



Te Ara o Te Ata

Mt Messenger Bypass project

*He rau ringa,
He oti ai*

*The hands of many
will complete the
works ahead*

Te Ara o Te Ata

WAKA KOTAHİ
NATIONAL TRANSPORT
AGENCY

Mt Messenger Bypass



Te Kāwanatanga o Aotearoa
New Zealand Government

Contents

| | |
|-------------------------------------|----|
| The Mt Messenger cableway | 4 |
| Bridge construction | 6 |
| Tunnel construction | 8 |
| Erosion and sediment control (ESC) | 10 |
| Roadbuilding | 11 |
| Recent project images | 12 |
| Iwi partnership | 16 |
| Cultural expression | 17 |
| Cultural inductions for all workers | 18 |
| Cultural monitoring | 20 |
| Care for native species | 22 |
| Pest management | 24 |
| Restoration planting | 26 |
| Further benefits | 28 |

Project overview

Te Ara o Te Ata: Mt Messenger Bypass is a new 6km route between Uruti and Ahititi that avoids the existing steep, narrow and winding route over Mt Messenger on State Highway 3 in North Taranaki.

Te Ara o Te Ata will rise to a maximum of 110 metres above sea level, 65m lower than the current route. With a maximum grade of 7.5%, it will also be less steep than the existing road, which has inclines of up to 12%.

The main objectives of the bypass are to:

- reduce the likelihood of deaths and serious injuries from crashes
- provide a more resilient route, standing up to the local weather, ground and geographic conditions
- enhance the reliability of journeys in and out of North Taranaki
- improve the experience of driving on this section of SH3
- deliver lasting improvements to the surrounding natural environment – flora and fauna.

The project is being delivered by the Mt Messenger Alliance comprising NZTA, mana whenua iwi partner Ngāti Tama, Downer, HEB Construction, Tonkin + Taylor and WSP.

NZ Transport Agency Waka Kotahi

© Autumn 2024

Published: April 2024

ISBN 978-1-99-106814-9 (online)

ISBN 978-1-99-106815-6 (print)

NZBN: 9429041910085

24-SH-TATA-004



The Mt Messenger cableway

A strikingly visible part of Te Ara o Te Ata – Mt Messenger Bypass, the cableway grants access across rugged north Taranaki terrain to the heart of the project area. This is the first time a cableway has been used for road construction in New Zealand.

Technical specifications

Route: Extending 600m from a north anchor point to a 28m central tower and integrated control station.

Backstay section: Covering 500m from the central tower and supported by the south anchor point - not equipped for personnel or equipment transportation.

Payload: Capable of transporting up to 20 tonnes of essential gear and material in a single journey. The cableway is also equipped with a gondola that can transport eight trained personnel.

On completing its mission, the Mt Messenger Cableway will be carefully dismantled and returned to its supplier, leaving a legacy of innovation and progress.

This groundbreaking endeavour sets new standards in roading excellence, helping us deliver a safer and more resilient highway.

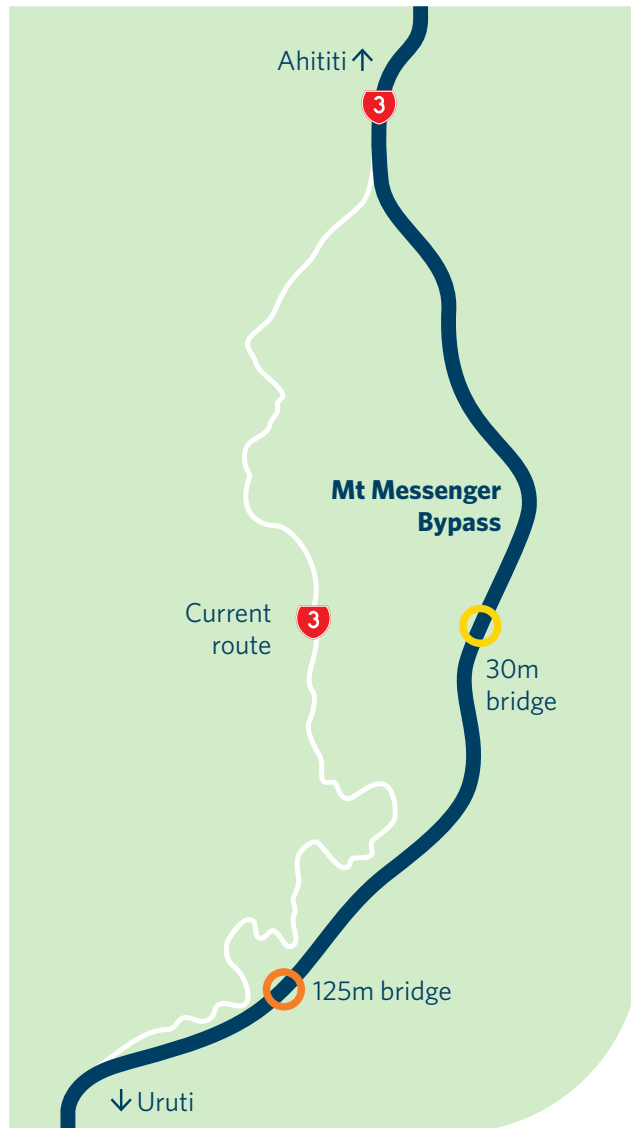


Bridge construction

We're building two bridges to reduce the new road's impact on the significant ecological swamp maire wetland.

A 125m structure will carry the road over a stream that feeds into the Mimi wetland, while a smaller 30m bridge to the north of the tunnel will keep the new route on a steady gradient above the valley floor.

Both bridges are designed to be resilient, low maintenance and long lasting. They are integral to helping us tread lightly on the land.



30m bridge

A single span 'Super T', the deck for this 30m bridge will sit on T-shaped concrete piers fixed into abutments at each end.



125m bridge

This bridge will be a steel box girder structure, with a concrete deck sitting on raked steel pier supports that span the Mimi wetland. The use of these angled piers means we can keep the bridge foundations out of the Mimi stream. A temporary staging bridge will be put in place to enable construction.



Tunnel construction

A 235-metre tunnel is a significant feature of the new bypass.

The design and construction are similar to the Northern Gateway Tunnel in Auckland and the tunnel will be large enough to accommodate loads up to and including house removals.

A 120-tonne roadheader machine will excavate the upper portion (top heading), and then the lower section (bench) at a rate of up to 3 metres per day in two work shifts.

The tunnel will be constructed with temporary rock bolts and steel fibre reinforced shotcrete, sprayed at high velocity, stabilising the tunnel excavation.

The shotcrete also contains synthetic microfibres for protection in the event of a fire. Other safety measures to meet New Zealand and international best practice standards include a safety egress passage and a public warning system.

The tunnel will allow easy movement for wildlife over the new road, ensuring their safety from traffic.

The finished tunnel will also incorporate cultural elements, acknowledging Ngāti Tama tūpuna, the traditional guardians of the northern gateway to Taranaki.



The design and construction of the project's tunnel will be similar to the Northern Gateway Tunnel in Auckland.

Erosion and sediment control (ESC)

At Te Ara o Te Ata – Mt Messenger Bypass, we're proud of our erosion and sediment control (ESC) measures.

ESC is a range of methods to prevent sediment entering natural waterways. At Mt Messenger, we use a combination of erosion control techniques, such as silt fences, clean water diversions, sediment retention ponds and decanting earth bunds (temporary berms or ridges of compacted earth constructed to create containment areas where ponding of runoff can occur). The effectiveness of an ESC plan relies on a well-thought-out combination of these measures to protect our precious waterways.

Our environmental experts are constantly working on ways to reduce the amount of erosion during earthworks, and to hold any dirty water so sediment can settle out. The Taranaki Regional Council conducts weekly inspections to make sure our protections are robust.

Erosion and sediment control is a large part of any earthworks project, but particularly on Te Ara o Te Ata. The scale of the job and difficulty of the terrain are huge factors, and we're committed to our promise to Ngāti Tama to tread as lightly as possible on the land.



Roadbuilding

Te Ara o Te Ata – Mt Messenger Bypass will straighten a tortuous stretch of State Highway 3 and replace it with a safer, more resilient and reliable roadway.

We're working in some of the country's most rugged terrain within the 'Mount Messenger Formation', an area of soft rock ranging from fine-grained sandstone to silty mudstone. We'll shift 1.2 million cubic metres of earth and rock over the lifetime of the project. 950,000m³ will be used for fill as we build up and level out the land along the 6km route.

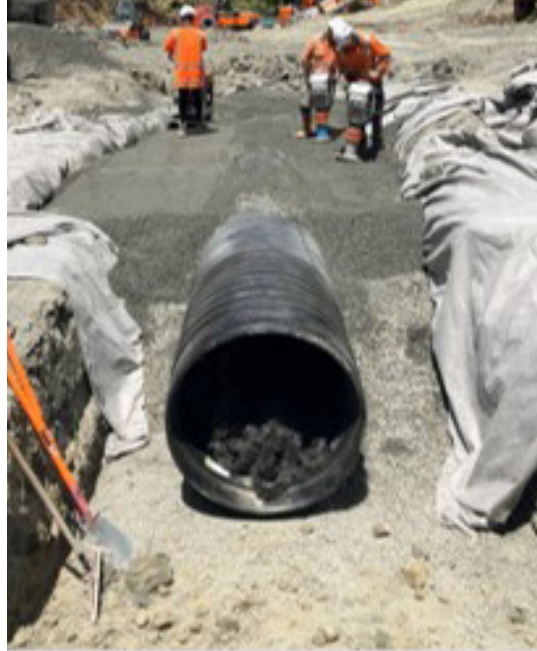
All-up, we'll be making 19 cuttings through the rock, ranging from 5m to 60m high and 30m to 450m long. Any cutting higher than 20m will have steel drape mesh installed, which will allow any rockfall to safely funnel down into catch ditches for easy clearance. If there's a soil layer above the rock cuttings, we'll install soil nails to maximise stability.

All our earthworks are overseen by Tāngata Tiaki and our environmental team, helping us tread as lightly as possible on the land.



Recent project images





Iwi partnership

Waka Kotahi has worked in partnership with the mana whenua of this rohe (area), Ngāti Tama, and with the Mt Messenger Alliance over several years to develop the project.

Respect for the land and their values is at the core of the involvement of Ngāti Tama with the project, which has included input into or leadership on:

- selecting a safer and more secure route with the minimum environmental impact
- the bypass design and cultural expression
- the significant environmental programme to improve the current decline of the native flora and fauna, that is a key feature of the project
- the provision of cultural monitoring.

A significant milestone was reached in 2020 when iwi members voted with an 82% majority in favour of the agreements with Waka Kotahi, to allow land needed for the Mt Messenger Bypass to be exchanged.

The agreement includes a 120ha coastal property – re-named as ‘Ngarautika’ by Ngāti Tama – in exchange for 20ha of Ngāti Tama land, a cultural compensation payment and an environmental programme including enduring pest management over 3,650ha of the rohe of Ngāti Tama.



Cultural expression



Ngāti Tama were traditionally the northern ‘gatekeepers’ of the wider Taranaki region. Cultural elements in the bypass design convey stories of Ngāti Tama tūpuna, events and places.

For example, near the tunnel’s northern entrance pou will depict the defence line that reflects the wero (challenge) that Ngāti Tama presented to others entering Taranaki from the north.

The design on the tunnel’s northern portal features Te Kauae o Ngāti Tama (the jaws of Ngāti Tama) and includes:

- a waterfall (Te Rerepahupahu) and a Kōkako signifying the area’s native bird life
- a circular element representing the mauri (life force) and continued protection of the area
- purapura whetu (stars) in the upper jaw, symbolising ancestors
- markings in the lower jaw to reflect the three iwi that descend from voyagers on the Tokomaru waka.

Cultural inductions for all workers

It is important to Ngāti Tama that all involved in Te Ara o Te Ata – Mt Messenger Bypass enter the front doors of the iwi before entering the project site.

Since 2020, Pukearuhe Marae has hosted cultural inductions for more than 850 project workers.

A core principle of the iwi is MANAAKI – respecting and valuing others. MANAAKI is the foundation of the cultural induction space. Cultural safety and wellbeing for the environment and each other are paramount to the project.

The rich history and kōrero of Ngāti Tama are shared on a visit to the coastal lands returned under the project agreement, which unlock access to significant wāhi tapu (sacred places) and pā sites. This visit has been a memorable experience for many.

The project team and Ngāti Tama will continue widening pathways of true collaboration and successful outcomes for all involved on Te Ara o Te Ata.



Some feedback from cultural inductions:

'It was a lovely introduction into the history and culture of the locals (Ngāti Tama) and their collaboration in building the new road'

'The induction opened my eyes to the history of the mana whenua and the deep significance of the land where we are working.'

'Knowing that Ngāti Tama is happy with the road is a weight lifted off my shoulders'

***'He rau ringa,
He oti ai'***

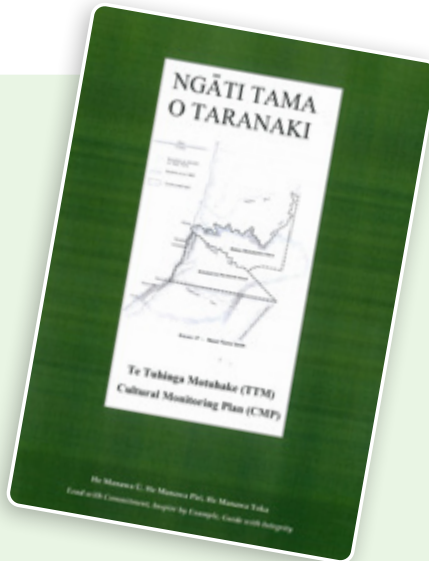
***'The hands of many
will complete the
works ahead'***

Cultural monitoring

Tāngata Tiaki/Ngāti Tama Cultural Monitors work alongside the project's Pou Tiaki to ensure the MANAAKI values of Ngāti Tama (Protection, Selfless, Teamwork, Caution, Empathy, Empower, Unity and Wellbeing) are protected and woven into the fibre of the project. Tāngata Tiaki observe and document impacts on the environment during earthworks activities such as vegetation and tree removal.

Four cultural pillars of Te Tuhinga Motuhake/Ngāti Tama Cultural Monitoring Plan

1. **Pou Tuku Iho** Shelter of Ngāti Tama
2. **Pou Whakahauora** Aspirations and Outcomes
3. **Pou Tokomanawa** Relationships and Commitments
4. **Pou Taiao** Spiritual and Physical Realms



Care for native species

Nestled within Mt Messenger and the wider Parininihi area lies a landscape of profound ecological and cultural significance, deeply valued by local iwi.

Our ecologists have been working in the area since 2017, monitoring and protecting a wide range of species.

North Island brown kiwi

Our ecology experts are looking after the wellbeing of kiwi in the area. During nesting, we establish exclusion zones to ensure they're not harmed. Eggs are uplifted to be hatched safely and chicks are raised and released in pest-managed parts of Parininihi.

Long-tailed bats

Our goal is to protect bats by diverting them to the abundance of suitable mature trees that will not be affected by construction activities. All trees that do need to be felled are thoroughly checked by expert ecologists to make sure no bats are roosting there. Our 3,650ha pest management area is large enough for bats to feed, roost and travel safely.

Lizards

During road construction, our lizard specialists relocate any endangered species encountered to protected habitat. We move non-threatened species to new homes in suitable nearby bush.



Flora

We've established vegetation plot surveys to chart the recovery of native plants following the removal of animal and plant pests. Our programme of restoration planting will help offset vegetation removal.

Freshwater species

Carefully considered design elements and safeguards, such as fish passages and temporary stream diversions, are protecting nearby waterways and the diverse array of fish, eels, and other precious species living in them.

Our ecological mahi is part of a comprehensive environmental programme that includes restoration planting and pest management, as we aim to leave the project area in a much better condition for generations to come.



Pest management

As well as delivering a safer and more resilient highway, Te Ara o Te Ata – Mt Messenger Bypass Project is treading lightly on the land and helping the forest bounce back after years of serious damage caused by pests.

We're implementing an enduring pest management programme over 3,650ha, which extends from the coast to almost 10km inland.

This will:

- offset the ecological effects of the construction and operation of the bypass
- support the forest's recovery from pest damage
- improve the diversity of native plants and animals (including long-tailed bats, kiwi and lizards).

Partnering with Ngāti Tama, we're targeting deer, goats, wild pigs, feral cats, possums, ferrets, stoats, weasels and rats.

We're building a 250km network of tracks, with bait stations every 150m. A combination of ground and aerial pest control operations, along with hunting, will reduce the numbers of all significant pests to low levels.

Our pest management mahi is part of a comprehensive environmental programme that includes restoration planting and care for native species, as we aim to leave the project area in a much better condition for generations to come.



Restoration planting

We're mitigating the ecological impact of vegetation removal and road construction with a large-scale planting programme.



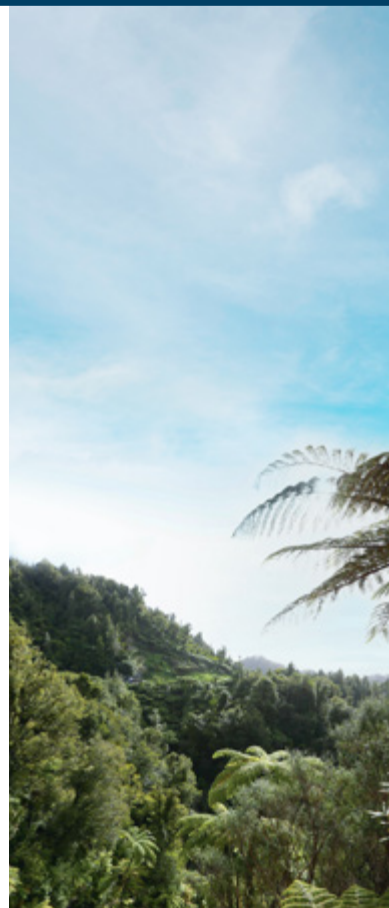
Almost 300,000 natives will be planted across 47 hectares of land in and around the project area. About 96,000 are destined to go into riparian offset planting across 17 hectares with others covering 6ha of kahikatea swamp forest, 9ha of dryland bush, and 15ha of roadside margins and fill slopes.

Sedges and rushes will thrive in open wetlands, while hardy shrubs, small trees and towering canopy species will flourish in dryland bush and wetland margins.

For every significant tree removed, we plant 200 seedlings of the same species, sourced from the area around Parininihi/Mt Messenger.

After construction, stormwater runoff on the new road will be purified through strategically positioned constructed wetlands, where plants will naturally filter contaminants before they reach natural watercourses.

Our restoration planting mahi is part of a comprehensive environmental programme that includes pest management and care for native species, as we aim to leave the project area in a much better condition for generations to come.



Further benefits

Over the life of the project, we estimate that about 60% of the workforce will be either Taranaki locals or people from outside the region who have relocated to live here.

On average we'll provide work for about 140 people, although this number will be significantly higher during peak construction periods. Te Ara o Te Ata will create a range of employment opportunities – some related to the construction work and others in support activities – working directly for the project or through subcontractors. We are also aiming to provide locals with a variety of training and upskilling opportunities.

The project will generate approximately \$85 million of revenue for Taranaki businesses for the supply of goods and services.



Te Ara o Te Ata



Mt Messenger Bypass



For project updates please visit nzta.govt.nz/tearaoteata