

OUR INVESTIGATIONS AND INITIAL DESIGN CONCEPTS

We are now part way through an 18–24 month Detailed Business Case process to find the preferred alignment for the new highway. The draft preferred alignment we are sharing now represents the technically best performing option based on work across multiple fields, balancing project objectives, environmental and social impacts and ability to implement.

This process, involving our iwi and council partners, began with a long-list of options that went through a rigorous analysis comparing potential effects of different options against a range of criteria. Building on our criteria from 2018, consideration was given to a wide range of elements, including local features, archaeology, cultural and ecological values.

A short-list was then created from these outcomes across three infrastructure components: alignment, interchanges and local roads. The overall 24km alignment was divided into 10 zones for further assessment. The more detailed assessment that occurred at this stage included the following:

FIT WITH PROJECT OBJECTIVES

Safety, resilience, improved movement (people/freight), access (to communities and for multi-modal connections), reliability (efficiency & journey time)

ABILITY TO IMPLEMENT

Fit with local road system, engineering degree of difficulty, property degree of difficulty

ENVIRONMENTAL AND SOCIAL IMPACTS

Landscape and visual, ecology, heritage, archaeology, noise and vibration, productive land values, social / community / recreation, district development, engineering degree of difficulty, property degree of difficulty

THE PROJECT IS BEING DELIVERED IN STAGES:



STAGE 1

Long to short list assessment processes to identify a short list of alignments and interchange locations (COMPLETE)



STAGE 2

Short list alignment and interchange analysis through more detailed analyses with a range of specialists through workshops (COMPLETE)



STAGE 3

Engagement on draft preferred alignment, interchanges and local road options (CURRENT)



STAGE 4

Review community and stakeholder feedback from engagement period, update assessments and conduct final analysis (FUTURE)



STAGE 5

Make a decision on the preferred option that considers cost, available funding, impacts, risk, opportunities and desired outcome from iwi and key stakeholders (FUTURE)

FURTHER INVESTIGATIONS

Based on previous analysis and outcomes from the short-list, further investigations still need to be undertaken to determine the profile and footprint of the preferred alignment. As indicated, the alignment is not finalised, and the team will continue to progress design work and refine the design of the road alignment. Additional investigations that could impact on the alignment include:

- Analysing recent geotechnical works through laboratory testing. Further geotechnical testing will occur in 2021.
- Incorporating details of ground profile data from a recent drone survey.
- Developing design options for key structures on the road, such as the Ōhau and Waikawa watercourses.
- Commencing design of drainage features, such as side drains and wetlands.
- Commencing landscape and planting design options.
- Developing connections for walking and cycling paths.
- Developing individual property access from the new alignment.
- Investigating possible noise issues and mitigation options.
- In line with Waka Kotahi policy on new infrastructure, tolling of the highway will be considered.

Ō2NL COMMUNITY GROUPS

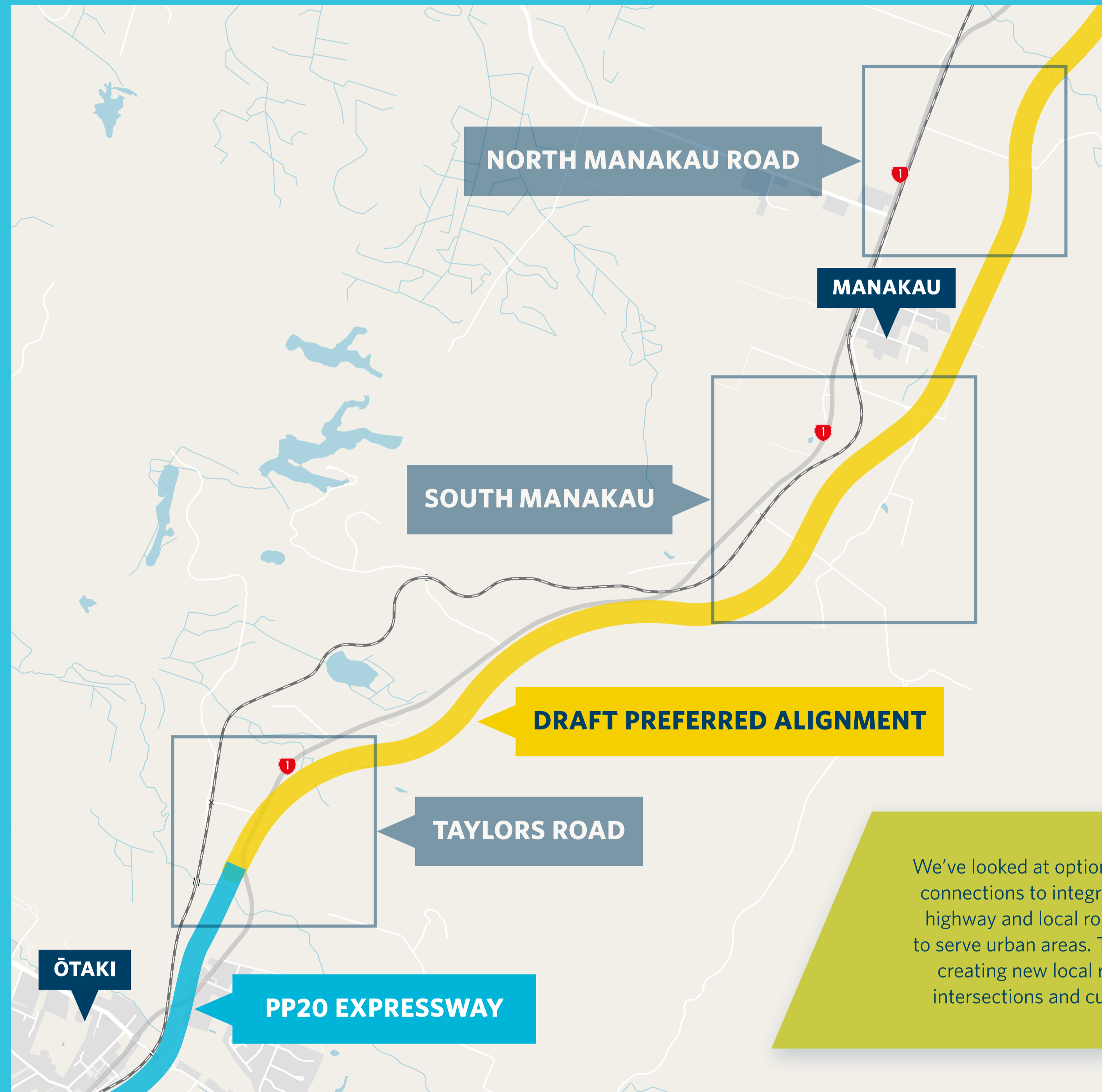
In early 2017, we asked members of the local community, iwi and relevant stakeholders to join the Ō2NL Project Reference Group to provide information and a community voice as part of the project investigation process.

Going into this next phase of the project, the Project Reference Group has been expanded to four groups to provide more locally-focused community input. The new Ō2NL Community Groups cover: Manakau, Ōhau, Levin, and North of Levin.

Groups and organisations with specific interests were invited to join a local Ō2NL Community Group, or engage as part of our wider stakeholder programme.

MANAKAU

DRAFT PREFERRED ALIGNMENT AND LOCAL ROADS



We've looked at options to provide connections to integrate the new highway and local road network to serve urban areas. This includes creating new local road links, intersections and cul-de-sacs.

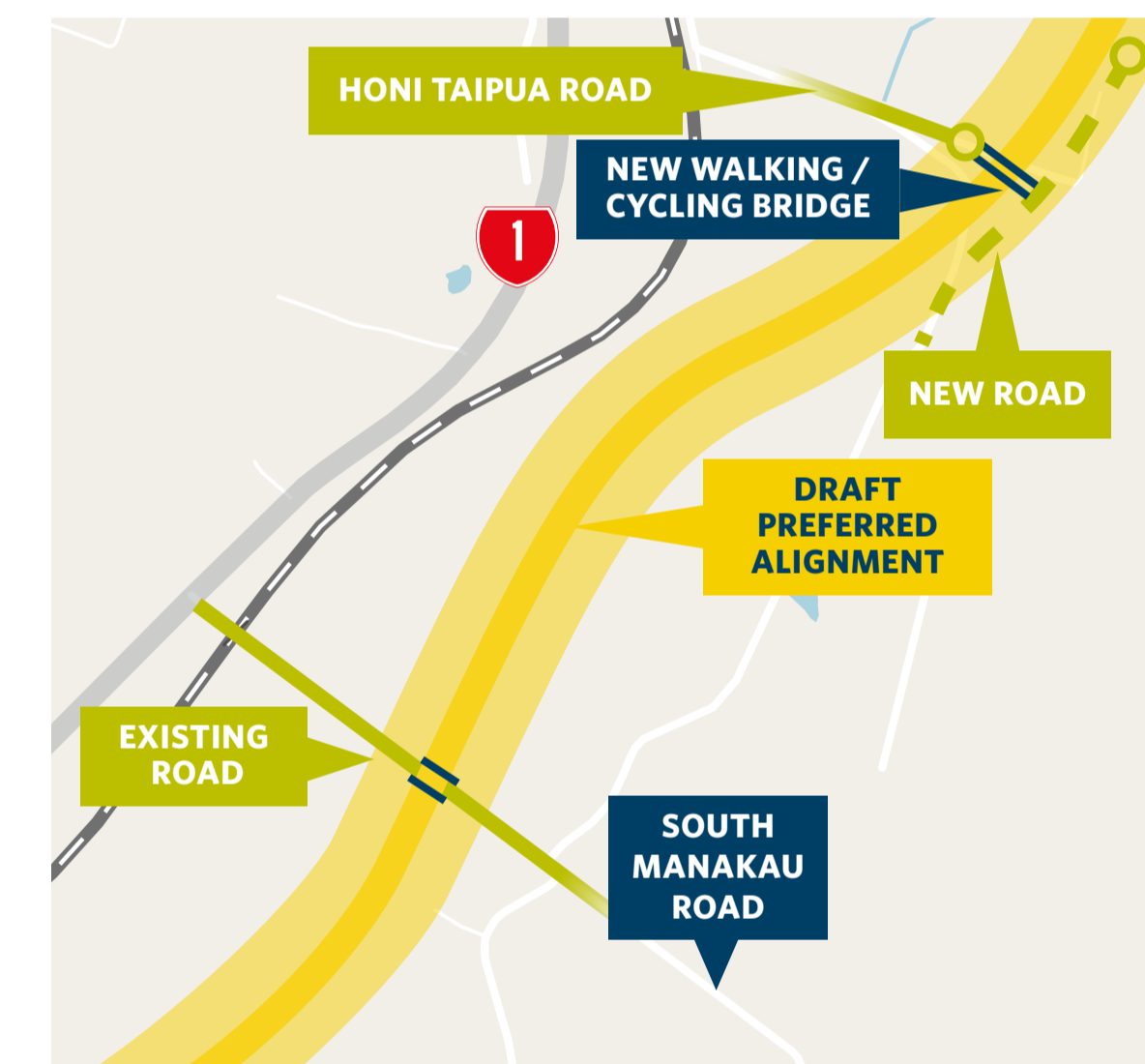
These concept sketches are indicative only and are not to scale. Design of local road connections will be progressed in coming stages of the project.

NORTH MANAKAU ROAD



North Manakau Road will remain an important east-west link when the new highway is built. Whether this connection is an underpass or overpass will be determined during the design process.

SOUTH MANAKAU



South Manakau Road is a critical link from the existing SH1 to the east. What the connection looks like - including whether South Manakau Road goes under or over the new highway - will be determined during the design process.

At Honi Taipua Street, a cycling/walking bridge is proposed to maintain a connection between Manakau and Manakau Heights in this area.

TAYLORS ROAD



Taylors Road is where the new highway will connect with the northern end of the Kāpiti Expressway.

The proposal uses the new Taylors Road connection being constructed as part of the Peka Peka to Ōtaki project. The current SH1 will be realigned and reconnected across the new highway north of Taylors Road.

ŌHAU & LEVIN SOUTH

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KIMBERLEY ROAD

There are two connection options being considered to service the Ōhau and Kimberley Road area. We are inviting community feedback for both options. Both options include a new interchange at Tararua Road which will enable east-west movements across the new highway; reconnect Muhunua East Road; disconnect McLeavey Road from Arapaepae Road in the east, but reconnect it up to Kimberley Road.



OPTION A

This option has no connection at Kimberley Road, but connections from Kimberley Road East up to Tararua Road and down to Muhunua East Road via Arapaepae Road instead. This option will require additional land purchase requirements, some of which would be outside the preferred corridor.



OPTION B

This option is a reconnection of Kimberley Road, which would enable east-west movements along this road.

KUKU EAST ROAD



The planned alignment of the new highway intersects at the western end of Kuku East Road near the existing SH1. The road will be reconnected with an underpass or overpass.

LEVIN

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QUEEN STREET EAST



Queen Street East is a critical east-west link and will be retained when the new highway is built. The design of the connection in this constrained space is yet to be progressed.

LIVERPOOL STREET



Under Horowhenua District Council's Taraika Master Plan, Liverpool Street would be extended from the current urban area over the expressway and into the new residential area. The new highway plans will be future proofed to allow the Liverpool Street to be implemented when HDC's plans are updated. The connection will be funded by HDC and is not part of the Ō2NL programme.

ŌTAKI TO NORTH OF LEVIN PROJECT



LEVIN NORTH

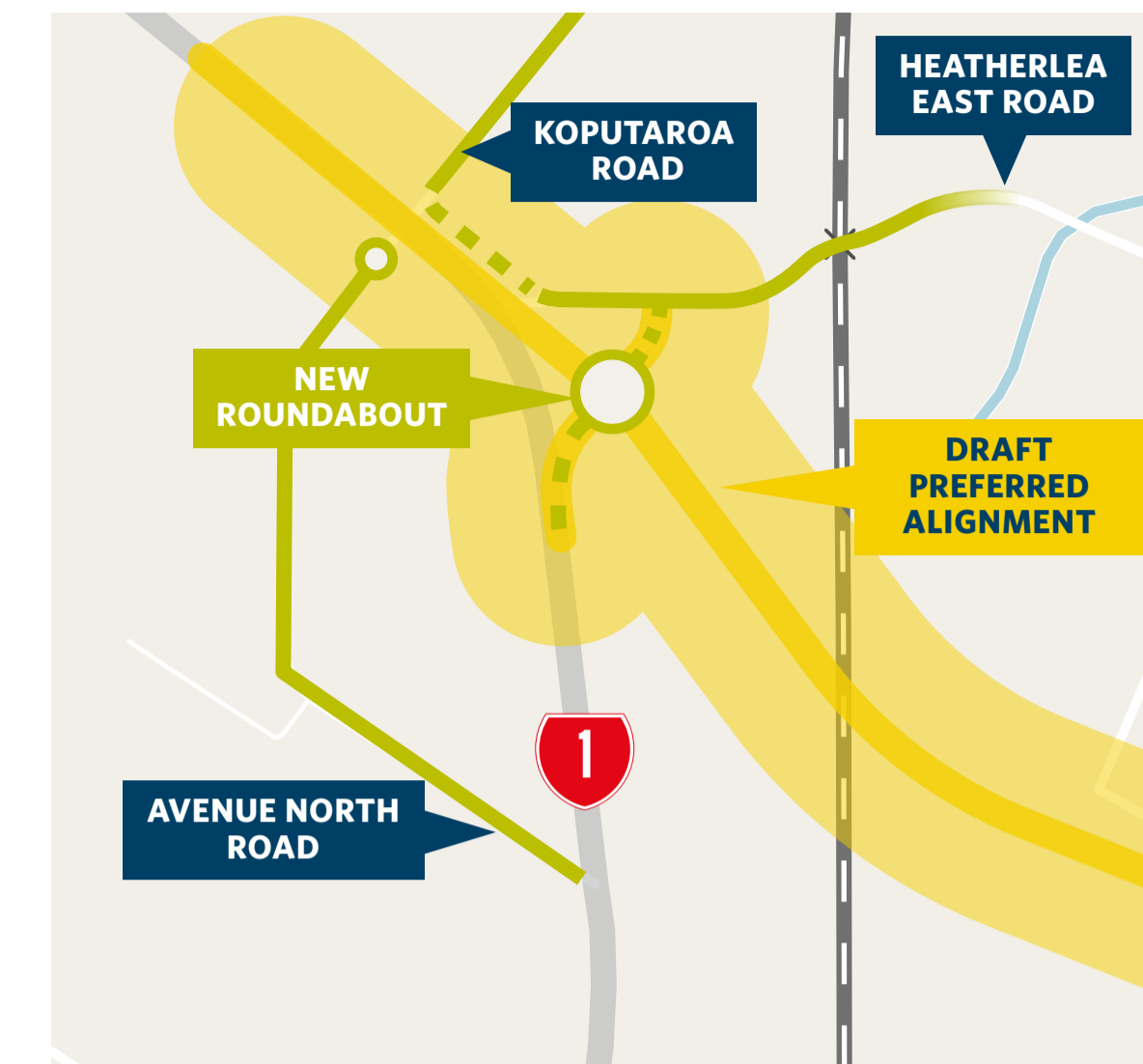
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HEATHERLEA EAST AND KOPUTAROA ROADS



At the northern end of the new highway, it is proposed that a new road will connect Koputaroa Road with Heatherlea East Road, which will connect with the new highway at the northern roundabout. Avenue North Road would only be accessible from the existing SH1 to the south.

WAIHOU AND McDONALD ROADS

There are two connection options being considered to service the Waihou Road and McDonald Road area. We are inviting community feedback on both options.



OPTION A

This option is to connect SH57 in the north, near the existing McDonald Road. This option would use a section of the existing McDonald Road and create a new road to connect to the eastern side of Waihou Road. The northern and southern stretches of Waihou Road would become short cul-de-sacs. This option would provide more direct access to SH57 for McDonald and Waihou Road residents.



OPTION B

This option is to connect Waihou Road to Queen Street East using Wakefield Road. A new road would be built at the northern end of Wakefield Road to connect it to the eastern stretch of Waihou Road. McDonald Road would connect with SH57 but not with Waihou Road. This option would provide a more direct route to Levin for Waihou Road residents.

CONNECTING THE HIGHWAY

Regional and through traffic using the new highway, will be able to connect to local roads in the area, and to State Highway 57 to Palmerston North, via interchanges or large roundabouts.

TARARUA INTERCHANGE

Highway traffic will join local road traffic at Tararua Road, where a diamond type interchange is proposed.

The final form of the interchange will be determined through the business case process. Options include a partial interchange with south access ramps or a full interchange. An example of a full diamond interchange is on the Kāpiti expressway at Waikanae, where traffic on the main highway uses ramp connections to access the local road.

SH57 ROUNDABOUT

A large roundabout is proposed to provide connections from the new highway to SH57 (Palmerston North) and to Arapaepae Road toward Levin. The roundabout would be located between Roslyn Road and Heatherlea East Road.

ROUNDABOUT AT EXISTING SH1 AND HEATHERLEA EAST ROAD

At the north of urban Levin a large roundabout will signal the end of the new highway and act as a gateway to Levin. The roundabout would connect the new highway to the existing SH1 to the north and south, and Heatherlea East Road.

MANAKAU / KUKU

Possible connection options at Manakau and Kuku were considered. At this time, demand does not support including an interchange in this area. However, we are looking into options for how we might make allowance in the design for an interchange at south Kuku at some point in the future.

DRAFT PREFERRED ALIGNMENT:



Partial 'half diamond' interchange, Waikato Expressway



Full interchange, Waikato Expressway

An interchange and roundabouts connect the new highway to local roads



Large roundabout, Tauranga Eastern Link

CONNECTING THE COMMUNITY

With the new highway attracting regional and through traffic, there will be new opportunities created for moving around the community, and your everyday journeys.

SHARED PATH FOR WALKING AND CYCLING

As part of this project, we'll create a shared path for walking and cycling. It's proposed that this path will be on the western side of the new highway with improved links to central Levin, other townships and key recreational areas.

LOCAL PROPERTY ACCESS

Some existing property accesses will need to change as part of the new road works. Many property access points will only have minor changes, while others will require new roads or rights-of-way.

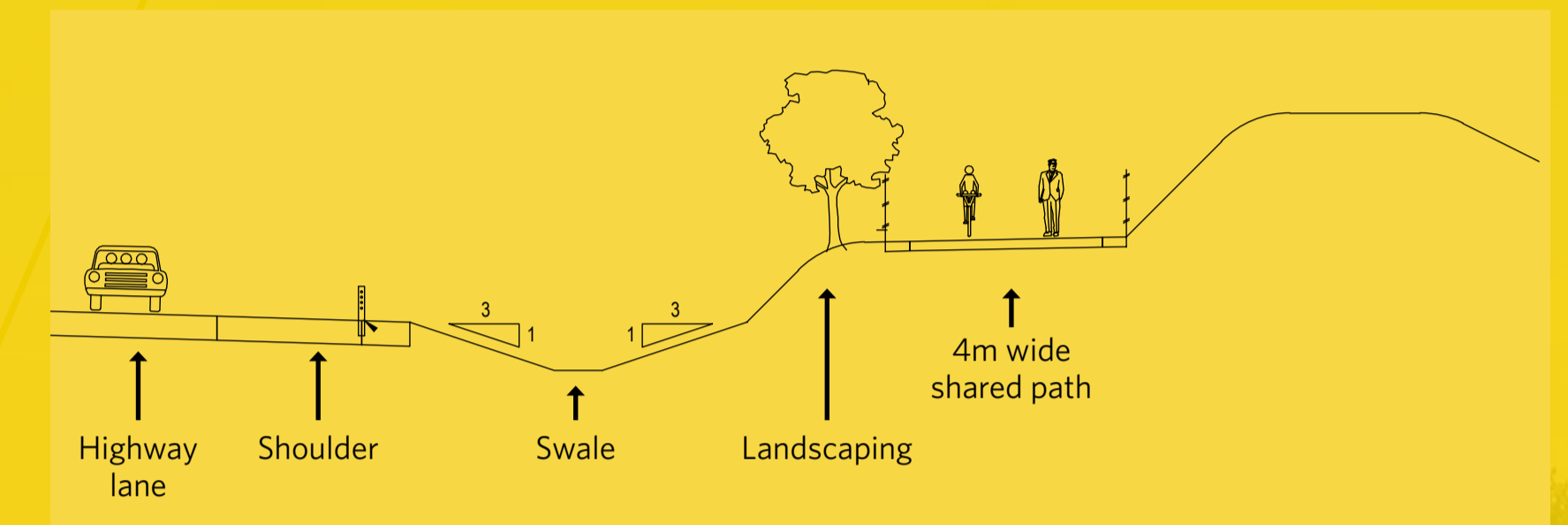
We're currently working through access for all individual properties and will discuss these ideas with individual property owners before any decisions are made. We'll let you know when this work has progressed and arrange neighbourhood meetings early next year if you wish to find out more.

LOCAL ROADS

During the investigation stage of the new highway, which has led to the draft preferred alignment, consideration was given to connection options at every local road the alignment intersects. This led to the concepts being shared with you now.

We're working closely with Horowhenua and Kāpiti Coast District Councils on local road options. Please also let us know your feedback - we'd like to hear more about how you like to walk, ride or drive around the area so this can be considered as design work is carried out.

SHARED PATH CROSS-SECTION EXAMPLE:



Work associated with the new highway will create new options for moving around your community

HAVING THE HIGHWAY AS A NEIGHBOUR

You're likely to have questions about what to expect with a new highway in your neighbourhood. Waka Kotahi aims to be a good neighbour, taking social and environmental responsibility seriously.

Construction of a roadway creates noise, vibration, dust, etc, and the opening of the new road will change the local environment. We'll be conducting investigations to understand the environmental and social effects of our work, such as possible noise or visual impact. We will consider how these can be avoided, minimised or mitigated with design elements that could include options such as planting or bunds (earth mounds).



NOISE AND VIBRATION

DURING CONSTRUCTION

As with all construction works, there will be a degree of noise as we progress the project. We expect some disruption when the project begins for a number of residents. For most people, this will be felt as an increase in trucks and vehicles delivering machinery, materials and workers to site. Some construction activities may also generate vibration such as excavation, rock breaking, piling and compaction using heavy vibrating rollers.

If there are residents or businesses likely to be significantly impacted by any upcoming works, we'll work with them directly to ensure effects are managed appropriately. A management plan for construction noise will be put together before we start building the new road, and will set out how we'll manage and mitigate noise that's generated.

WHEN THE ROAD IS OPEN

Transport noise and vibration can cause a range of impacts on people and communities including annoyance and interference with daytime activities such as work, study and domestic living.

Waka Kotahi guidelines set out how road-traffic noise is assessed and, where required, the approach for determining appropriate mitigation. We'll work with properties near the new highway as planning and design of the new highway progresses, in particular properties which are considered to be sensitive receptors - including schools, residential properties, care centres, churches.

TAKING CARE OF OUR ENVIRONMENT

New Zealand is home to a variety of indigenous animals and plants, and sometimes our state highways need to go through or near some of these areas.

While our draft preferred alignment avoids significant effects on these environments, we will unfortunately have an impact on some existing habitats (e.g. stream crossings) as part of this state highway project.

We will develop a project design that responds to the environmental context, appropriately avoiding and minimising effects of the project, and providing an ecological mitigation package to offset losses in biodiversity. We aim to achieve a net bio-diversity gain.

NEXT STEPS

We will work with our experts, other organisations and our project partners to understand the environment and how we can manage our construction work to either avoid or manage any long-term effects. We are in the process of commissioning a number of surveys to tell us what exactly is in the area and how the new road may affect the environment. Some of these surveys will focus specifically on flora, fauna and streams in the area.

We will do a detailed investigation of each area to develop our understanding of the specific ecosystems and how any effects can be avoided, minimised and/or mitigated.

HERITAGE

The land around the project area is rich in cultural history. Waka Kotahi defines a site of historical/cultural significance as a place of special importance to New Zealanders which contributes to our knowledge of the history of our country, and may or may not include physical remains of past activities and artefacts.

While we must build a new state highway through this corridor for a variety of environmental, economic and social reasons, we're committed to preserving our history in the region as best we can.

As part of our research, we have used historical plans and maps to help us identify heritage sites. Our experts will do their best to identify any heritage sites during the early stages of this project. Should there be unexpected discoveries we will follow precise procedures to identify who the correct owner of the site or artifact may be so we can work together to come up with a solution that works for everyone.

Early next year we'll be inviting groups of near neighbours of the new highway to meet with us and talk through some of these aspects.