

In confidence

Draft strategic recovery framework: endorsement and next steps

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Whāinga | Purpose: For endorsement

This paper seeks endorsement of the draft Strategic Recovery Framework and approval to discuss the framework with our partners, including iwi, hapū, local government, key central government agencies, freight and infrastructure providers.

He kupu whakatau | Recommendations

Management recommends the Board:

- **Endorses** the draft Strategic Recovery Framework (“the Framework”) for further development
- **Approves** discussing the Framework with our partners
- **Notes** that a final version of the Framework will be put to the Board for endorsement once feedback from our partners has been incorporated
- **Notes** the Framework is being used in strategic resilience response work and will be incorporated into future work.

Take matua | Key points

- Climate change is increasing the severity and frequency of weather events which disrupt the transport network. Combined with other natural hazards our challenge will keep growing.
- More and more disruptions are either very significant themselves, or part of an ongoing systemic issue creating repeated disruptions. Our current approach for restoring ‘like for like’ is unsustainable and needs a more consistent approach to decision-making.
- In March we provided the Board with our initial thinking about a framework to guide our approach to recovery. We have further developed the framework and applied it to the Tairāwhiti-Wairoa Strategic Resilience Response and others underway.
- The Framework has proven useful and to finalise it we would like to:
 - discuss the Framework with our partners and incorporate their feedback
 - strengthen and widen the evidence used to support the Framework process
 - investigate how the Framework could be proactively applied to provide direction.
- This paper is being presented alongside the Tairāwhiti-Wairoa Strategic Resilience Response and the update on the Marlborough Sounds Future Access Programme Business Case.

He kōrero mō tēnei kaupapa | Background

In early 2023 severe weather and cyclones Hale and Gabrielle caused extensive disruption to the land transport system across Aotearoa. Some links were severed entirely (State Highway 25A and State Highway 2 at the Devil's Elbow), bridges were destroyed, and communities were cut off.

Our current focus on restoring 'like-for-like' in the event of network damage and disruption, is increasingly unsustainable. It does not provide certainty for the community, or necessary guidance to inform consistent and robust decision-making that reflects the longer-term outcomes government is seeking to achieve from transport investment.

Response to disruption on the network requires quick action to restore access to communities, as safely and as swiftly as possible. Over the longer recovery phase, a more strategic response is required to ensure that appropriate recovery decisions are being made. These decisions need to be made with our communities ahead of time, wherever possible.

Funding for recovery will likely come from both the National Land Transport Fund and other Crown sources like the Transport Resilience Fund. It is important that Waka Kotahi applies a robust approach to ensuring national consistency and appropriate apportionment of funding across Aotearoa, on both state highways and local roads as Cabinet decisions are informed by Waka Kotahi recommendations and advice.

Kia mōhio mai koe | What you need to know

We have been developing a Strategic Recovery Framework

The Framework will guide Waka Kotahi's forward commitment to communities and recovery approach when there are major disruptions on the network, to:

- support Waka Kotahi to make consistent and appropriate decisions on recovering from major disruptions (including through the business case approach), ensuring consistent advice to the Board, Ministers and Cabinet as appropriate
- enable recovery from major disruptions to include improvements to parts of the network to improve resilience
- make a contribution towards a more resilient network (in conjunction with other work like resilience programme business cases and other planning).

The Framework acknowledges that there are several recovery options after disruption, ranging from not restoring a connection or providing a lower level of service to restoring a connection with an improved level of service and resilience.

The Framework has been tested and developed through the Tairāwhiti-Wairoa Strategic Resilience Response and is being applied to the other strategic resilience response work underway, noting that it is still in a draft stage.

Through this work the framework has been discussed with local government¹ and ongoing updates have been provided to all Iwi². As iwi are balancing a range of priorities, to date this has been limited to email updates. The Tairāwhiti-Wairoa Strategic Resilience Response project has had some initial informal hui with Ngāi Tūhoe, Ngati Pahauwera and Tātau Tātau o Te Wairoa.

Currently the framework is focused on access. As we finalise the framework and discuss with partners we will look to include wider outcomes, including safety, using other modes like rail and coastal shipping or minimising the need to travel through digitisation.

The framework aligns with our strategic direction

Taking a strategic approach to recovery and improving resilience across the network fits with established strategic direction for the land transport system and Aotearoa, including:

- Emerging climate change direction on resilience and mitigation from the draft GPS 2024-27
- The Climate Change Adaptation Act as part of Resource Management Act reform
- Aotearoa New Zealand's National Adaptation Action Plan actions to integrate adaptation into Waka Kotahi decision-making
- Waka Kotahi's contribution to the Resilience and Security outcome as part of the Transport Outcomes Framework
- Arataki National Direction to build resilient communities by including climate adaptation in national and regional transport planning
- Tiro Rangi: our climate adaptation plan 2022–24 actions to embed climate adaptation.

The Framework aligns with the Avoid-Protect-Accommodate-Retreat framework in both the National Adaptation Plan and Tiro Rangi and provides a pathway for integrated decision making.

The Framework complements rather than replaces other Waka Kotahi work including the Resilience Framework and Resilience Programme Business Cases, which will continue to be required to assess risks on the network and responses to them. The Framework will add value by helping plan in advance and integrate resilience improvements during the recovery phase post-disruption.

How we use the Framework

The framework is intended to be used to guide decision-making:

- with communities ahead of major events as part of strategic planning exercises
- during the recovery phase post-disruption
- for large scale disruptions to the network, where disruption and damage are widespread (e.g. Tairāwhiti-Wairoa after cyclone Gabrielle)
- where repeated disruption to corridors is occurring (e.g. Mangamuka Gorge, Brynderwyn Hills).

The Framework is not intended to be used for small scale disruptions that can be resolved through existing process including maintenance, operations and emergency response.

¹ Gisborne District Council, Wairoa District Council, Napier City Council, Central Hawkes Bay District Council, Hastings District Council and Hawkes Bay Regional Council.

² Ngati Porou – Te Runanganui o Ngati Porou, Te Whanau a Apanui, Rongowhakaata, Ngai Tāmanuhiri, Maungaharuru – Tangitū Trust (Hawke's Bay), Ngati Pahauwera, Ngati Kahungunu, Te tai Tokerau, Kawaka, Ngatokorua Miratana- Te Puni Kokiri

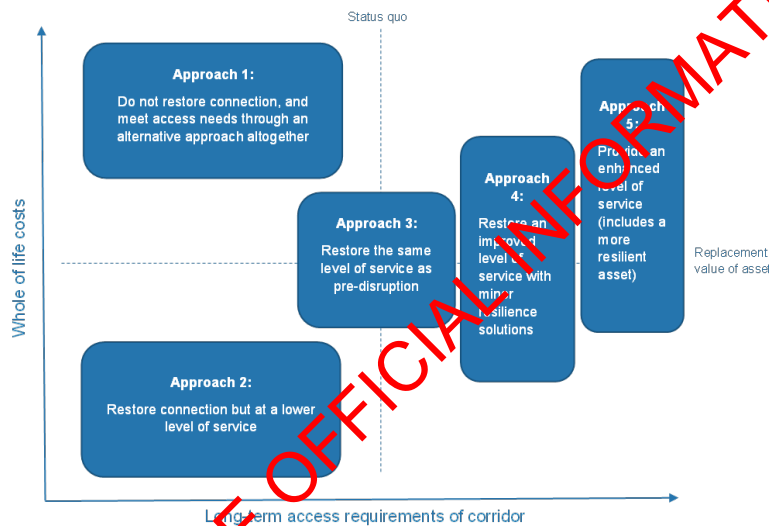
The framework builds on the approach we previously discussed with the Board

The Framework is based on five approaches (for more detail see Attachment 1).

Each approach represents a different position on two spectrums – whole of life costs and long-term access requirements of a corridor (see Figure 1). Recovery options need to balance these two spectrums. The status quo line describes change from current state, with reduced access from current (pre-disruption) situation on the left and improved access on the right. The framework does not determine what a desired level of service for a connection might be but helps guide recovery decisions to strike an appropriate balance.

Our first discussion with the Board included only four approaches. We have since added an extra approach, to reflect that the option to restore an improved level of service and incorporate some resilience solutions (approach 4), without needing to shift to a significant upgrade (approach 5).

Figure 1: Draft strategic recovery framework - concept

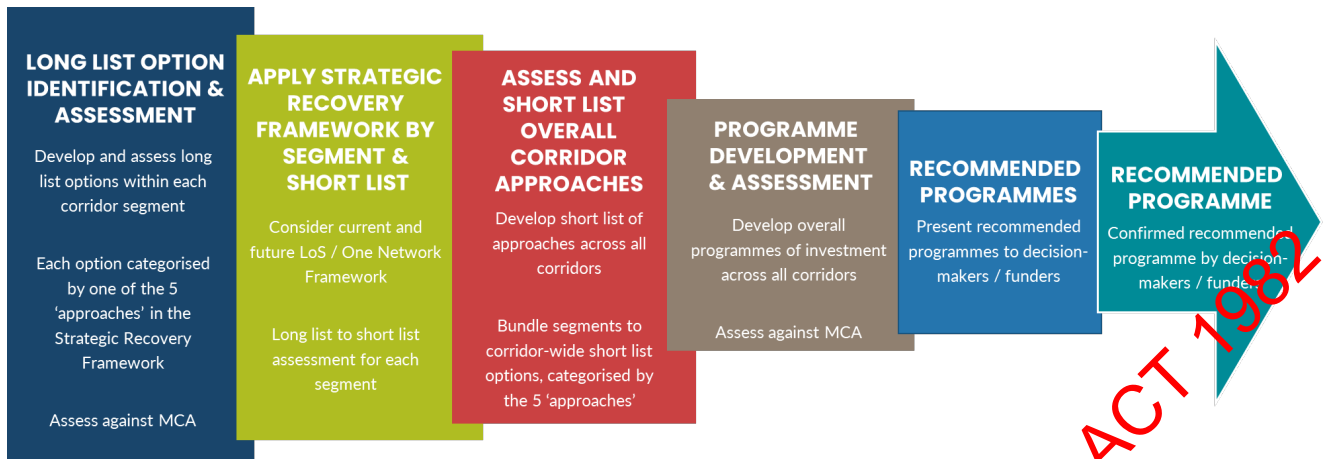


We have tested the framework with our partners in Tairāwhiti-Wairoa as part of the strategic resilience response

The Framework is intended to be used in strategic planning processes and in conjunction with the business case process. The Tairāwhiti-Wairoa work presented alongside this paper demonstrates the application of the Framework, following the process outlined below (Figure 2). Refer Attachment 1 for more detail on the process used to apply the framework.

Our partners in Tairāwhiti-Wairoa found the Framework was useful for understanding the levels of service possible through each approach. The Framework also helped frame conversation about the scale of damage and the costs to repair and helped manage expectations about improved levels of service across the network. Input from our partners helped shape the strategic importance of each segment of the network, that informed selection of the right approach.

Figure 2 application of the framework in the business case approach



The Framework can be improved with additional evidence

A key function of the Framework is the assessment of strategic significance, access and risks. Application of the framework in Tairāwhiti-Wairoa Strategic Resilience Response used a high-low assessment scale. These criteria were based on the evidence available at that time to progress the work over a short timeframe. We would like to improve the evidence supporting these criteria, including:

- improved level of service information (likely from the One Network Framework)
- improved evidence for equity considerations
- improved assessments of risks and their associated costs to manage
- a greater understanding of community aspirations.

We anticipate that this additional evidence will use existing sources and can be added to as new evidence becomes available.

We would like to proactively apply the framework to parts of the network

The Framework is currently being used in conjunction with the business case process after disruptions. However, it would also be useful to apply the Framework proactively across the network to:

- demonstrate where we anticipate needing to apply Avoid-Protect-Accommodate-Retreat
- understand long-term community aspirations
- provide more certainty for communities about likely recovery approaches if there was disruption on the network
- improve our preparation for potential disruptions by “front footing” recovery approaches
- better connect recovery and resilience planning.

Integrating the Framework into a long-term system plan such as Arataki: our 30 year-plan could be a good fit to ensure sector direction is provided on applying the Framework both nationally and regionally. A first step could be to demonstrate the application to the Arataki Strategic Network. The focus would be on the sections of the network that are most vulnerable as identified by the Resilience Programme Business Case. In time the Framework could be applied to the whole state highway network.

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Housing the proactive approach in Arataki would also allow Waka Kotahi to take a multi-outcome approach and reflect long term community aspirations (like economic development and supporting new industries) in planning how the approaches could be applied to parts of the network.

Proactively applying the framework is especially important for Approach 1

Decisions made under Approach 1 are related to whether a connection is restored (e.g. walking away from the corridor), or replaced with an alternative like coastal shipping for freight. Approach 1 should also be included as part of wider discussions around managed retreat. These decisions need to be made in collaboration with communities and would likely require ministerial and Cabinet decisions.

Abandoning a part of the network will be disruptive for communities that rely on it. Approach 1 should be:

- used only after appropriate consultation and engagement with communities and, where possible, not used while communities are dealing with the immediate response and recovery phases post-disruption
- used only after appropriate consideration of the impacts of loss of access
- discussed as an option when applying the framework proactively in partnership with communities.

We would like to discuss and test the framework with partners

The Framework has been tested with our partners in the Tairāwhiti-Wairoa Strategic Resilience Response project, and with the other resilience response work underway in Hawke's Bay, Hauraki Coromandel and Whangārei to Dome Valley, but has not been widely discussed with other partners. This is an important next step finalise the Framework. We anticipate discussing the Framework with:

- local government, particularly in impacted areas
- Iwi and hapū
- KiwiRail
- Ministry of Transport (wider than the cyclone recovery functional teams)
- Ministry for the Environment (climate adaptation and managed retreat)
- Te Waihangā New Zealand Infrastructure Commission
- freight operators
- lifeline utility operators (electricity, water and communications)

It is important that approaches to recovery are consistent across the land transport sector, utilities provision and land use planning, and we need to incorporate external perspectives as we finalise the framework. We would like to collaborate and co-develop the framework as much as possible to take consistent approaches. This is particularly important for applying Avoid-Protect-Accommodate-Retreat.

He whakaaro anō | Other key considerations

Tiro rangi me te taiao | Environmental & climate change considerations

Climate change is expected to increase the frequency and severity of disruption on the network. Having a consistent and proactive approach is needed.

The National Adaptation Plan recommends using the Avoid-Protect-Accommodate-Retreat approach to adapt to climate change. The Strategic Recovery Framework aligns with this approach and maps these to each of its responses. The Framework will also help progress actions in Tiro Rangi.

Approaches 4 and especially 5 in the Framework will provide improved levels of service on the network. It is noted that decisions made under these approaches could generate additional vehicle kilometres travelled and therefore additional emissions, however these are likely to be minimal increases and may be offset by improvements made towards longer terms outcomes including safety and resilience.

Ō tātou hononga | Partner, community and stakeholder considerations

Many communities have been significantly disrupted by severe weather and these impacts will continue to be felt for some time. Reduced access is having significant impacts on people, resulting in disconnection from whānau, reduced access to healthcare, work and education.

Many communities rely on single connections, and disruption on these has meant that some communities were cut off, requiring long detours through temporary forestry roads (State Highway 35), and helicopter shuttles of food and supplies (State Highway 2 - Wairoa). Waka Kotahi needs to be aware of and receptive to these concerns when discussing recovery options.

Irrespective of whether the Framework is being applied proactively, or in the recovery phase after disruption, strong community input and engagement is needed to determine the right approach. A collaborative approach should be used at a minimum, aiming to co-design the approach. This would allow better integration community aspirations and support outcomes like economic prosperity. Each community will weigh these considerations differently. Some communities may wish to prioritise access over level of service or may want to see faster adaptation to risks, while others may wish to prioritise equity.

It is likely that communities will expect that we jump straight to providing improved levels of service. This was anticipated in Tairāwhiti-Wairoa. The team found that, once the application of the approaches was discussed, it was clear that access provision on all corridors is considered more important.

Applying approach one would not reinstate parts of the network after disruption. Decisions to not restore a connection would be made in conjunction with local government, communities, and Iwi. Additionally, the current cyclone recovery process includes ministers and cabinet in these decisions.

Applying approach two would restore connections to a lower level of service. This could mean one-lane bridges, one-lane sections, or temporary closures. This reduced level of service could be disruptive for communities but aims to provide access in a cost-effective way given low demand.

Applying approaches three and four would restore connections and provide some existing resilience controls. These approaches will maintain and improve the status quo on parts of the network. These may fall short of community expectations but are designed to balance level of service, cost and would not replace other planned improvement works.

There has been some targeted discussion about the framework with our partners in the Tairāwhiti-Wairoa Strategic Resilience Response project. The framework has not been widely discussed with our partners in local government or with KiwiRail and other commercial freight operators. This is an important next step to complete the framework.

Ngā tūraru matua | Key risks and how we will manage them

Key risk	Management
Discussing the framework with our partners	We have been sharing the Framework with partners in regions where Strategic Resilience Response work is underway. We propose to extend this more widely.
Community reaction to changing levels of service	Decisions about not restoring a connection would be made in partnership and in advance of communities being under strain wherever possible. Reduced levels of service will need to balance access and resilience.
Communities struggling with recovery	Waka Kotahi will continue to use a proactive and supportive approach to working with communities.

Ā muri ake nei | Next steps

Finalising the Framework is anticipated to take 2-3 months. This will allow us to discuss more widely with partners, incorporate additional evidence and test the Framework more fully through the other strategic resilience response work. We will seek Board endorsement when the framework is finalised. This timeframe will allow the Framework to inform the next NLTP process from August 2024.

Developing the evidence to support criteria

To improve the Framework, more evidence is needed to support the assessments of whole of life costs and long-term access requirements of the corridor. We would also like to develop a measure of equity to support this work. Some of this evidence will be available soon, (levels of service from one network framework) while some of it will need to be sourced and developed. We will confirm these requirements and their timeframes but it is likely to take 2-3 months to complete this work.

Discuss the draft framework with our partners

We have not discussed the Framework widely with our partners beyond Tairāwhiti-Wairoa. We will continue to discuss the Framework through the strategic resilience response work underway, but we would like the Board to approve wider discussions of the framework so we can progress this with other partners. It is likely to take 2-3 months to complete this work and incorporate feedback.

Develop a way to progress the proactive approach

We will scope how a proactive application of the Framework could be delivered, including how this could be staged. We think this work will take a while to deliver across the whole state highway network (at least a year) but we could deliver it in stages.

Incorporate into Arataki

The finalised strategic framework will be incorporated into the next major update of Arataki, anticipated in October 2024. The proactive approach could also be included in Arataki, but this will not be ready for the next major release of Arataki. We will confirm timeframes as part of the scoping above.

Ngā whakapiringa | Attachments

Attachment 1

Draft Strategic Recovery Framework

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Figure 1: Draft Strategic Recovery Framework: Process

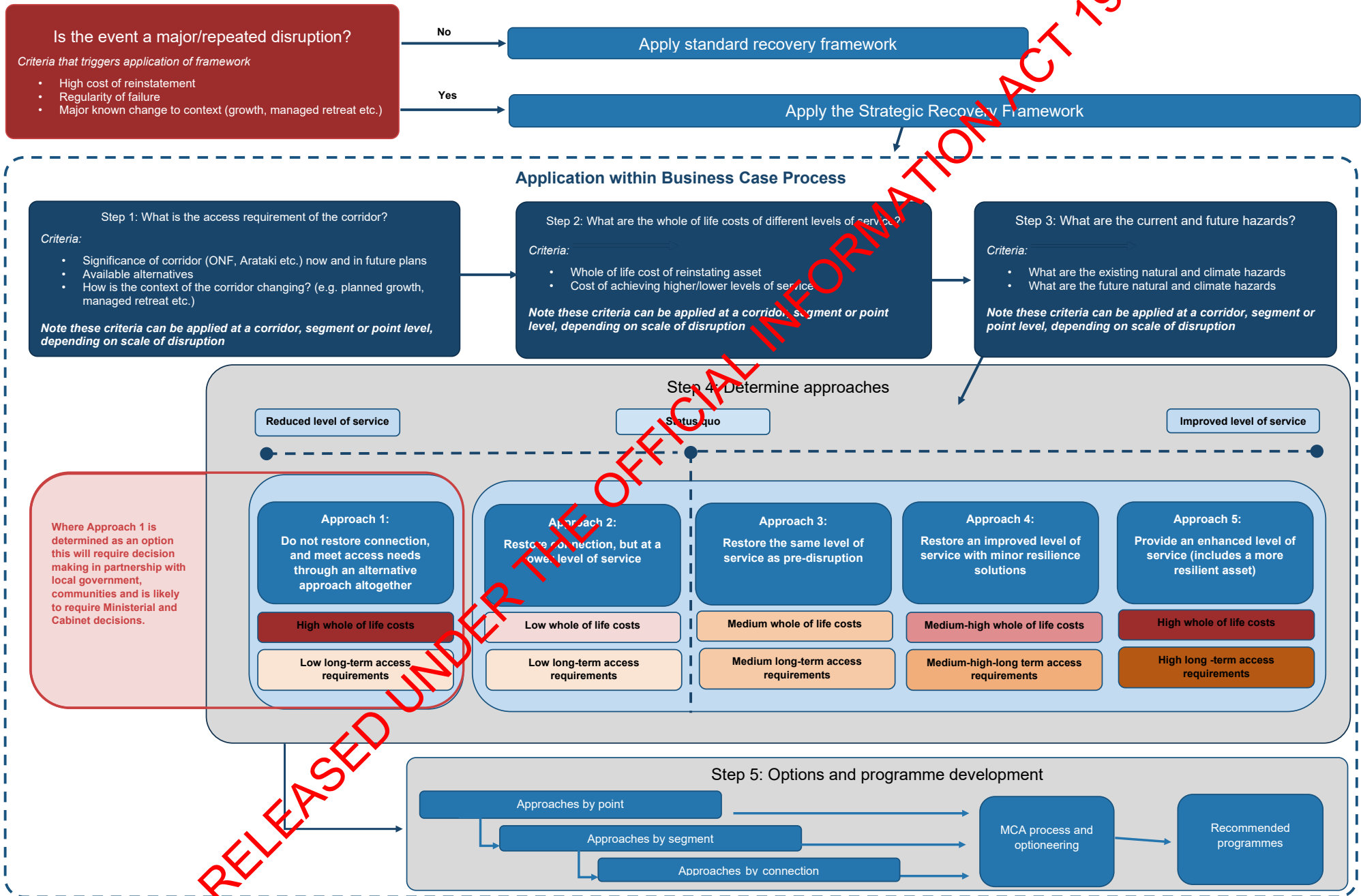


Table 1: Draft Strategic Recovery Framework: Approaches

DRAFT STRATEGIC RECOVERY FRAMEWORK - APPROACHES					
APPROACH	Approach 1: Do not restore connection and meet access needs through a different solution altogether	Approach 2: Restore connection, but at a lower level of service	Approach 3: Restore the same level of service as pre-disruption	Approach 4: Restore an improved level of service with minor resilience solutions	Approach 5: Provide an enhanced level of service (includes a more resilient asset)
Adaption response	<i>Retreat</i>	<i>Accommodate</i>	<i>Accommodate</i>	<i>Protect</i>	<i>Protect Retreat (for new alignments)</i>
Key action	<i>Leave the connection and find an alternative (where possible)</i>	<i>Reinstate a reduced level of service</i>	<i>Reinstate to similar pre-disruption level of service</i>	<i>Reinstate to future design life</i>	<i>Substantial improvement in level of service</i>
Level of service	Reduced compared to current and potentially met through alternate options	Reduced compared to current, and long-term deficiencies remain.	Similar to previous, and long-term deficiencies remain.	Improved but this may only be an incremental improvement or be at only a few points	Significantly improved, resolving significant point issues and along segments of the network.
Waka Kotahi role and approach	<p>Decisions on managed retreat from communities are not led by Waka Kotahi and would need to be made in partnership with communities, local and central government.</p> <p>Decisions around managed retreat from the state highway network would be led by Waka Kotahi in partnership with local government and communities.</p> <p>local authorities would need to be engaged if alternative access were provided over local roads.</p>	<p>Under this approach the connection is restored to a lower level of service. This includes small responses that focus on restoring access for communities.</p> <p>A lower level of service could be provided, including 1 lane sections, 1 lane bridges or restricted opening times.</p> <p>Service levels for freight could be reduced (e.g. Essential lifeline freight only) in order to provide access for communities. Where possible freight could shift onto rail or coastal shipping.</p> <p>This means that existing resilience issues on the connection remain and get worse over time.</p>	<p>Under this approach the connection is restored to the pre-disruption level of service, however existing issues on the connection are not substantially dealt with.</p> <p>The impact is that these issues remain on the connection. For instance, a slip prone section would have the slip cleared and existing treatments replaced, but not enhanced.</p> <p>This means that existing resilience issues on the connection remain and get worse over time.</p>	<p>Under this approach the connection is restored to the pre-disruption level of service, and some existing issues are dealt with on a moderate scale.</p> <p>Doing this means that issues on the connection are resolved with enhancements to improve resilience on the connection at specific points. For instance, a slip prone section would have the slip cleared and existing treatments enhanced.</p> <p>This means that some existing resilience issues on the connection are improved, but these are likely to be small scale issues at certain points rather than connection scale issues</p>	<p>Under this approach the connection is substantially improved to resolve existing issues and those arising from disruption.</p> <p>Substantial improvements to connections mean that they could have significant resilience upgrades on existing alignments or be realigned and replaced entirely.</p> <p>This means that existing resilience issues on the connection are improved with significant improvement on connection scale issues. This might require new connections on new alignments.</p>
Use of Alternate routes/modes	<ul style="list-style-type: none"> Significant shift to other connections including local roads, which may need upgrading Shifting the freight task to rail and/or coastal shipping High reliance on alternate routes 	<ul style="list-style-type: none"> Moderate shift to other connections including local roads, which may need upgrading Shifting non-essential freight task to rail and/or coastal shipping High reliance on alternate routes (especially during disruption) 	<ul style="list-style-type: none"> Some shift to other connections including local roads Similar level of service for freight The same reliance on alternate routes (especially during disruption) 	<ul style="list-style-type: none"> No shift to other connections including local roads Moderately improved level of service for freight Slightly reduced reliance on alternate routes (especially during disruption) 	<ul style="list-style-type: none"> No shift to other connections including local roads Significantly improved level of service for freight Reduced reliance on alternate routes where realignment has happened
Decision making partners	The decision to remove service from a community would likely require wider decision making including from Ministers, based on advice from Waka Kotahi.	Waka Kotahi in partnership with: <ul style="list-style-type: none"> Local government Impacted communities Iwi KiwiRail Lifeline utility providers 	Waka Kotahi in partnership with: <ul style="list-style-type: none"> Local government Impacted communities Iwi KiwiRail 	Waka Kotahi in partnership with: <ul style="list-style-type: none"> Local government Impacted communities Iwi KiwiRail 	Waka Kotahi in partnership with: <ul style="list-style-type: none"> Local government Impacted communities Iwi KiwiRail Lifeline utility providers
Solutions	<p>No solution</p> <p>Note: Must be combined with strategic land use decisions around managed retreat</p> <ul style="list-style-type: none"> Retreat from corridor Non-infrastructure alternatives Moving freight onto coastal shipping and/or rail Upgrading local roads to provide improved level of service 	<p>Example 'Quick' solutions</p> <ul style="list-style-type: none"> Low cost / low risk projects (<\$2m) Emergency works Reduced maintenance Operational controls Emergency planning Daytime openings 	<p>Example 'Moderate' solutions (also includes quick solutions)</p> <ul style="list-style-type: none"> Rockfall protection mesh Rock anchors Rockfall catch fences Green engineering solutions – planting / slope system stabilisation / living walls Improved localised drainage Proactive maintenance - tree removal, culvert clearing Living shorelines and coastal nature-based solutions Alternative routes / Local road detour improvements e.g. sealing / signage Alternative modes for freight e.g. Coastal shipping, rail Local response teams Sea walls Additional / upgraded culverts New and strengthened retaining wall Buffers / setbacks Green engineering solutions - native reforestation 	<p>Example 'Substantial' solutions (includes moderate solutions)</p> <ul style="list-style-type: none"> Realignment / bypass Catchment flood management New inland routes / realignment so no longer exposed to coastal hazards and inundation Alternative routes/ Local road detour improvements (bridges 50MAX etc) Alternative modes for freight e.g. Coastal shipping, rail 	

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