impact on growth areas to the north of Levin. However, given SH1 and SH57 have similar traffic volumes the need for this is clearly understood and supported. An interchange in this location will also provide access into these northern growth areas and the northern part of Levin. This options scores a '2' for District Development in recognition of the option having many positive, but also some negative effects on District Development.</p> <p>From a Local Roads perspective, there is a large amount of uncertainty about the form and function of SH57 heading north which makes it difficult to understand the extent of positive and negative effects. SH1 to SH57 traffic is expected to represent the most significant movements through this intersection, so good connectivity is very important. As this option will likely have both benefits and challenges, it scores a '3' from a Local Roads perspective. As more detail becomes available, this score may be able to be refined.</p>	2	3
SH1/SH57 split	Service Interchange	<p>As above, an interchange in this location impacts growth areas but is required due to traffic volumes. An interchange in this location will also provide access into these northern growth areas and the northern part of Levin, which is a significant positive impact. However, the loss of land is considered a negative effect. Overall, this option scores a '2' on District Development.</p> <p>The Local Roads comments made under 'system interchange' above apply equally here.</p>	2	3
SH1/SH57 split	At-grade roundabout	<p>As with the other options, a roundabout provides access opportunities into growth areas north of Levin. As this interchange type has a smaller footprint than either a system interchange or a service interchange, loss of land will be less and there be fewer negative effects from a District Development perspective.</p> <p>From a Local Roads perspective a roundabout appears to have a relatively significant connectivity benefit with few challenges and therefore scores a '2'.</p>	1	2
SH1/SH57 summary		<p>The various options for SH1/SH57 score similarly from a District Development perspective, with the difference in scores reflect of the amount of land the different interchange types take up.</p>		

		From a Local Roads perspective, all options are likely to have both positive and negative effects. Based on the information available, a roundabout appears to have fewer difficulties than the other options, but it is possible the scoring could be changed as more detail becomes available.		
North Levin	Service Interchange	<p>This option has the potential to deliver some positive impacts from a District Development perspective in that it provides an access option into Levin. However, this option also has negative effects in that it will impact on potential growth areas that are likely to be considered as part of the Growth Strategy review and will make access into the Levin Town Centre difficult (particularly when compared with a roundabout), as road users are likely to be unaware they are approaching an urban area. While it is understood that the Waka Kotahi intend to use design treatments to signal the approach to the urban area of Levin, there is no detail available about how this would be achieved. It would appear challenging to deliver this in an expressway environment. Any option that impacts on access into the Levin Town Centre would undermine the objectives of Transforming Taitoko/Levin – Town Centre Strategy and have a negative impact on both existing activities and future development opportunities in both the northern part of Levin and the Levin Town Centre.</p> <p>The potential for reduced connectivity into Levin also presents difficulties from a Local Road perspective, though it is understood the design detail will dictate how significant these issues are.</p> <p>Due to the potential positive and negative effects of this option, it scores a '3' from both a District Development and a Local Roads perspective.</p>	3	3
North Levin	At-grade roundabout	This option will have a positive impact on District Development in that it provides access to northern growth areas, the north part of Levin and opportunity to attract road users into the Levin Town Centre. It also has positive impacts from a Local Road perspective as it provides good connectivity opportunities.	1	1
North Levin summary		A roundabout north of Levin appears to perform more favourably from both a District Development and a Local Roads perspective in that it provides a good connectivity and significant opportunity to attract passing traffic into the Levin Town Centre. However, as the traffic model has not been tested or peer reviewed and there is limited information about the design of the interchange options (including mitigation options) it is difficult to		

		determine how significant the positive and negative effects of the service interchange option will be. The scores for these options may be able to be refined once community engagement is completed and further design detail is available.		
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**Table 2: Scoring of Local Roads in Relation to District Development and Local Roads**

Option	District Development Score	Local Road Impacts Score	Comment
A1	Not in Horowhenua District	Not in Horowhenua District	N/A
A2			
A3			
B1	Green	Green	<p>While all options in Zone B score 'green' from a District Development perspective in that they do not impact access into any growth area, Council note that severing either South Manakau Road or Honi Taipua Street would have a significant impact on the Manakau Heights Community, although it is noted this will be assessed by the social/community/recreation experts.</p> <p>From a local road perspective, full access for both South Manakau Road and Honi Taipua Street should be considered. Having two bridge/underpass structures in close proximity is not considered sufficient reason to discount retaining both connections. The existing SH1/South Manakau Road intersection already has safety issues, so increasing trips through this intersection will have further negative effects on connectivity. Any option that directs quarry traffic or the existing SH1 emergency bypass traffic through Manakau township will have a significant negative effects. Option B3 therefore scores 'red' from a Local Road perspective.</p> <p>The Local Roads ratings for B1, B2 and C2 are contingent on full access provision for both South Manakau Road and Honi Taipua Road</p>
B2	Green	Green	
B3	Green	Red	
C1	Green	Orange	<p>As with Zone B, all options in Zone C score 'green' from a District Development perspective. Scores vary between 'Orange' and 'Green' from a Local Roads perspective. All comments made in B above also apply here.</p>
C2	Green	Green	
C3	Green	Orange	
C4	Green	Orange	
D1	Green	Green	No comments. Each option scores 'green' from both a Local Roads and a District Development perspective.



D2	Green	Green	
E1	Green	Green	No comments. Each option scores 'green' from both a Local Roads and a District Development perspective.
E2	Green	Green	
EQ	Green	Green	
F1	Green	Green	
F2	Green	Green	Option F1 and F2 score 'green' from a District Development perspective, although the potential impact on growth areas arising from the highway being elevated is noted. Option F3 scores an orange due to the potential impact of severing Muhunoa East Road on identified growth areas. It is also noted that severing Muhunoa East Road would have a serious negative impact on the eastern Ōhau community, although this is to be assessed by the social/community/recreation experts. F3 is scored 'red' from a local road perspective, as this option would significantly increase traffic to the unsafe intersection of Mcleavey Road and SH1
F3	Orange	Red	
G1	Green	Green	
G2	Green	Green	G1 and G2 are scored 'green' from a local road perspective. G3 is scored 'red' from a local road perspective, as this option would significantly increase traffic to the unsafe intersection of Mcleavey Road and SH1.
G3	Green	Red	
H1	Green	Red	
H2	Green	Red	H1 and H2 are scored 'red' from a local road perspective, H1 is scored 'red' as it would leave the existing dangerous intersection with SH1 and Mcleavey Road as the sole access for this road, allowing no safe way to access Mcleavey Road. H2 is scored 'red' as this option would significantly increase traffic to the unsafe intersection of Mcleavey Road and SH1.
H3	Green	Green	
I	Green	Orange	
J1	Green	Green	Options J1, J3, and J4 all score 'green' from a District Development perspective. Option J2 scores 'orange' due to the potential impact of an elevated expressway within close proximity to growth area LS7. Option J4 is considered to have a particularly positive impact on District Development as it provides good access into Gladstone Green, growth area LS7, the Tararua road industrial growth area, and the Levin Town Centre. The new access road through growth area LS7 would also help to enable development in this growth area.  All options score 'green' from a Local Roads perspective.
J2	Orange	Green	
J3	Green	Green	
J4	Green	Green	
Liverpool J5 (expressway over)	Red	Green	
			No connection to Liverpool Street (J7) scores 'red' from both a Local Roads and a District Development perspective. Council had communicated its plans for Gladstone Green with Waka Kotahi since long before the expressway corridor was selected. The N4 corridor that was ultimately selected introduced clear effects on

Liverpool J6 (expressway under)	Green	Green	<p>Gladstone Green, including severance of this development area from the rest of Levin (and vice versa). Despite the impacts of N4 on Gladstone Green, Council accepted the selection of N4 due to the overall positive impact of the expressway for the District, but has emphasised the need to mitigate this impact as much as possible.</p> <p>Providing a connection to Liverpool Street is a key step to reducing the severance effects caused by the N4 corridor. This connection is also considered important from a Local Roads perspective, due to the potential impact of increased traffic on Queen Street. Liverpool Street is centrally located and improves connectivity for schools, public transport and walking and cycling.</p> <p>The option of providing a Liverpool Street connection with the expressway going over (J5) scores 'red' from a District Development perspective. While this option is preferable to no connection at all, there are potential impacts associated with a raised expressway in this location. Further detail about these effects is provided in section 'K' below. This options score 'green' from a Local Road perspective.</p> <p>Providing a connection to Liverpool Street, with the expressway going under (J6), scores 'Green' from both a Local Roads and a District Development perspective. This connection will dramatically improve access and connectivity between Gladstone Green and the rest of Levin.</p>
Liverpool J7 (no connection)	Red	Red	
K1	Red	Green	<p>K1 scores red from a District Development perspective. Given the nature of development planned for Gladstone Green (2,500+ houses, commercial centre, primary school, public open space), Council have some concerns about the impact of a raised expressway in this location. A raised expressway would appear more likely to result in noise, vibration and visual impacts than an at-grade or lowered expressway. Council recognise that design and mitigation techniques could address these effects, but in the absence of information and detail about this cannot be certain of what the resulting outcome would be. Council are also working on a 'Queen Street Design Toolkit'. This project was identified in the Transforming Taitoko/Levin Town Centre Strategy and seeks to recognise Queen Street's history as a traditional transport route between the Tararua Ranges and the sea and emphasise the role Queen Street plays as the primary connector between the Tararua Ranges and Lake Horowhenua. One of the fundamental concepts of this project is 'Maunga ki te Moana' (mountains to sea concept). If the expressway were to be raised over Queen Street, it would present a visual barrier which would could disrupt this vision.</p> <p>Both options score 'green' from a Local Roads perspective.</p>
K2	Green	Green	
L1	Green	Green	<p>Each option scores 'green' from both a Local Roads a District Development perspective, though it is difficult to assess without confirmation of interchange layout. Therefore, both options should continue to be assessed</p>
L2	Green	Green	
N1	Green	Green	<p>No comments. Each option scores 'green' from both a Local Roads and a District Development perspective.</p>

N2	Green	Green	
N3	Green	Green	
P1	Green	Orange	
P2	Green	Red	Each option scores 'green' from a District Development perspective. From a Local Roads perspective, P1 scores 'orange' and P2 'red'. It is noted that in this location it is particularly difficult to assess local road options independent of interchange locations and layout. The Koputaroa Road intersection and alignment is a significant consideration.
Q1	Green	Green	This option score 'green' from both a Local Roads and a District Development perspective. Option Q1, with the Koputaroa Alignment from P2 may be preferable.

## Conclusion

To conclude, Council appreciate the opportunity to be involved in the MCA process. Council wish to reiterate the challenges in scoring the above options based on the information provided and recommend that all practicable options be taken forward to the community engagement process. Once the traffic model has been reviewed, further design detail is available, and community engagement has been completed Council may be able to refine scores.

It is important that O2NL improves outcomes for our community and that the interface between the expressway and key Council projects such as Gladstone Green and the Growth Strategy leads to positive outcomes for both. Therefore, Council wish to emphasise the need for ongoing, collaboration and express our desire to continue working with the Waka Kotahi.