



Cross Valley Link

Short List to Emerging Preferred

Prepared for

New Zealand Transport Agency Waka Kotahi (NZTA)

Prepared by

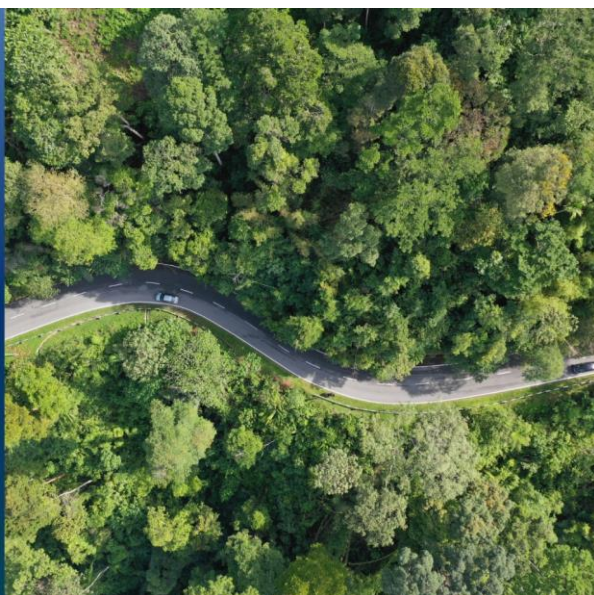
Tonkin & Taylor Ltd

Beca Ltd

Commute Transportation Consultants Ltd

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1 Introduction and Purpose

The Petone to Grenada Link Road (P2G) is a proposed new highway that will connect the economic centres of North Wellington/Porirua and Lower Hutt. It will result in significantly reduced journey times between these cities, facilitating greater movement and increased economic activity, and will help reduce congestion on SH1 and SH2.

The Government Policy Statement on Land Transport (GPS) 2024-34 has identified the Petone to Grenada Link Road and the Cross Valley Link (CVL) as a Road of National Significance (RoNS). They are identified jointly as a RoNS to “unlock housing growth” and will contribute to the primary strategic priority of the GPS, which is to support economic growth and productivity. The National Land Transport Programme 2024-27 (NLTP) includes the P2G and CVL RoNS as a project that will unlock land for housing, improve resilience, and support economic growth.

P2G and CVL are adjacent initiatives. P2G is proposed to provide an east-west corridor between the key urban areas of Lower Hutt (SH2) and North Wellington/Porirua (SH1). CVL is proposed to connect SH2 (and a future P2G corridor) with the Seaview/ Wainuiomata areas via a new/ upgraded corridor. Both projects have been investigated previously, P2G has been examined by NZTA and recent investigations into CVL have been progressed by Hutt City Council.

An Investment Case has been progressed for P2G which includes a Feasibility Study for CVL. The focus of the Feasibility Study has been to identify the alignment, form, and function that CVL needs to be to deliver on the project objective.

On completion of the Investment Case, a decision will be made whether to fund P2G, and hence progress to further design, route protection, and consenting.

The purpose of this document is to detail the Short List Options Assessment for the Cross Valley Link, Road of National Significance (RoNS) project.

A series of workshops were held with relevant subject matter experts (SMEs) through the process of identifying a long list of options, a short list of options and an emerging preferred option. These workshops were held on the following dates:

- Long List to Short List Workshop
 - 23 January 2025 (Summarised in Long List to Short List Appendix)
- Short List to Emerging Preferred Workshop Petone Interchange & CVL
 - 25 February 2025
- Follow Up Short List to Emerging Preferred Workshop CVL
 - 3 March 2025
- Option Workshop for CVL Seaview Connection
 - 11 April 2025

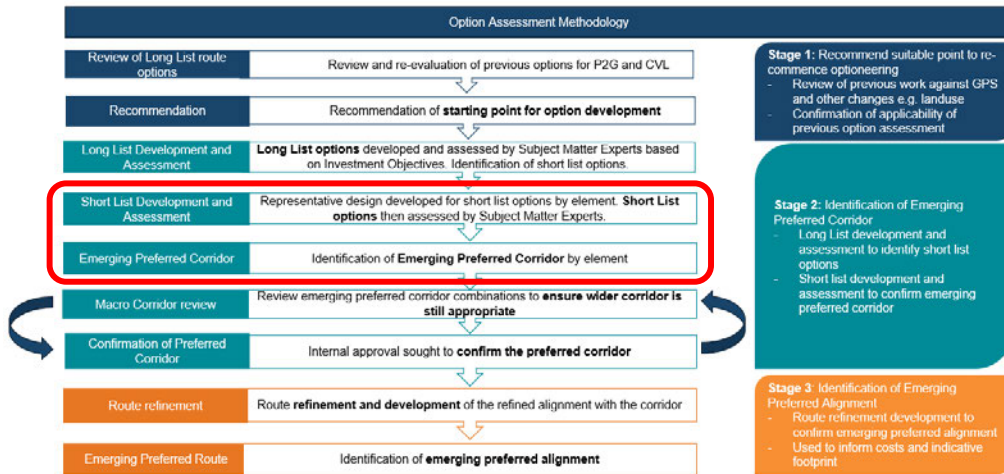
This report is a summary of the process undertaken to identify an emerging preferred option.

2 Optioneering Approach

For the CVL feasibility study an overarching three-stage option assessment methodology has been used to ensure a consistent approach is taken to establish an emerging preferred route.

This methodology is shown in the process diagram (Figure 2-1). This report is part of Stage 2 and will provide an overview of the short list options and subsequent assessments to identify the emerging preferred options which will be subject to further refinement.

Figure 2-1: Option Assessment Methodology



2.1 Assessment Criteria

2.1.1 Investment Objectives

A single investment objective is the foundation of the assessment criteria. The overall objective of the project is:

“To create an efficient transport connection between southern Lower Hutt and North Wellington/Porirua to support economic growth and productivity, and housing development.

Note: Regional growth and productivity are supported through the agglomeration of economies, efficient access for labour and efficient access to commercial and residential development”

The provision of an efficient transport connection in these locations will have the additional benefit of increasing the pool of customers and potential labour resources at either end of the project.

The provision of CVL further extends this connectivity east towards economic hubs in Gracefield and Seaview. There are also further opportunities to connect Wainuiomata with these areas – further improving region wide outcomes.

The investment objective will be assessed by a transport metric that focuses on efficient and reliable journeys. It is acknowledged that regional growth and productivity can also be measured by other wider metrics, however for the purpose of the option assessment for a transport corridor, the efficient and reliable journeys measure is considered to provide a metric that enables comparison between options.

Further assessment of regional growth and productivity outcomes will be undertaken on the emerging preferred option to quantify the benefits realised by the project.

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2.2 Multi-Criteria Assessment

The Option Assessment Framework outlined in this document is based on Multi-Criteria Analysis (MCA) principles. MCA enables a wide range of different aspects to be taken into consideration in evaluating options and provides a systematic framework for working through the merits and disadvantages of each option. It is a tool that assists in decision making, but it does not make the decision. Decision makers may call on other tools and inputs to inform decisions, as required.

The framework is structured to provide an open, traceable, and repeatable process. It enables consideration of a range of criteria which are both qualitative and quantitative. These criteria reflect social, economic, cultural, and environmental characteristics of the outcomes and effects.

The long list options were evaluated against a series of criteria by subject matter experts (see Appendix D). At the long list stage these included:

- Efficient and Reliable Journeys
- Housing Growth
- Resilience
- Effects on Cultural Values
- Landscape and Visual
- Terrestrial Ecology and Aquatic Ecology
- Property, and
- Overall Proxy Costs.

This process identified a short list to be taken through for a more detailed assessment which is detailed in the following section.

2.3 Refinements made to the Multi-Criteria Assessment at the Short List

For the Short List Assessment, refinements were made to the MCA to enable greater specificity in scoring and to accurately capture trade-offs between the short list options. This includes the additional of addition assessment criteria and an extended scoring scale, with details on these changes provided below.

2.3.1 MCA Scoring Scale

The MCA scoring scale has been extended from a five-point scale to a seven-point scale to allow for greater distinction between options. The scale system used by the experts is provided in Table 1 below.

Table 1: Short List MCA Seven Point Scoring Scale

Magnitude	Definition	Score
Large positive	Major positive impacts resulting in substantial and long-term improvements or enhancements of the existing environment.	3
Moderate positive	Moderate positive impact, possibly of short-, medium- or long-term duration. Positive impacts may be in terms of new opportunities and outcomes of enhancement or improvement.	2
Slight positive	Minimal positive impact, possibly only lasting over the short term. May be confined to a limited area.	1

Magnitude	Definition	Score
Neutral	Neutral – no discernible or predicted positive or negative impact. Counterfactual could be the do-minimum or do-nothing,	0
Slight negative	Minimal negative impact, possibly only lasting over the short term, and definitely able to be managed or mitigated. May be confined to a small area.	-1
Moderate negative	Moderate negative impact. Impacts may be short-, medium- or long-term and are highly likely to respond to management actions.	-2
Large negative	Impacts with serious, long-term and possibly irreversible effect leading to serious damage, degradation or deterioration of the physical, economic, cultural or social environment. Required major rescope of concept, design, location and justification, or requires major commitment to extensive management strategies to mitigate the effect.	-3

2.3.2 Additional Assessment Criteria

In addition to the greater granularity provided by the seven-point scaling system, the MCA was expanded at the short list to include additional criteria. The following criteria were included:

- Hutt City Council Objectives
- Local Network Effects
- Social Impact
- Archaeology and Built Heritage
- Value for Money
- Property Difficulty
- Alignment with Statutory Policies, and
- Construction Disruption.

Hutt City Council Objectives

Given that the CVL corridor travels through a predominantly urban area and has been previously identified in strategic documentation by Hutt City Council, a new criterion was developed to reflect the considerations of Hutt City Council.

The Hutt City Council (HCC) objectives/criteria used for scoring, were premised on the strategic objectives for CVL that were endorsed by the Council in late 2024. Elements of these Council endorsed objectives that significantly overlapped with specialist categories for the MCA (like housing growth, severance etc) were removed. The development of the MCA objectives also considered the Cross Valley Connection (CVC) Programme Business Case (PBC) 2020, specifically its investment objectives:

- To improve the resilience of southern Lower Hutt by enhancing the transport networks ability to withstand and respond in a timely manner to HILP and LIHP events, and
- To improve access to and from key destinations and key urban growth areas in southern Lower Hutt.

HCC has provided comment on the final MCA objectives and on this assessment. However, this consultation does not represent HCC's formal position on the options, which can only be determined following NZTA's decision-making process after the MCA.

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2.4 Short List MCA Criteria

The following table provides a summary of the MCA criteria to assess the short list options.

Table 2: Assessment Criteria

Category	Criteria	Criteria considerations
Investment Objectives and Critical Success Factors	Efficient and Reliable Journeys	- Private vehicle travel time based on journey times - Qualitative analysis based on the route and specialist judgement. - How the option enables enhanced connectivity between key destinations
	Housing Growth	- Improving access to and from current and future development areas (such as Lincolnshire Farms, areas around Porirua, and areas around Lower Hutt) by improving travel time on the state highway network between Lower Hutt, North Wellington/Porirua and Wellington - Impact on housing supply
	Resilience	- Susceptibility of the network to HILP and LIHP events, ability to recover and availability of alternative routes. - Includes consideration of climate change.
Opportunities/ Impacts	Hutt City Council	- Resilience of Southern Lower Hutt by enhancing transport network's ability to withstand and respond to HILP and LIHP. This covers: - Increased transport choices to encourage mode shift – public transport, walking and cycling - Suggest not to score potential response to HILP and LIHP as part of this objective - To improve access to and from key destinations and key urban growth areas in southern Lower Hutt. This covers: - Increased transport choices to encourage mode shift – public transport, walking and cycling - Improved access and safety - Improved development opportunities for urban growth areas
	Mana Whenua Values	- Evaluate indicative physical encroachment into known sites of cultural value (e.g. pa sites, sites of cultural importance or value). - Mana Whenua perspective on effects on local iwi, Te Ao Māori and alignment with Mana Whenua values
	Landscape	The extent to which each option fits with, and effects on, those physical landscape elements and patterns, how the option would be perceived.

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Category	Criteria	Criteria considerations	Expert
		It includes consideration of natural character of the coastal environment and streams. Natural aspects include streams, natural landforms, and vegetation. Urban aspects include urban form (street and block pattern), buildings, and activities	S7(2)(b)(i)
	Terrestrial Ecology	Relative quantum of direct effects on vegetation (desktop-based assessment using available information) (area).	
	Aquatic Ecology	Relative quantum of direct footprint effects on streams.	
	Local Network Effects	How each option impacts the surrounding transport network, particularly local roads, intersections, and multi-modal connections. This assessment considers traffic flow, congestion, accessibility, safety, and integration with the existing transport network.	
	Social impacts	- Severance (how a community comes together / social cohesion). - Access to community services and social and recreational impacts and facilities (improved or reduced)	
	Archaeology and Built Heritage	Identification of sites of significance, including degree of significance. Physical encroachment of the options onto identified sites of significance.	
Potential achievability	Construction Disruption	Disruption of travel patterns during construction	
	Property (Difficulty of Acquisition)	Difficulty of obtaining necessary property.	
	Alignment with Statutory Policies	Level of complexity and/or difficulty in obtaining statutory authorisations considering legal and policy frameworks. Note does not include environmental impacts under RMA as these are scored separately below.	
	Cost	Includes constructability, design, construction risk and property acquisition costs (Not scored, just reported)	
	Value for Money	Indicative BCR (not scored, just reported)	

2.5 Short List Options Refinements

2.5.1 Naming conventions

Once the short list options were confirmed, the naming conventions were updated to provide greater clarity and enable sub options to be easily traced through the option development process.

Table 3: Updated CVL Naming Conventions

Long List Naming Convention	Short List Naming Convention
1A Green	CVL-1A
1B Blue	CVL-1B
2A Yellow	CVL-2A
1B Magenta	CVL-3A

2.5.2 Design refinements

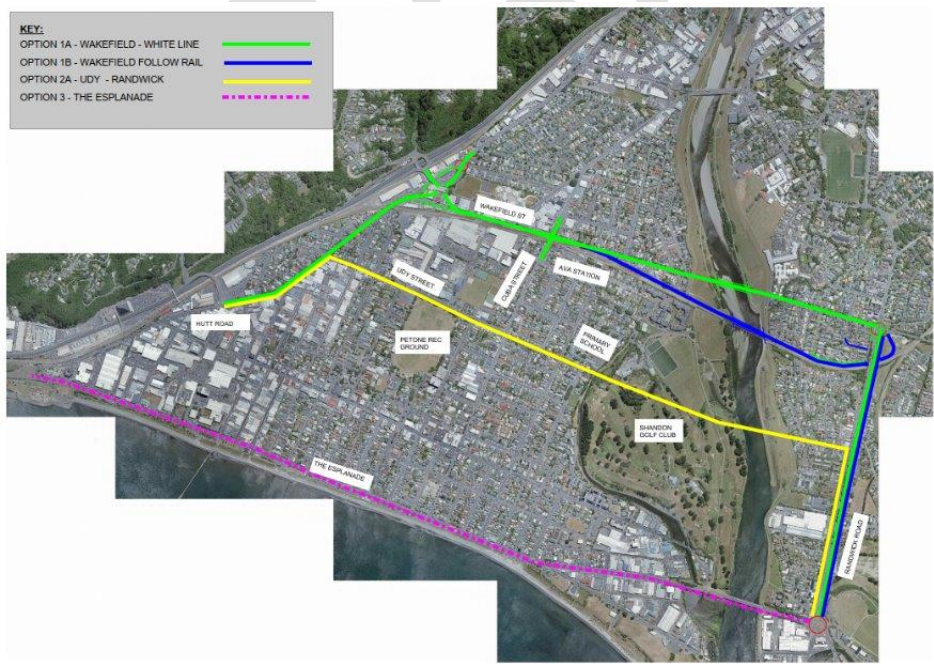
Each option was developed to have a two lane and four lane option to understand the outcomes and trade-offs related to providing additional capacity on the corridor. This resulted in eight options being assessed at the short list stage.

3 Short List Assessment

3.1 Short List Options

Short list options for CVL were identified in Workshop 1, with options further refined to provide for two lane and four lane options. The alignment of the four core options is shown below in Figure 3-1.

Figure 3-1: Short List Options: Cross Valley Link



The following key design assumptions have been applied generally to the options:

- 2-lane option occupies a 20m wide corridor and generally fits within the existing road carriageway
- 4-lane option occupies a 28m wide corridor and generally requires land acquisition down the full length of one or both sides of the road

The specific design features of each option have been summarised below in Table 4.

Table 4: Short List Options: Cross Valley Link

Option	Key Features	
Option 1A	Hutt Rd	For the 4-lane option, Hutt Rd widened on north side by approx. 7m
	Dowse interchange	New elevated 4-leg roundabout with approaches on fill embankments
	Cuba St intersection	New elevated, signalised intersection to provide all movements to/from Wakefield & Cuba St New road over rail bridge on Cuba St For 2-lane option, it may be possible to retain existing Cuba St bridge – subject to outcomes of traffic modelling
	Wakefield St East	For the 4-lane option, widening on the north side of up to 7 meters
	Hutt River crossing	New multi-span bridge approx. 280 meters long over flood plain and river
	Whites Line West	For the 4-lane option, widening on north side of up to 7 meters New roundabout connection at Randwick Rd
	Randwick Rd	For the 4-lane option, widening of approximately 7m is required on the east side of road The existing rail overbridge on Randwick Rd to be replaced with a new 22m single span bridge
Option 1B	Wakefield St to Hutt River bridge	New road from Ada Train Station to new bridge, through residential properties and reserve Road alignment crossed over critical Stormwater and Wastewater pumping stations
	Hutt River crossing	New multi-span bridge approx. 360 meters long over flood plain and river
	Hutt River bridge to Randwick Rd	New road through residential properties and reserves. Connects to a reconstructed/large roundabout at Whites Line/Randwick Rd intersection.
Option 2A	Hutt Rd	Generally, the same as 1A
	Udy St	For the 4-lane option, widening on north side of up to 10 meters
	Udy St to Hutt River bridge	No existing road corridor over this section Alignment borders Wilford primary school to the north Cuts through top of Shandon golf club – 1 hole potentially affected Playing fields and Sladden park boat ramp also affected
	Hutt river crossing	New multi-span bridge approx. 280 meters long over flood plain and river
	Hutt river bridge to Randwick Rd	No suitable existing road corridor to follow New signalised intersection with Randwick Rd
	Randwick Rd	Generally, the same as for 1A

Option	Key Features	
Option 3	Esplanade Road	Layout includes a local road adjacent to and east of the esplanade to manage local traffic. Pedestrian access is required across the esplanade to the foreshore. This could be either a pedestrian overpass or a signalised at-grade crossing
	Hutt river crossing	New multi-span bridge approximately 180 meters long over flood plain and river

3.2 Workshop 2: Short List Assessment

Option assessment was completed as part of a joint option workshop for the Petone to Grenada Investment Case, that was being completed concurrently with the feasibility study for CVL. By considering these two elements within the same workshop, this allowed for consideration of any interdependencies – while also considering the projects as stand alone.

3.3 Workshop 2 Assessment Summary

Table 5 provides an overview of scoring from the Subject Matter Experts, with a summary comment of any key difference or preferences noted by the experts. The detailed assessments completed by the specialists can be found in Appendix A.

Table 5: Summary of Long List Assessment Findings for Cross Valley Link

Criteria	Option 1A Two Lane	Option 1B Two Lane	Option 2A Two Lane	Option 3 Two Lane	Option 1A Four Lane	Option 1B Four Lane	Option 2A Four Lane	Option 3 Four Lane
Efficient and Reliable Journeys	1	2	1	Neutral	2	2	2	3
	Option doesn't offer the capacity offered by the four lane options and doesn't deliver the same level of travel time improvement as the option uses an existing local road link.	Option 1B is the exception of the two lane options and will deliver travel time improvements as this offers a new road link along the rail corridor.	Doesn't offer the capacity offered by the four lane options and doesn't deliver the same level of travel time improvement as the option uses an existing local road link.	Doesn't offer the capacity offered by the four lane options and doesn't deliver the same level of travel time improvement as the option uses an existing local road link. Scored as neutral as this is no change over the current situation on The Esplanade.	Delivers efficient and reliable journeys but may require motorists to travel further to access key destinations as they are further north than the desire line (of The Esplanade).			Highest scoring option due to this being the most direct and fastest option to connect Gracefield, SH2, and Petone to Grenada.
Housing Growth	2	2	1	-1	2	2	1	-1
	Option 1A/1B are located further to the north so have been assessed as having the greatest potential housing benefit in that they provide the most direct connection between the central and northern Hutt Valley floor and Wainuiomata, and SH2.	Option 1A/1B are located further to the north so have been assessed as having the greatest potential housing benefit in that they provide the most direct connection between the central and northern Hutt Valley floor and Wainuiomata, and SH2.	Option 2A also provides an improved connection between the central and northern Hutt Valley floor and Wainuiomata, and SH2, but the connection is further to the south and not as direct, so this option has been rated slightly lower than 1A, 1B.	Option 3A is further south again and will have even less benefit in terms of increasing the accessibility of future growth areas. This option also traverses the Petone coastal area which has limited long-term development potential due to flooding and climate impacts.	No change to scoring with the provision of two versus four lanes. Impacts on housing due to demolition not considered to be significant within the wider context of regional housing growth.			
Resilience	1	1	2	Neutral	1	1	2	Neutral
	Option 1A, 1B & 2C provide a significant increase in Network resilience above the benchmark routes because of the reduced risk of tsunami and better ground conditions. No specific resilience related risks for this option, provision of new additional river crossing considered to provide a positive effect.	Option 1A, 1B & 2C provide a significant increase in Network resilience above the benchmark routes because of the reduced risk of tsunami and better ground conditions. No specific resilience related risks for this option, provision of new additional river crossing considered to provide a positive effect.	Options 1A and 1B require several new grade separated structures in close proximity to the Wellington Fault. These can be designed to have low damage in high frequency seismic events – however Option 2A does not have these structures	Does not provide network resilience with a new corridor Option 3 is exposed to coastal and liquefaction hazards and so has only a marginal increase in resilience over the benchmark (existing Esplanade route).	No change to scoring with the provision of two versus four lanes. Resilience outcomes are considered the same across two and four lane options.			

Criteria	Option 1A Two Lane	Option 1B Two Lane	Option 2A Two Lane	Option 3 Two Lane	Option 1A Four Lane	Option 1B Four Lane	Option 2A Four Lane	Option 3 Four Lane
			and as such scores higher. No specific resilience related risks for this option, provision of new additional river crossing considered to provide a positive effect.					
Hutt City Council Objectives	2 Improves E-W access and movement for both light and heavy vehicles, with high potential to facilitate access to new housing growth areas, as well as potential to create opportunities to improve active transport modes and improving east-west public transport connectivity. Consistent with HCC Strategic Objectives and generally aligns with HCC's preferences from the CVC PBC. Strengthens resilience by providing an option that will reduce the duration of east-west network closures in the aftermath of a HILP event. The option also reduces the consequences for light and heavy vehicle journeys, including public transport, following a LIHP event, and reduces the impact of sea-level rise on the strategic transport network	2 Similar to 1b in terms of meeting objectives. The comments from the previous option remain applicable, except that a two-lane option may not require the replacement of the Cuba Street Bridge.	2 Somewhat improves E-W access and movement, moderate potential to facilitate access to new housing growth areas. Potential to create opportunities to improve active transport modes and to improve E-W PT connectivity, however N-S PT connectivity may be affected. Slightly strengthens resilience. The option will reduce the consequences for light and heavy vehicle journeys, but not as much as 1a and b. Closer to sea level rise influence.	Neutral No improvement to access or resilience	3 Significantly improves E-W access and movement for both light and heavy vehicles, high potential to facilitate access to new housing growth areas, as well as potential to create opportunities to improve active transport modes and improving E-W public transport connectivity. Consistent with HCC Strategic Objectives and generally aligns with HCC's preferences from the CVC PBC. Strengthens resilience by providing an option that will reduce the duration of east-west network closures in the aftermath of a HILP event. The option also reduces the consequences for light and heavy vehicle journeys, including public transport, following a LIHP event.	3 Similar to 1a in terms of meeting objectives.	2 Improves E-W access and movement, moderate potential to facilitate access to new housing growth areas. Potential to create opportunities to improve active transport modes and to improve EW PT connectivity, however N-S PT connectivity may be affected. Broadly consistent with Strategic Objectives and partially aligned with HCC's preference from the PBC.	1 Only improves E-W access, opportunities for active modes and PT in the southern part of Lower Hutt. No improvements to resilience
Mana Whenua Values	-2 The main concern with the works associated with Dowse Interchange and the proximity of	-1 The main concern with the works associated with Dowse Interchange and the proximity of	-2 The main concern is associated with the scale of greenfield	-2 The main concern is around any development along	-2 No change to scoring between two and four lane options. Mana Whenua outcomes are considered the same across two and four lane options.	-1	-2	-2

Criteria	Option 1A Two Lane	Option 1B Two Lane	Option 2A Two Lane	Option 3 Two Lane	Option 1A Four Lane	Option 1B Four Lane	Option 2A Four Lane	Option 3 Four Lane
	such works to Te Tatau o te Pō Marae – scoring would improve if works avoided impacts on the marae.	such works to Te Tatau o te Pō Marae. However, this option proposed the most preferred alignment that maximises the use of the existing road network particular when crossing Te Awakairangi.	development in and around Te Awakairangi when there are other more feasible alternatives.	the Esplanade particular near the area where Pito-one Pā once resided and the nearby urupā. Construction could potentially impact on the ability to access the harbour in this area as well as culturally significant areas around Te Awakairangi at the proposed bridge crossing point.				
Landscape and Visual	1	-1	-1	Neutral	Neutral	-2	-1	-3
	Fits the existing urban landscape but would have some adverse effects. The two-lane option would have positive outcomes on the urban landscape in completing the bridge connection and moderate adverse effects arising from the larger replacement elevated structures at Cuba Street and the Randwick Road railway overbridge. Provides the best opportunities for urban redevelopment given the depth of lots facing Wakefield Street and the high density residential zoning in the proposed Hutt City District Plan and given access to the railway station and open space of the river corridor	Some opportunity for residential intensification because of the need to acquire residential properties and remove existing dwellings. The option does not fit the existing urban form as well as Option 1A. It does not align with the current street grid, or with the existing road to Wainuiomata. Aesthetically, it would be less legible, and the intersection with Whites Line East and Ludlam Crescent is less elegant than the straightforward intersection of option 1A.	Option 2A has a poorer fit with urban form. It does not line up with an existing corridor across the valley. While it is roughly square to the street grid, it angles northwards so that it is closer to the Whites Line West and Randwick Road intersection (~380m), reducing some of the advantage of a more southerly alignment compared to Option 1A and 1B. The scoring reflects the poorer fit with the urban form, adverse effects on property, and slightly less straightforward redevelopment opportunities.	Option 3 has a good fit with urban landscape given it is aligned with the current east-west link across the valley and is the nearest and most legible route to central Wellington. From the south it is the shortest route to Seaview and the eastern bays. However, the option also impacts on Petone's frontage to the harbour and the natural beachfront – an area with high landscape and visual values.	Greater adverse effects than the two lane option because it would require significant acquisition and clearance of properties for road widening and the elevated structures would be larger.	The 2-lane option would have similar outcomes and adverse effects as the 4-lane option in the area between Ava Station and Randwick Road where the 1B options differ from 1A. The lower scoring for the 4-lane option reflects the greater adverse effects in the areas common to option 1A (Hutt Road, western end of Wakefield Street, Randwick Road).	The 2-lane option would have similar outcomes and adverse effects as the 4-lane option because it would require similar clearance to form a corridor. The main difference would be the land required to widen Udy Street between Hutt Road and Cuba Street may enable existing houses to be retained. The difference is not sufficient to change the scoring.	The four-lane option requires extensive acquisition and clearance of property take for full length of The Esplanade to accommodate 28m road reserve, plus a separate local road. Opportunities for redevelopment would be constrained by the width needed and the relatively shallow typical lot depth (lots facing the Esplanade vary between approximately 20m and 30m deep). The widening would create an expanse of asphalt that would significantly detract from the amenity of the beach and the connection between Petone and the harbour.
Terrestrial Ecology	Neutral	Neutral	Neutral	Neutral	-1	-1	-1	-1
	No significant change	No significant change	No significant change	No significant change	Parkland/Open Space Impact: 107ha Street trees: 297	Parkland/Open Space Impact: 2.15ha Street trees: 301	Parkland/Open Space Impact: 3.25ha Street trees: 261	Parkland/Open Space Impact: 0.02ha Street trees: 170

Criteria	Option 1A Two Lane	Option 1B Two Lane	Option 2A Two Lane	Option 3 Two Lane	Option 1A Four Lane	Option 1B Four Lane	Option 2A Four Lane	Option 3 Four Lane
Aquatic Ecology	-1	-1	-1	Neutral	-2	-1	-1	Neutral
	Indirect effects on an unnamed (highly modified) tributary of Waiwhetu, culvert works over unnamed tributary of Te Awa Kairangi, new bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone.	Indirect effects on unnamed tributary of Waiwhetu, new bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone.	Indirect effects on unnamed tributary of Waiwhetu, new bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone.	New bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone.	Four lane option differentiated by assumed longer culvert length on the unnamed tributary of Te Awa Kairangi.	Indirect effects on unnamed tributary of Waiwhetu, new bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone.	Indirect effects on unnamed tributary of Waiwhetu, new bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone.	New bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone.
Local Network Effects	1	1	1	Neutral	-1	Neutral	-2	-1
	Options 1a, 1b, and 2a are likely to require fewer modifications to local roads and intersections compared to other options like The Esplanade alignment, which would likely create congestion and severance issues (to the Foreshore). Less induced demand and congestion risks – Unlike the four lane options which are likely to induce traffic, these options balance demand distribution across the network. Option 1a (Wakefield): Maintains local accessibility while improving connectivity for freight	Options 1a, 1b, and 2a are likely to require fewer modifications to local roads and intersections compared to other options like The Esplanade alignment, which would likely create major congestion and severance issues Less induced demand and congestion risks – Unlike the four lane options which are likely to induce traffic, these options balance demand distribution across the network. Adjacent to an existing rail corridor, minimizing disruption because there are fewer local intersections that would need to be addressed.	Options 1a, 1b, and 2a are likely to require fewer modifications to local roads and intersections compared to other options like The Esplanade alignment, which would likely create major congestion and severance issues Less induced demand and congestion risks – Unlike the four lane options which are likely to induce traffic, these options balance demand distribution across the network.	No significant difference to existing situation	Four lane options are likely to induce traffic, and do not balance demand distribution across the network as well as two lane options. Scored negatively as these options may significantly change how traffic moves around Lower Hutt. This may require changes to local roads and intersections to accommodate these changes.	Four lane options are likely to induce traffic, and do not balance demand distribution across the network as well as two lane options. Scored neutrally as the rail corridor alignment is separated from the surrounding road network which would minimise disruption with fewer local intersections needing to be addressed.	Four lane options are likely to induce traffic, and do not balance demand distribution across the network as well as two lane options. Scored more negatively than the other four lane options as this option requires a new offline alignment that severs and requires reconfiguration of several local streets between Cuba Street and Randwick Street.	Four lane options are likely to induce traffic, and do not balance demand distribution across the network as well as two lane options. Scored negatively as these options may significantly change how traffic moves around Lower Hutt. This may require changes to local roads and intersections to accommodate these changes.
Social Impacts	-1	-1	-2	-2	-2	-2	-3	-3
	2 lane option avoid as much disruption to community facilities and houses/ businesses along the corridor but still impacts the communities where the bridge crosses.	2 lane option avoid as much disruption to community facilities and houses/ businesses along the corridor but still impacts the communities where the bridge crosses.	2 lane option avoid as much disruption to community facilities and houses/ businesses along the corridor but still impacts the communities where the bridge crosses. In addition this option impacts further community facilities, houses, and businesses east of Udy Street with its	2 lane option reduces impacts on foreshore but requires the addition of a slip lane that would impact houses and create an additional barrier to access foreshore.	Higher score than the corresponding two lane 1A/ 1B options due to road widening impacts on local community.		Higher score than the corresponding two lane 2A and 3 options due to road widening impacts on local community.	

Criteria	Option 1A Two Lane	Option 1B Two Lane	Option 2A Two Lane	Option 3 Two Lane	Option 1A Four Lane	Option 1B Four Lane	Option 2A Four Lane	Option 3 Four Lane
			offline alignment.					
Archaeology and Built Heritage	Neutral	-1	-2	-2	-1	-1	-2	-2
	Assumption that unrecorded pre1900 houses will be present. 2 lane has minor effect on front parts of some sections along Wakefield St.	Assumption that unrecorded pre1900 houses will be present. Both 2 and 4 lane have adverse effect on houses along Wakefield St.	Assumption that unrecorded pre1900 houses will be present. 2 lane has minor effect on front parts of some sections along Udy St. Houses very adversely affected east of Udy St	Assumption that unrecorded pre1900 houses will be present. Both 2 and 4 lane have adverse effect on houses along Esplanade, both have potential to adversely affect Petone racecourse railway line	4 lane has adverse effect on front sections of houses along Wakefield St, and on front sections of houses on Hutt Rd	Both 2 and 4 lane have adverse effect on houses along Wakefield St	4 lane adversely affects houses along Hutt Rd, Udy St, and east of Udy St	Both 2 and 4 lane have adverse effect on houses along Esplanade, both have potential to adversely affect Petone racecourse railway line
Construction Disruption	-3	-3	-1	-2	-3	-3	-2	-3
	The corridor runs almost entirely along an existing busy corridor. The Dowse Interchange is likely to require major reconstruction, which will significantly impact Hutt Road and other local roads. The Dowse RAB will involve substantial construction activity, and the construction footprint will necessitate the acquisition of land. Significant intersection upgrade will be required at Woburn/Randwick.	Similar to 1a in that the option runs along the existing busy Wakefield corridor for a large part of its length. The only difference is there is a new road from Ada Train Station to the new bridge. The key construction disruption occurs, similar to 1a, at the Dowse Interchange and key intersection on the western side of the corridor.	Two-laning of Udy Street to be within road carriageway. A significant Cuba/Udy intersection upgrade would be required causing disruption. Construction through eastern Petone is expected to disrupt residential access causing re-routing. Widening of Randwick Road will have a major impact on the network (less than Option(s) 1.	Two-laning is expected to cause disruption, though it would be less than that of the four- or six-lane option. Construction of all intersection upgrades and new bridge will be disruptive for the 25,000 vpd.	As per two lane option	As per two lane option	As per two lane option however scored lower due to four-laning of Udy Street will require TMPs, and is likely to involve prolonged closures.	The corridor runs almost entirely along an existing busy corridor. Adding 4-lanes (plus adding a 2 lane collector road) to this busy arterial will cause significant disruption to the way people and freight move around (app 25,000 vpd), especially at peak, and will require significant traffic/transport management planning.
Property (Difficulty of Acquisition)	-1	-1	-3	-1	-2	-1	-3	-2
	S7(2)(b)(i)							
Statutory Alignment	Neutral	Neutral	-1	-1	Neutral	Neutral	-1	-1
	Maintenance/enhancement of	Maintenance/enhancement of public access to Te Awa	No mana whenua	No works south of The Esplanade	No change to scoring with the provision of two versus four lanes. Planning outcomes are			

Criteria	Option 1A Two Lane	Option 1B Two Lane	Option 2A Two Lane	Option 3 Two Lane	Option 1A Four Lane	Option 1B Four Lane	Option 2A Four Lane	Option 3 Four Lane
	public access to Te Awa Kairangi Limited impact on historic heritage Successful application of the effects management hierarchy to works impacting Te Awa Kairangi Significant risks from natural hazards are managed No impact on school designations and managed impact on KiwiRail designation	Kairangi Limited impact on historic heritage Successful application of the effects management hierarchy to works impacting Te Awa Kairangi Significant risks from natural hazards are managed No impact on school designations and managed impact on KiwiRail designation	impacts Limited impact on historic heritage Successful application of the effects management hierarchy to works impacting Te Awa Kairangi Significant risks from natural hazards are managed	existing corridor Limited impact on historic heritage Successful application of the effects management hierarchy to works impacting Te Awa Kairangi Significant risks from natural hazards are managed Impacts on HCC and GWRC designations are managed	considered consistent for two and four lane options.			
Cost (Ranked)	3	5	1	2	8	7	4	6
Value for Money (Ranked)	4	3	1	8	7	6	2	5
	Provides better access to more parts of the Hutt Valley.	Provides better access to more parts of the Hutt Valley	Cheapest option, less increase on Petone to Dowse, so less need for upgrade. However, doesn't take a lot off Ewen Bridge.	Few improvements in benefits over existing situation.	4L has higher benefits but doesn't increase access over the 2L option.	4L has higher benefits but doesn't increase access over the 2L option.	Cheapest 4L by considerable margin. 4L has higher benefits but doesn't increase access and may increase severance.	Likely the highest benefits. Improves access but Petone I/C fix needed first. Doesn't improve access to central and northern Lower Hutt.

3.4 Workshop 2 Recommendations

Looking at the four options, with two and four lane sub options for each option, the following table provides a snapshot of the overall scoring provided by the subject matter experts.

Table 6: Summary of Short List MCA Scoring

Criteria	Opt 1A	Opt 1B	Opt2A	Opt3	Opt 1A	Opt 1B	Opt2A	Opt 3
	Two Lane				Four Lane			
Efficient and Reliable Journeys	1	2	1	0	2	2	2	3
Housing Growth	2	2	1	-1	2	2	1	-1
Resilience	1	1	2	0	1	1	2	0
HCC Objectives	3	3	2	0	3	3	2	1
Mana Whenua Values	-2	-1	-2	-2	-2	-1	-1	-1
Landscape	2	-1	-1	-2	-1	-1	-1	-3
Terrestrial Ecology	-1	-1	-1	-1	-1	-1	-1	-1
Aquatic Ecology	0	0	0	0	-2	-1	-2	-1
Local Network	1	1	1	0	-1	0	-2	-1
Social Impact	-1	-1	-2	-1	-2	-2	-3	-3
Archaeology and Built Heritage	-1	-1	-1	-2	-1	-1	-2	-2
Construction Disruption	-3	-3	-2	-3	-3	-3	-2	-2
Property	tbc	tbc	tbc	tbc	tbc	tbc	tbc	tbc
Statutory Alignment	0	0	-1	-1	0	0	-1	-1
Cost - Rank	3	5	1	2	8	7	4	6
VfM – Rank	4	3	1	8	7	6	2	5
Decision	✓	✓	✓	✗	✗	✗	✓	✗

The key points from the assessment of short-listed options are as follows:

Options 1A, 1B, and 2A (Two-Lane Variants) and Option 2A (Four-Lane Variant) were recommended for further development based on the following considerations:

- **Mixed Performance Against Objectives:** Each of these options demonstrated a combination of strengths and weaknesses across the assessment criteria, warranting further analysis to better understand trade-offs and optimise design outcomes.
- **Need for Further Traffic Modelling:** Additional traffic modelling is required to validate the necessity of a four-lane corridor. Option 2A (four-lane) was retained on the basis that it represents the most affordable four-lane alternative.

Options 1A and 1B (Four-Lane Variants) were not recommended for further development due to the following factors:

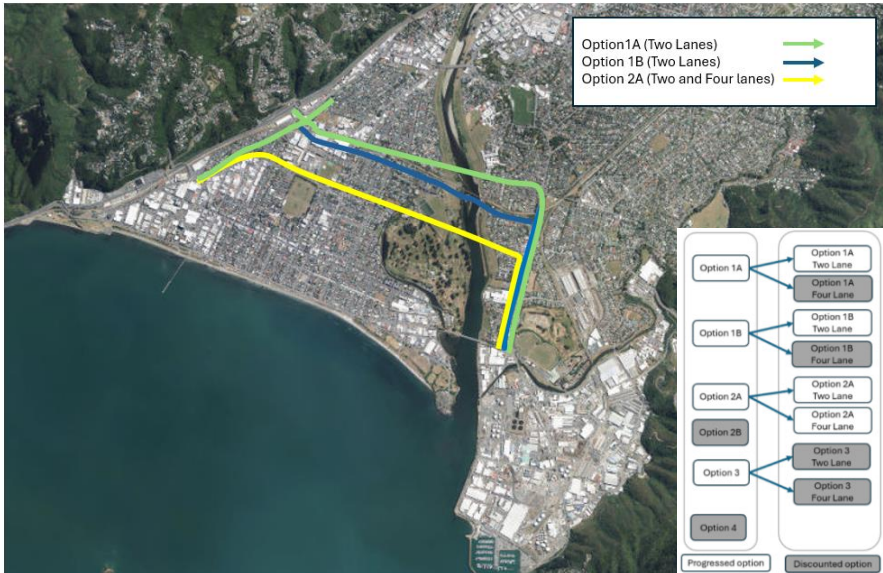
- **High Negative Impacts:** Despite good alignment with the investment objectives, these options presented significant adverse effects on residential, commercial, and community properties, as well as natural environmental features.
- **High Cost and Poor Value for Money:** Both options were assessed to exceed the affordability threshold for CVL (\$400–600 million) and offered poor value relative to other alternatives.

Options 3A (Two-Lane and Four-Lane Variants) were also removed from further consideration based on the following:

- **Option 3A (Two-Lane):** This variant performed poorly against the investment objectives and had more significant negative effects than other two-lane alternatives.
- **Option 3A (Four-Lane):** While performing positively in terms of journey efficiency due to its location on the primary desire line, this option scored poorly for housing growth and had the most substantial negative effects across all assessed options. Furthermore, it exceeded the project's affordability envelope and was assessed as having poor value for money.
- **Poor Strategic Alignment:** Both variants of Option 3A were determined to be the least well aligned with Hutt City's strategic planning objectives.

The below figure provides a summary of the options discounted and retained for further investigation.

Figure 3-2: Short List Post MCA



3.5 Short List Option Refinement

Four options were further refined and renamed for clarity. Following these further investigations, the options were either carried through for a second MCA, or discounted.

3.5.1 Assessment of Proposed Capacity

For Option 2A (four lanes), testing was undertaken in the traffic model to confirm the requirement for a four-lane corridor, and the sensitivity of this to other investment decisions.

Modelling indicates that implementing CVL (alongside P2G) reduces demand on the Waione bridge by around 20% and on the Ewen bridge by over 25%. Although a new two-lane CVL bridge is projected to operate at close to capacity during peak periods, these other two river crossings were shown to be under capacity in the same time periods and therefore the network as a whole is expected to be able to accommodate future growth.

Based on this high-level analysis a further approximately 15,000 vehicle trips per day could be accommodated across the Hutt River (south of Melling) once both P2G and CVL are open. As such, a four lane CVL investment is unlikely to be required within the assessment horizon (up to 2053), or required on implementation (2033).

This modelling, however, assumes that The Esplanade and Waione bridge remain in place in their current form. If a later decision is made by Hutt City Council to reduce capacity on The Esplanade, this will push more demand north, which in turn is likely to require additional east west capacity over the Hutt River.

As such Option 2A as a four-lane option was discounted.

S7(2)(b)(i)

3.5.2 Design Refinements

The below table provides a summary of the design refinements and additional analysis that was completed following the MCA workshop.

Table 7: Design Refinements of Short List Options

Option	Design Refinement	Progressed?
Option 1A (two lanes)	Option 1C (two lanes) without the significant raised intersection structures at Dowse Interchange and Cuba Street. This option was developed following traffic modelling that indicated such significant changes were not required to accommodate forecasted traffic flows and allowed for comparison of a minimum viable product for CVL with other options. Further refinement of Option 1C option resulted in Option 1D (two lanes) which is 1C with the extent on Randwick Road removed. This was done to allow for a fairer comparison of option costs and effects as each option connects to Randwick Road at a different point and therefore had a longer or shorter extent included in the option.	Option 1D - Carried through to MCA
Option 1B (two lanes)	Option 1B (two lanes), design and cost checks were undertaken that confirmed the option requires a complex grade separated structure to transition from the rail corridor to the road network at Randwick Road. This was developed in further detail, and once costs were better understood it was confirmed to be outside the affordability envelope, Option 1A also provides a similarly performing option for lower costs.	Discounted
Option 2A (two lanes)	Option 2C (two lanes) which is Option 2A with the extent on Randwick Road removed, for the same reasons as described above. This option was carried through to MCA.	Option 2C – Carried through to MCA

4 Workshop 2A: Refined Option MCA

Three updated options were considered through the MCA process, with the same scoring methodology as the earlier assessments. A summary of these assessments and scoring is provided in Table 8 below.

Table 8: Workshop 2A - Refined MCA Summary

Criteria	Option 1C	Option 1D	Option 2C
Efficient and Reliable Journeys	1 Assumes all access is retained and provides some benefit for travel times and reliability.	1 No change in score from 1C.	1 No change in score from 2A
Housing Growth	2 Assessed as having the greatest potential housing benefit, in that provides the most direct connection between the central and northern Hutt valley floor and Wainuiomata and SH2.	2 No change in score from 1C.	2 Provides an improved connection between the central and northern Hutt valley floor and Wainuiomata and SH2, but the connections are further to the south and not as direct. Slightly less preferred for improved access without the Randwick Road upgrade, but not enough to change the overall score.
Resilience	1 Avoids the need for a new grade separated intersection (and the resilience impact described above) but is reliant on the existing road over rail bridges on Hutt Road and Cuba Street which are vulnerable to earthquake shaking and liquefaction. There is no difference in the assessed score for Option 1B, and 1C & 1D.	1	2 Significant increase in network resilience above the benchmark routes because of the reduced risk of tsunami and better ground conditions.
HCC Objectives	2 Significantly improves east west access and movement for both light and heavy vehicles, high potential to facilitate access to new housing growth areas, as well as potential to create opportunities to improve active transport modes and improving E-W public transport connectivity. Consistent with HCC Strategic Objectives and generally aligns with HCC's preferences from the CVC PBC.	2 No change in score.	2 No change in score from 2A.
Mana Whenua Values	-1 This option has scored the same as Option 1B (an improvement on Option 1A) mainly due to the movement of construction away from Dowse Interchange and Te Tatau o Te Po Marae. The alignment looks like it could impact on Opahu/Okautu Stream (Black Creek) – “Kautu” means fordable, this stream, for the most part sluggish and deep, being fordable by wading at a place somewhere near Whites Line.	-1 The scoring remains the same as Option 1C as the effects on Mana Whenua values largely sit within this section of the alignment i.e. impacts of the new bridge on Te Awa Kairangi.	-2 The scoring remains the same as Option 2A as the effects on Mana Whenua values largely sit within this section of the alignment i.e. impacts of the new bridge on Te Awa Kairangi and some greenfield development.
Landscape	2 Fits the existing urban landscape: It is an existing east west corridor that spans the valley but for a bridge over Te Awa Kairangi / Hutt River. It is at an existing break in urban form, midway between Lower Hutt and Petone, created by the railway line. It has high legibility because it is a straight connection across the valley between the Dowse Interchange and the Wainuiomata Hill Road. At the same time, it would have only localised adverse landscape and visual effects.	2 Considered same as 1C from a scoring perspective	-1 Considered same as 2A from a scoring perspective

Criteria	Option 1C	Option 1D	Option 2C
Terrestrial Ecology	0	0	-1
	The terrestrial impact is limited based on most of the work being in the road corridor (potentially a few street trees trimmed or removed) and minimal vegetation removal on the margin of Te Awa Kairangi.	No change in score from 1C.	No change in score from 2A.
Aquatic Ecology	0	0	-1
	Option will not likely need any further culverting of the unnamed tributary of Te Awa Kairangi (all work within the existing road corridor noted on the drawing). The freshwater impact is limited to a new Te Awa Kairangi Bridge which for which effects are manageable.	No change in score from 1C.	No change in score from 2A.
Local Network	1	1	1
	No change to local network effects from 1A.	No change to local network effects from 1C.	No change to local network effects from 2A.
Social Impact	-1	-1	-2
	Option 1C would be preferred as it minimises disruption and impact on community facilities noting for the immediate community around the new bridge there will be a greater impact in terms of change in environment, way of life and use of the space around the river.	No change in score.	No change in score from 2A.
Archaeology and Built Heritage	0	0	-2
	No change in score from 1A.	No change in score from 1C.	No change in score from 2A.
Construction Disruption	-1	-1	-1
	Option 1c will have the least construction disruption because will cause the least city-wide impact to transport/traffic and access in central and southern Lower Hutt. Also noted that the option has the least major interchange/intersection upgrades and the smallest corridor overlap on existing, busy streets.	No change in score from 1C.	Slightly better score than 2A due to lesser extent of corridor and therefore less disruption on Randwick Road.
Property	-1	-1	-3
	No change to property impacts from 1A.	Property impacts reduced but not enough to warrant a score change	Similar to 2A with the extent on Randwick Road removed. Randwick Road portion is within current road corridor for 2A therefore no change in property requirement for 2A compared to 2C
Statutory Alignment	0	0	-1
	Option 1c is considered an acceptable option provided that: - Maintenance/enhancement of public access to Te Awa Kairangi is provided - Limited or no impact on historic heritage sites - Successful application of the effects management hierarchy to works impacting Te Awa Kairangi	Option 1D is also an acceptable option from a statutory alignment perspective, as the removal of Randwick Road has no implications in this regard.	No change in score from 2A

Criteria	Option 1C	Option 1D	Option 2C
	- Significant risks from natural hazards are managed - No impact on school designations and managed impact on KiwiRail designation		
Cost - Rank	Reduced cost from 1A – due to structures removed.	Reduced cost from 1C – due to reduced extent.	Reduced cost from 2A – due to reduced extent.
VfM – Rank	2 Due to reduced costs – becomes the second best VfM option	1 Due to reduced costs (extent) – becomes the best VfM option.	3 Due to reduced costs (extent) – becomes the third best VfM option
Decision	Discount	Emerging Preferred	Discount

5 Emerging Preferred Recommendation to Randwick Road

A summary of the above table is shown below in Table 9. As shown, the scoring between Options 1C and 1D are largely consistent, with no additional significant or worsening effects. Option 1D has a lower cost and therefore proposes a greater value for money profile.

Option 2A was not preferred, as even with the reduced extent, still performed worse than Option 1C and 1D regarding social impact, archaeology and statutory alignment.

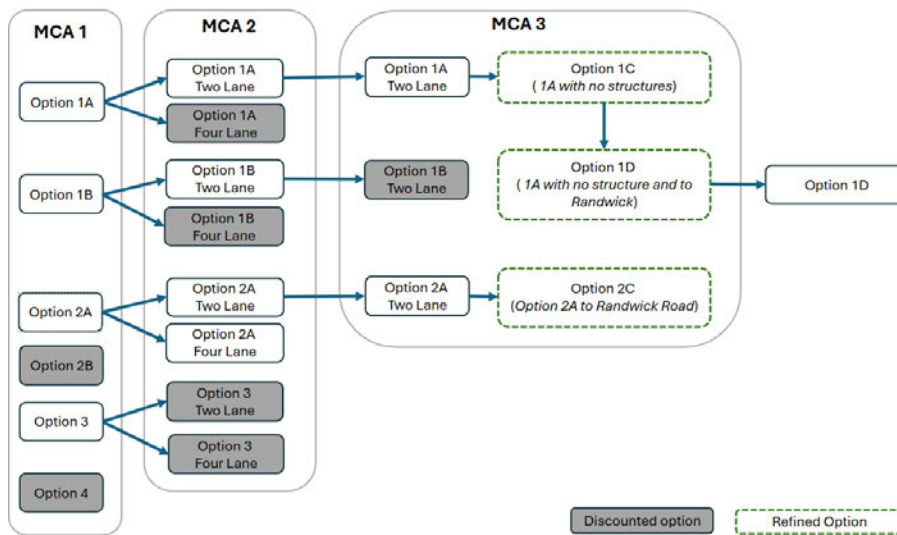
Table 9: Summary of Further CVL Option Assessment

Criteria	Option 1C	Option 1D	Option 2C
Efficient and Reliable Journeys	1	1	1
Housing Growth	2	2	1
Resilience	1	1	2
HCC Objectives	2	2	2
Mana Whenua Values	-1	-1	-2
Landscape	2	2	-1
Terrestrial Ecology	0	0	-1
Aquatic Ecology	0	0	-1
Local Network	1	1	1
Social Impact	-1	-1	-2
Archaeology and Built Heritage	0	0	-2
Construction Disruption	-1	-1	-2
Property	-1	-1	-3
Statutory Alignment	0	0	-1
Cost - Rank	Reduced cost from 1A – due to structures removed.	Reduced cost from 1C – due to reduced extent.	Reduced cost from 2A – due to reduced extent.
VfM – Rank	2	1	3
Decision	Discount	Emerging Preferred	Discount

Figure 5-1 summarises the options assessment methodology undertaken for the CVL alignment. The assessment process included several iterative refinements, allowing the preferred options to evolve throughout. This approach enabled timely adjustments, ensuring that only affordable and deliverable options were carried forward. As a result, options likely to exceed the cost envelope were filtered out early, preventing unnecessary continuation.

The methodology also allowed the section of the corridor from Randwick Road roundabout to Seaview to be assessed independently. This helped to clearly highlight the key differences between alignment options within that specific section. This part of the corridor is discussed in the following section.

Figure 5-1: Summary of CVL Option Process



6 CVL Extensions beyond Randwick Road

Following the identification of the Emerging Preferred option to Randwick Road, an additional assessment was undertaken to consider the alignment of the extents of CVL through to Seaview Avenue.

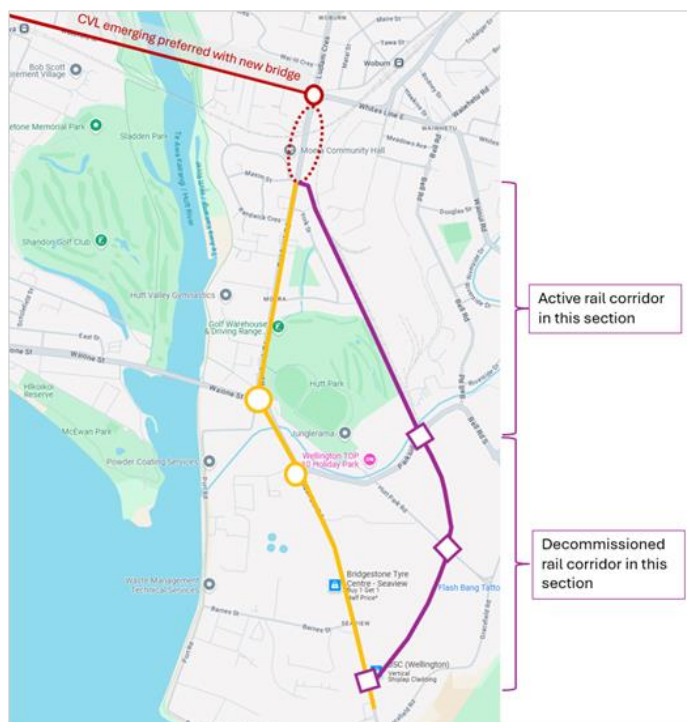
6.1 Short List Options

Two options were considered to connect Randwick Road through to Seaview. These are shown in Table 10 and shown in Figure 6-1.

Table 10: CVL Extension Options Assessed

Option	Description
Option 5a	Two lane road including some pavement rebuilding as needed, and line marking to set out one lane each way, a flush median, parking, and footpaths within the existing road reserve. This option has no private property requirements.
Option 5b	A new two lane alignment that follows the rail corridor from opposite Mason Street to Parkside Road, and then the decommissioned rail corridor from opposite Parkside Road to Seaview Road. This includes a new bridge over the Waiwhetu Stream, and new signalised intersections with Parkside Rd, Hutt Park Road, and Seaview Road. This cross section will include one lane each way, a flush median, parking, and footpaths. This option requires private property.

Figure 6-1: CVL Extension - Options Assessed



6.2 Short List Assessment

Table 11 summarises the two options assessed to extend CVL.

Table 11: Summary of MCA Scoring

Criteria	Option 5A	Option 5B
Efficient and Reliable Journeys	1 Likely to deliver modest benefits to travel time and reliability.	2 Offers additional capacity over 5a, likely to be able to operate at a higher speed.
Housing Growth	0 The CVL corridor options south of Whites Line serve primarily business and industrial land with very little potential for housing growth. In addition, the areas that are zoned residential are at high risk of climate impacts, flooding etc, which is likely to limit development potential.	1
Resilience	0 In a vulnerable part of the Hutt Valley, but this is the status quo.	1 Route creates an additional transport link and uses a corridor that is outside of the identified Tsunami evacuation zone, therefore provides better coastal resilience.
HCC Objectives	1 Provides access to the CVL alignment, however it is not on the preferred alignment as set out in the CVC PBC. It doesn't provide an alternative, resilient route in the case of an minor event.	2 Provides an alternative route option in case of a minor event. Detuning The Esplanade would be easier if 5b went ahead.
Mana Whenua Values	-1 Noting the historical significance of the Seaview area – alignment will run alongside Waiwhetu Pā and Owhiti Urupa The alignment crosses Waiwhetu and Te Awamutu Stream but does not appear to propose any major works at those areas. The alignment runs along Randwick Road where Te Kakano o te Aroha Marae is located.	-2 Noting the historical significance of the Seaview area – alignment avoids the locations of Waiwhetu Pā and Owhiti Urupa A new bridge is proposed over Waiwhetu Stream. Culverting is proposed along Te Awamutu Stream
Landscape	0 Assigned a neutral score because it entails small changes to the status quo. It is consistent with the existing urban form and the minor works within the road reserve will have little adverse effects.	1 While 5B would necessarily have adverse effects – especially disruption to existing residential properties – it is a good alignment for a road serving the Seaview industrial area and would have benefits for the wider area.

Criteria	Option 5A	Option 5B
Terrestrial Ecology	0 Entirely within the road reserve so no effects on terrestrial values other than potential street tree trimming if required.	-1 Individual tree removal (approx. 15) within Hutt Park and small areas of rank grass and shrubs removal on the margins of the unnamed tributary at York Street and Waiwhetu Stream. This small-scale vegetation removal will potentially result in short term impact on common native bird roosting habitat which is confined to small discrete areas and able to be managed.
Aquatic Ecology	0 Entirely within the road reserve so no effects on streams other than as potential receiving environments for construction related discharges.	-1 Culvert works over unnamed tributary of Te Awa Kairangi, new bridge over Te Awa Kairangi with piers in river/floodplain and within the potential inanga spawning zone, new bridge over Waiwhetu Stream, new culvert on Waiwhetu Stream at York St.
Local Network	-1 Less preferred as this is an existing busy corridor, and local access to the corridor may become more difficult, particularly with the connection of CVL to the north and likely increase in traffic on the corridor.	1 Option creates a new north-south route in the network, and will reduce pressure on Randwick Road and Seaview Road, which are already busy routes carrying over 20,000 vehicles per day.
Social Impact	0 No social changes anticipated as this is in the existing corridor.	-2 New alignment with impacts on existing community, including housing, facilities, i.e. camp ground and driving range. Not a -3 as there's no major community or recreation facilities.
Property	0 Within existing road reserve	-3 Impacts on private property and KiwiRail land
Archaeology and Built Heritage	0 There are sites in the vicinity, so extending outside the road reserve may become problematic.	0 There are sites in the vicinity, so this alignment may become problematic.
Construction Disruption	-2 Both options will be similarly disruptive in scale. 5a is "online" and will require significant traffic management to construct the changes. 5b will likely be disruptive	-2

Criteria	Option 5A	Option 5B
	to KiwiRail operations/ infrastructure.	
Statutory Alignment	0	-3
	Status Quo	On land that's designated for rail purposes, where KiwiRail has the presumption of use, and removes KiwiRail's ability to use the corridor in future.
Cost - Rank	1	2
VfM – Rank	1	2
Decision	Emerging Preferred	Discounted

6.3 CVL Extension: Emerging Preferred

Table 12 below provides a summary of the scores for the CVL extension.

Table 12: MCA Scoring Summary Table

Criteria	Option 5A	Option 5B
Efficient and Reliable Journeys	1	2
Housing Growth	0	1
Resilience	0	1
HCC Objectives	1	2
Mana Whenua Values	-1	-2
Landscape	0	1
Terrestrial Ecology	0	-1
Aquatic Ecology	0	-1
Local Network	-1	1
Social Impact	0	-2
Property	0	-3
Archaeology and Built Heritage	0	0
Construction Disruption	-2	-2
Statutory Alignment	0	-3
Cost - Rank	1	2
VfM – Rank	1	2
Decision	Emerging Preferred	Discounted

Option 5A scores slightly lower than Option 5B on the measure of “efficient and reliable journeys”, but still performs well, and is expected to meet 2053 demand without significant congestion. The option supports the Minimum Viable Product (MVP) strategy, making best use of existing assets, delivering on agreed objectives and scope, and offering strong benefits. It is also favoured or considered neutral by several specialist areas, including housing growth, ecology, property, and statutory alignment. While it does not provide an additional route like Option 5B, modelling indicates that an extra corridor is not needed by 2033. However, it is in a higher-risk hazard area.

Option 5B offers a new corridor with additional capacity and some resilience benefits, being outside key hazard zones. Despite this, it faces major feasibility issues, such as encroachment on a KiwiRail designation and property implications. The main trade-off is between providing a more resilient route and meeting project needs efficiently. Given there is limited evidence for a new additional corridor and considering specialist feedback and alignment with project goals, **Option 5A is the emerging preferred option**. It is noted that should there be changes in the future, Option 5B is not precluded by choosing Option 5A.

7 Emerging Preferred – Full Corridor

The CVL corridor starts from the P2G/ Hutt Road (Udy Street) intersection and makes use of an upgraded Hutt Road and Hutt Road/ Wakefield Street intersection. It then uses an upgraded Wakefield Street alignment. This alignment will provide one lane in each direction for general traffic, a wide flush median, and walking and cycling facilities. The exact form will be determined at the next stage of design.

At the Hutt River, a new bridge connects Wakefield Street to Whites Line West. Whites Line West is also upgraded within the existing road corridor, before connecting to the Randwick Road intersection. The Randwick Road intersection will also be upgraded.

South of the Randwick Road intersection with Whites Line East/ West, the road will be upgraded within the existing road reserve as far as Seaview/ Gracefield.

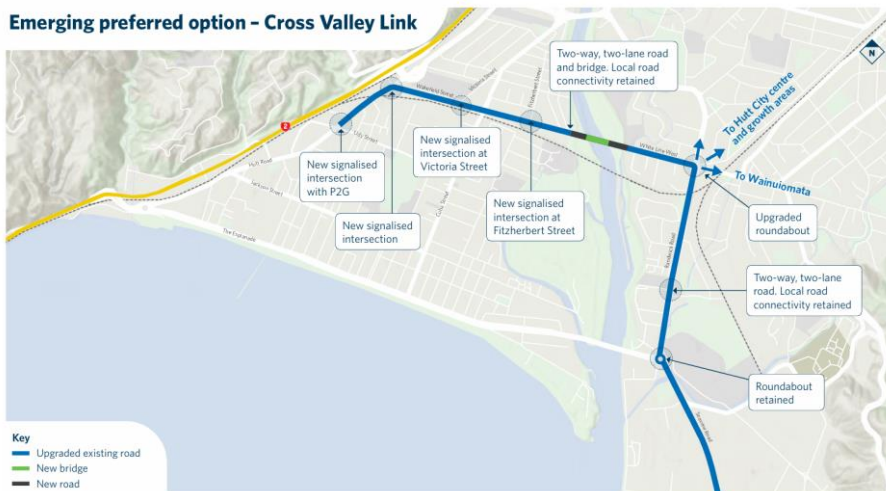
7.1 Intersections along the Corridor

Following the identification of the emerging preferred corridor, consideration was given to the intersections along the corridor, and it was identified that some intersections would need to be upgraded to traffic signals in order to accommodate the expected traffic volumes.

The proposed bridge and connection into Randwick Road will require the reconfiguration and potential closure of the intersections of Tama Street, Mudie Street, and Trevithick Grove, with alternative access provided elsewhere in the nearby local network. The specific design of these changes will be determined at the next stage of the project.

The emerging preferred option is shown below in Figure 7-1.

Figure 7-1: Emerging Preferred Option for CVL





8 Appendix A: Specialist Reports



This report has been prepared for the exclusive use of our client Waka Kotahi - NZ Transport Agency, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Report prepared by:

Report reviewed by:

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Name here
Title here

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Name here
Title here

Authorised for Tonkin & Taylor Ltd by:

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Name here
Title here



APPENDIX A: Enter Text Here

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8.1 Appendix Heading 3

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