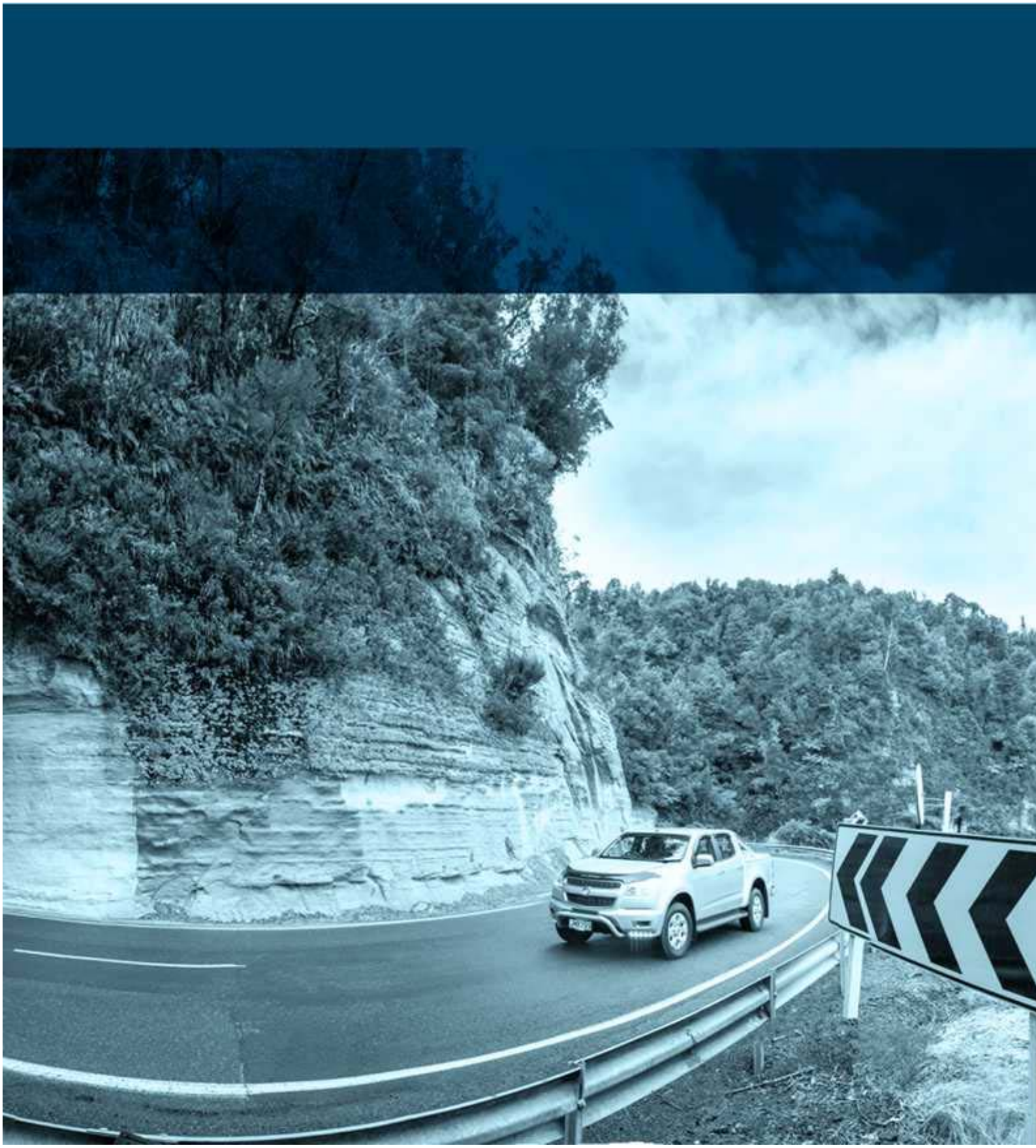
Section 3 – Background to the Project



3 Background to the Project

3.1 Introduction

This section outlines why the Project is being undertaken by the Transport Agency. The following sections provide background on:

- The importance of SH3 to the communities and economy of Taranaki, and the issues and problems with SH3 at Mt Messenger that the Project will address;
- The history of developing the Project; and
- The benefits that the Project will provide.

This section also highlights the cultural significance of the area to Ngāti Tama and points to the natural environment values of the land through which the Project passes.

3.2 State Highway 3

Figure 3.1 shows the wider road network serving Taranaki. In this regional context, SH3 at Mt Messenger is remote, being some 57km north of New Plymouth and 184km south of Hamilton. The nearest towns are Te Kuiti to the north and Waitara to the south, 150km apart.

Where most of the 240km length of SH3 between New Plymouth and Hamilton traverses open country with average travel speeds between 75 and 85km/h, the local section of SH3 over Mt Messenger, however, is a markedly different standard of road, being characterised by a tortuous alignment, narrow widths, steep grades, and restricted forward visibility. At the summit of the Mt Messenger section, SH3 traffic passes through a short narrow tunnel.

Photo 3.1 – SH3 at Mt Messenger viewed from the southern approach

Photo 3.2 – Mt Messenger tunnel from the southern approach

The operational characteristics of the Mt Messenger section of the SH3 are summarised as follows:

- The present traffic volume using this section of SH3 across Mt Messenger is some 2300 vehicles per day;
- Of this total, about 20% is heavy commercial vehicles carrying the products and services that are key to Taranaki's economy;
- The highway has steep grades, a tortuous alignment, and restricted forward visibility;
- There are significant lengths with no or only limited shoulders that allow little room for error, breakdowns or passing;
- The narrow Mt Messenger tunnel physically limits the maximum size of loads able to be carried, and makes two-way use difficult;
- The route is vulnerable to interruption and closure by landslips and rockfalls; and
- With only very limited alternatives, the route has poor resilience, needing to be closed or severely restricted during events including breakdowns, landslips or crashes.

Fundamentally, the Mt Messenger section of SH3 is no longer fit for purpose. It is of an inadequate standard in relation to its strategic importance and function.

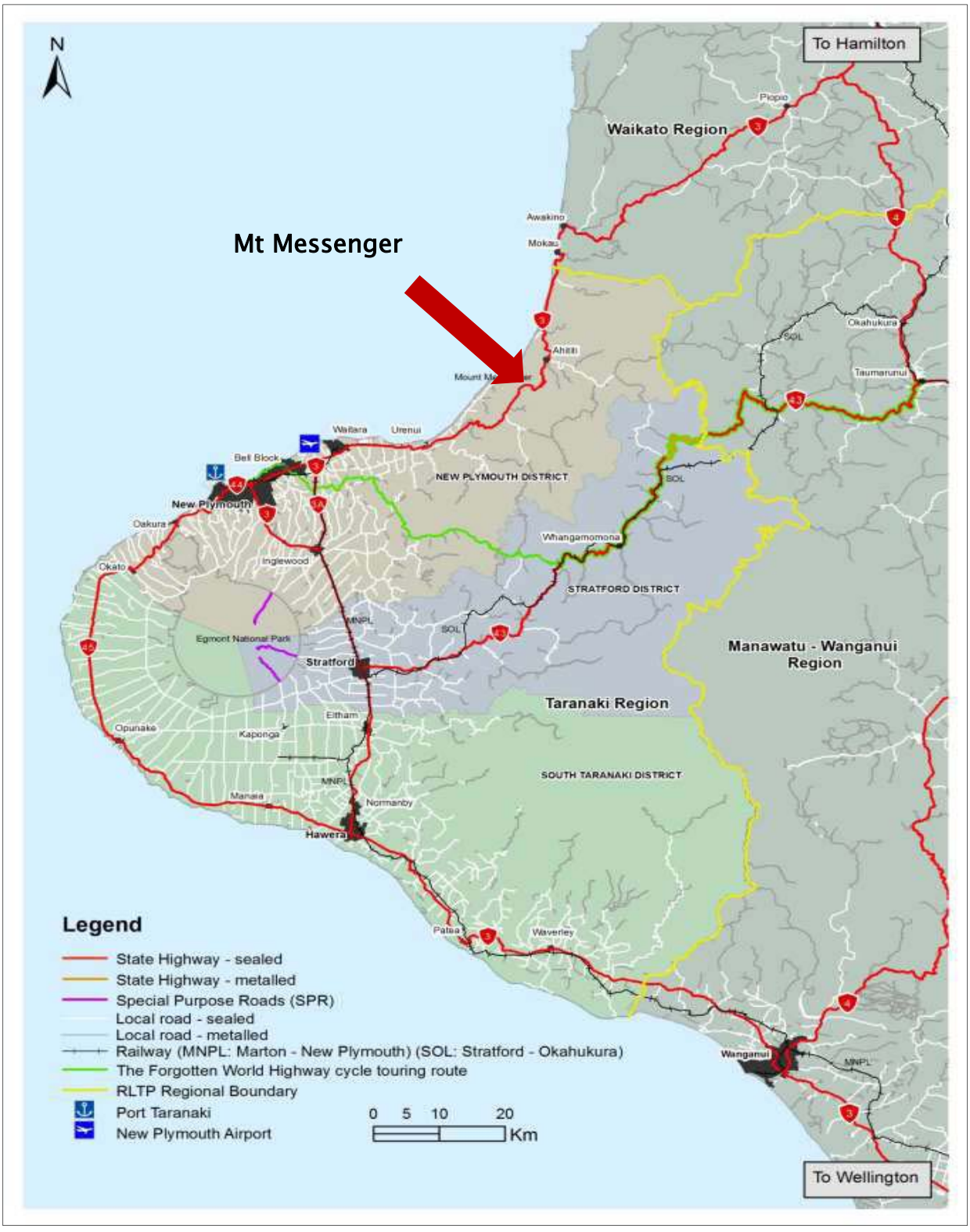


Figure 3.1 – Regional Land Transport Network

3.2.1 Strategic importance

SH3 to and from the north serves the key strategic purpose of connecting the Taranaki region through to the Waikato region and on to key economic and transportation hubs at

Hamilton, Tauranga and Auckland. The route connects Taranaki's oil and gas, agricultural, forestry and engineering sectors to markets in the north, and provides vital tourism linkages and access to health, cultural and other services. This connectivity is essential for the people and communities of Taranaki to provide for their social, economic, and cultural well-being.

SH3 through Taranaki is classified as a Regional Road in the Transport Agency's One Network Road Classification (ONRC) (Figure 3.2), being a road that makes a major contribution to the social and economic wellbeing of a region and connects to regionally significant places, industries, ports or airports. Regional Roads are also major connectors between regions.

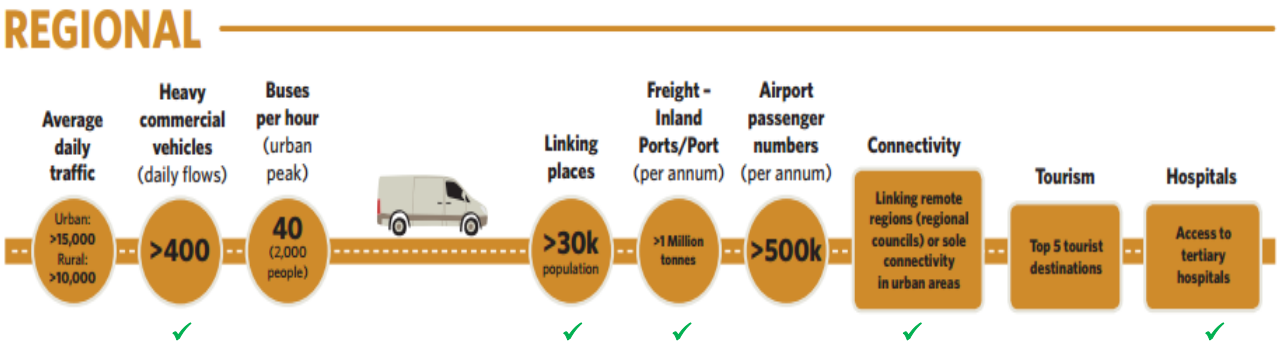


Figure 3.2 – ONRC Regional Road Classification

While linking Taranaki to the north, SH3 also provides a critical alternative route when both SH1 and SH4 are closed because of inclement weather, as occurred during the 14 July 2017 storm.

The Transport Agency carries a statutory duty as a lifeline provider to maintain its network to function at the fullest possible extent during and after an emergency. SH3 plays a significant role in this regard. The alternative route north from Taranaki is via SH43 through Whangamomona and on to SH4 at Taumarunui. This route is severely limited and not recommended by the vehicle rental, bus and heavy transport industries as a suitable and safe route (being narrow (1 lane in places), windy and partly unsealed). High Productivity Motor Vehicles (HPMV) are not permitted on SH43.

In this regional and national context, SH3 is of significant strategic value, being Taranaki's main connection to the north, and also providing a lifeline function when the wider North Island State Highway network is impaired.

3.2.2 Travel patterns

2016 weekday travel demands on the principal road corridors through Taranaki, measured in vehicles per day (vpd), are shown in Figure 3.3.

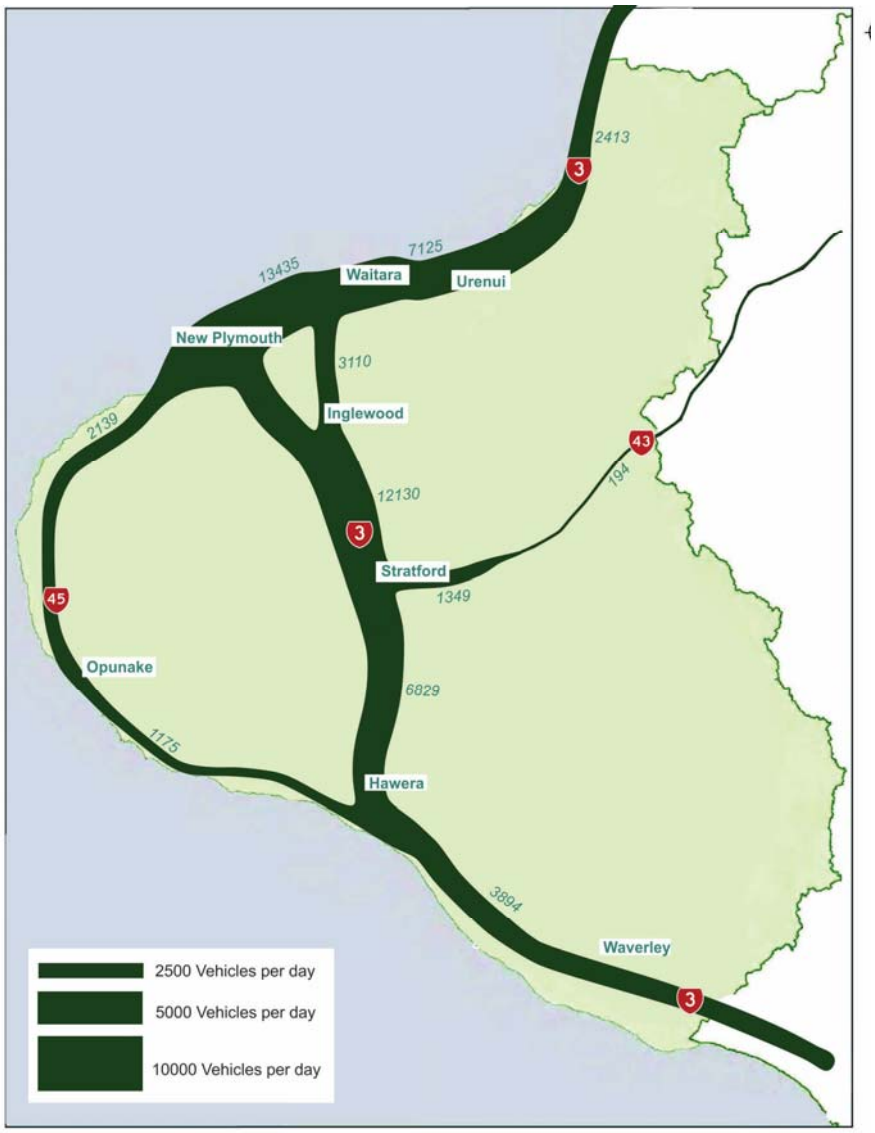


Figure 3.3 – 2016 Daily Travel Demands

This shows that the wider regional traffic volumes being carried on SH3 north of New Plymouth total some 7200 vpd at Waitara, and 2300 vpd at Mt Messenger. Of this total, about 20% of all the traffic is heavy commercial vehicles.

The long-term pattern of ongoing traffic growth on SH3 in the vicinity of Mt Messenger, as recorded at the permanent traffic counting station at Tongaporutu[7], is shown in Figure 3.4.

[7] located about 5 km north of Ahititi on SH3

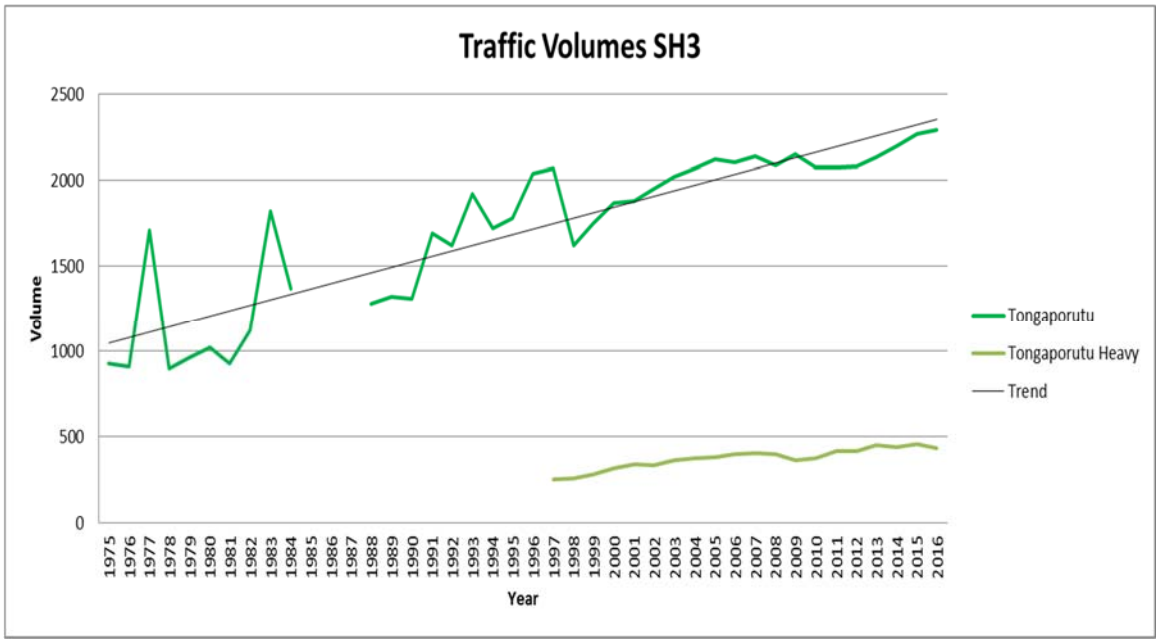


Figure 3.4 – 40 year pattern of Traffic Growth 1975 – 2015 SH3 at Tongaporutu[8]

This data shows the annual average daily volume of traffic using the Mt Messenger section of SH3 has increased over the past 40 years at a long term and ongoing rate of some 3% per annum.

Figure 3.4 also shows the number of heavy truck movements on the Mt Messenger section of SH3. The route is currently carrying an average 460 heavy truck movements a day. The majority of these movements are long-distance journeys carrying commercial loads and freight to and from Taranaki to destinations across the Waikato, and in Hamilton, Tauranga and Auckland.

Truck volumes have approximately doubled over the last 20 years. Since 2014 there is no longer container freight from Port Taranaki, and as such, Taranaki relies heavily on freight transport by road (95% of all freight movements from Taranaki[9]). Long haul carriers accessing Taranaki are predominantly B-trains and quad axle semi-trailers.

These patterns reflect the importance of this SH3 route in connecting the wider areas of Taranaki and its rural and industrial production through to the Waikato and the key economic and transport hubs of Hamilton, Tauranga and Auckland.

3.2.3 Economic importance of SH3

The Taranaki Region has a population of approximately 116,700, which is steadily growing (an increase of 8.8%[10] between 2006 and 2016). By 2043 the region's population is expected to have grown to 130,200.

Taranaki's key economic drivers are agriculture, manufacturing (including agricultural product processing and the heavy engineering industry) and the oil and gas industry. Over

[8] NZTA State Highway Traffic Count Data, 1975 – 2017

[9] National Freight Demand Study, March 2014

[10] Statistics New Zealand www.stats.govt.nz; NZ.Stat; Sub-national Population Estimates, (data extracted 17 July, 2017).

the period 2011 to 2016 Taranaki's GDP has grown at 1.1% per annum, and the region records the country's highest GDP per capita[11].

SH3 is critical for supporting the Taranaki economy and its ongoing growth and development. The importance of the corridor to the Taranaki economy is described in detail in Technical Report 4 in Volume 3, and summarised for key sectors as follows:

- *Oil and Gas Industry* – Outputs from Taranaki's oil and gas industry are transported by pipeline (natural gas) and road (LPG). For LPG shipments to the north, SH3 is a vital link as sea transport no longer occurs. Additionally, the oil and gas industry relies on SH3 for transporting infrastructure critical to exploration, and to the operation and maintenance of existing facilities.
- *Heavy Engineering Sector* – Taranaki's heavy engineering sector, made up principally of the machinery and equipment and fabricated metal products manufacturing groups, services the local oil and gas sector as well as customers elsewhere in New Zealand and overseas. The sector relies on road transport, utilising SH3 for access to markets and for delivery of materials.
- *Agricultural Sector* – The following are the major agricultural industries in Taranaki:
    - *Dairying*: The bulk of milk produced within the Taranaki region is processed at Fonterra's milk processing plants within the region[12] and the dairy products produced by these plants are sent by rail for export. However, to balance plant capacity and milk supply at different times of the season, SH3 is used for the transport of milk to plants in the Waikato region and non-containerised milk products[13], which are shipped to stores in the north. Other major agricultural industries are based at Kapuni (Ballance Agri-Nutrients).
    - *Sheep and beef*: The largest meat processing works in Taranaki are located at Eltham (Riverlands Eltham Ltd), Hawera and Waitotara (Silver Fern Farms Ltd). Silver Fern Farms estimate around 30% of the stock they process is transported via SH3 north of New Plymouth. Some chilled products are also trucked north using SH3 for export.
    - *Poultry*: Taranaki is the major poultry producing region in New Zealand. Poultry breeding, growing, processing and distribution are concentrated in northern Taranaki, with the major processing facility at Bell Block owned by Tegel Foods Limited (Tegel). Tegel is the second largest private sector employer (behind Fonterra) in the Taranaki region providing over 1,000 jobs. Over half of the output from Tegel's Bell Block plant is sent by refrigerated truck north via SH3.
- *Forestry* – SH3 north of New Plymouth is used to transport logs from the north of the region (and to a lesser extent from South Waikato) to Port Taranaki for export.

[11] 2016 GDP per capita: Taranaki $71,297, Wellington, $67,888, Auckland, $58,717. The national average was $54,178.

[12] Fonterra has milk processing plants at Whareroa (near Hawera), Eltham (2) and Kapuni and a coolstore at New Plymouth.

[13] About 20 return "curtainsider" truck journeys per day for 300 days per annum.

While tourism currently plays a relatively minor role within the region's economy, it has the potential to increase in significance. The Lonely Planet publication[14] recently listed Taranaki as the second best region in the world to visit. SH3 plays a vital role in connecting Taranaki to the tourism market.

3.3 Operational problems over Mt Messenger

As described above, the constraints associated with SH3 over Mt Messenger (refer Section 3.2) include:

- steep grades, a tortuous alignment, restricted forward visibility;
- significant lengths with no or only limited shoulders;
- a narrow tunnel at the summit; and
- a vulnerability to interruption of service by breakdowns, crashes, landslips and rockfalls, with very limited (and longer, for freight significantly longer) alternative routes north.

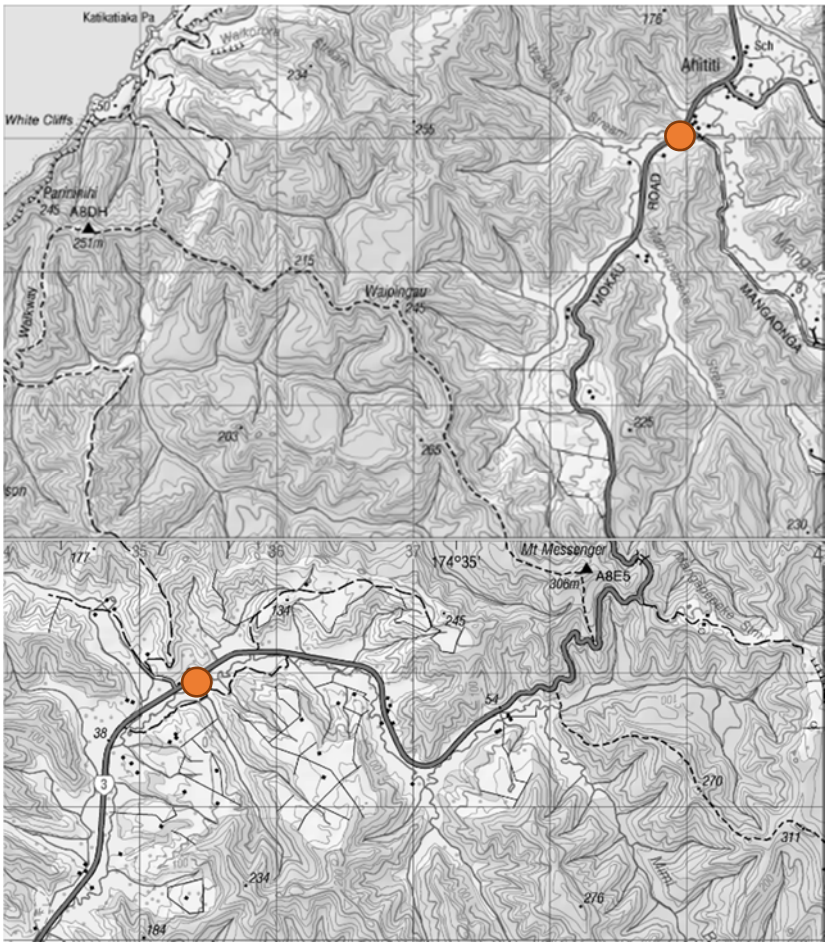


Figure 3.5 – Mt Messenger section of SH3

[14] Lonely Planet's *Best in Travel 2017* yearbook

These constraints translate to problems with safety, route resilience (road closures with no suitable alternatives), poor road geometry and low speeds. These matters are further explored below.

3.3.1 Safety

Technical Report 2 in Volume 3 of the AEE sets out a detailed analysis of road safety for the existing Mt Messenger section of SH3. The current road alignment means that the road environment is unforgiving, with driver mistakes leading to crashes, and subsequently deaths and serious injuries, as well as road closures. Over the five year period from 2012 to 2016, there have been no reported fatal crashes, 6 serious injury crashes, 8 minor crashes and 18 damage only crashes. Extended out to the last 10 years, the record includes 1 fatal crash.

A number of key factors have been identified as responsible for these crashes:

- 85% of all crashes are due to loss of control on bends/head on collisions. This percentage is high compared to the national rural state highway figures of 32%.
- 61% of crashes are due to poor handling. This compares to a national rural state highway figure of 30%.
- 39% of these crashes are due to drivers travelling too fast for the conditions, which compares to a national rate of 15%.

The existing carriageway configuration is typically a narrow, winding alignment with steep grades of up to 12% in some locations. In many locations, the roadside environment is characterised as having steep vertical cliffs on either side with the risk of an errant driver either colliding with, or falling down the adjacent hillside. These physical features contribute to driver frustration and the severity of the crashes along the corridor.

The Transport Agency's SafetyNet system rates the road and roadside environment from one star (most hazardous) to five star (safest road) on the basis that a more forgiving environment plays a significant part in reducing the severity of the crashes. The desired ONRC Customer Level of Service for a Regional Route such as SH3, including the Mt Messenger section, is 3 star. The existing road through Mt Messenger has a 2 star rating (refer to Figure 3.6), in part due to the following characteristics:

- The road has mostly 3.4m lane widths, with some narrower lanes in places;
- There is minimal sealed shoulder;
- There are very limited areas where overtaking can occur, either through formalised passing lanes and slow vehicle bays, or informal passing opportunities;
- There are no median barriers; and
- There are limited side barriers.

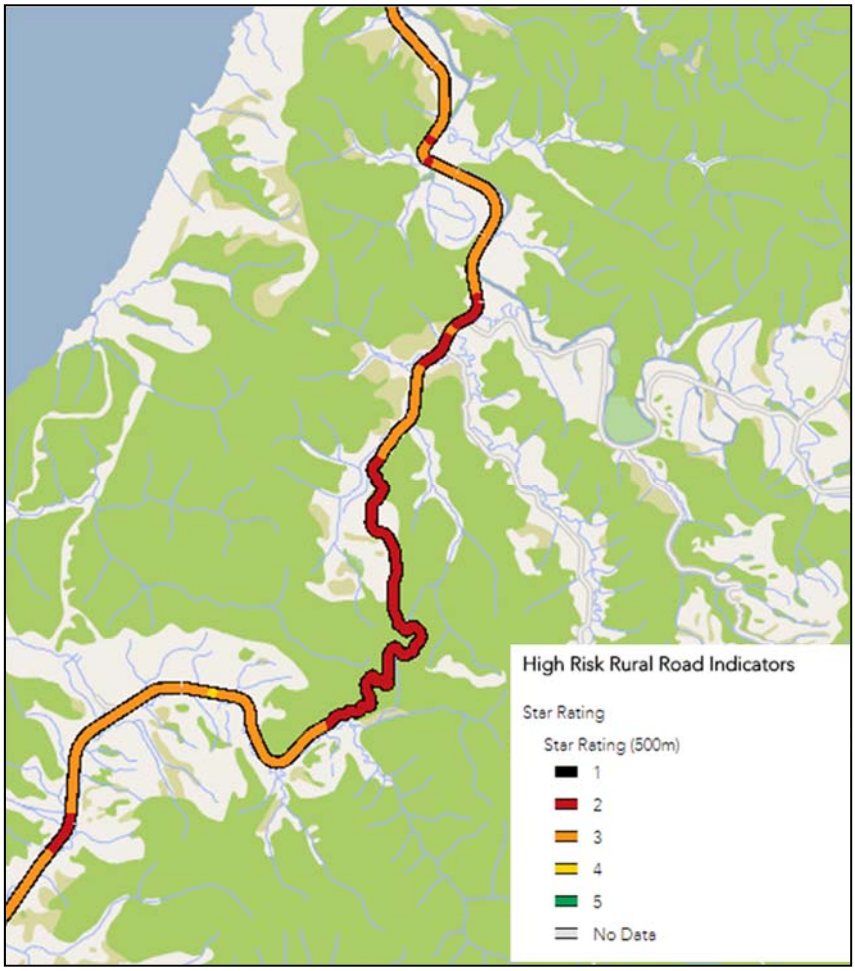


Figure 3.6 – Mt Messenger SafetyNet Rating

3.3.2 Road closures

Journey reliability is an important consideration for all road users, and particularly for those that need to have confidence in the network so that their choice of transport maximises their productivity. A detailed analysis of the vulnerability and reliability of the Mt Messenger section of SH3 is presented in Technical Report 1 in Volume 3 of the AEE.

Road closure records[15] show that, during the period 2011 to 2017, SH3 over Mt Messenger has been closed seven times. Causes include crashes (4 occasions), slips (2 occasions), and a tanker rollover (1 occasion) on a sharp curve. Considered against the Transport Agency's expected level of performance for the national highway network, closures of the Mt Messenger section of SH3 are of an unacceptable frequency and duration for a Regional Arterial road.

Travelling via SH3 between Hamilton and New Plymouth takes approximately 3 hours 10 minutes under normal conditions. If the road is closed along any portion of the route, there are very few detour routes that can be used.

[15] Records made available from TREIS (Traffic and Road Event Information System).

With advanced notice that the road is closed prior to leaving Hamilton or New Plymouth, the road user has alternative route options to choose from, although these increase the journey time by at least 30% (refer Table 3.1 below). However, if the user is unaware of this closure and has to turn around, the increase in journey time is significantly higher than 30%. This scenario is significant for heavy vehicles which encounter a closure on the Mt Messenger section of SH3 as there is no room to turn around and drivers must wait until the road is cleared.

Table 3.1 - Travel time on alternative routes

Alternative Route (if SH3 closed)	Travel time
SH43	4hr 30min: 1hr 45min longer (95km), not suitable for HPMV (unsealed in places and narrow, winding route alignment)
SH4	6hr 20min: 3hr 9min longer (243km)
SH1	6hr 55min: 3hr 45min longer (286km)

The shortest alternative route is via SH43, however, this is a narrow route with a winding alignment and is unsealed over a section, making it unsuitable as a major detour route. SH43 is not recommended by the vehicle rental, bus and heavy transport industries as a suitable and safe route. The alternative to SH43 (especially for freight) is the significantly longer route via SH4 and Wanganui, which doubles the travel time between Hamilton and New Plymouth.

3.3.3 Road geometry and travel speeds

As explained in Technical Report 2 in Volume 3 of the AEE, the existing Mt Messenger road has significant geometric deficiencies. These include:

- Numerous tight corners (with posted speeds down to 25km/h);
- Steep grades (up to 12% in parts);
- Narrow shoulders and frequent narrower lanes; and
- The narrow tunnel on a tight corner.

These geometric deficiencies restrict the speed of vehicles using the route (in particular, it is common for trucks to stop to enable one-way use of the tunnel). The existing average speed for the route is 56km/h, which is well below the average travel speeds on SH3 between New Plymouth and Hamilton of between 75 and 85km/h. These factors combined all contribute to driver frustration.

The existing Mt Messenger road geometry (associated too with the poor geometry at Awakino) means that SH3 is not an over-dimension vehicle route. Therefore, all over-dimension loads travelling north to or from the Taranaki region need to use SH1 which adds 3 hours 45 minutes to the journey time.

3.4 Developing a solution to the problems at Mt Messenger

3.4.1 History of developing the Project

Investigations into improvement of the SH3 corridor over Mt Messenger have been carried out by central and local government since the 1970s:

- 1970s & 1980s – Initial corridor investigations carried out by the Ministry of Works and Development for the National Roads Board;
- 2002 – Taranaki Regional Council established the SH3 Working Party in response to ongoing concerns about route security, safety and efficiency of the section of SH3 between Taranaki and Waikato. Out of this working group, Transit New Zealand (the pre-cursor to the Transport Agency) undertook an assessment of three options for the Mt Messenger route, including a coastal, western and eastern route (relative to the existing SH3 route). However, economic assessments confirmed that options did not meet the funding criteria in place at that time; and
- June 2014 – the Government announced funding to accelerate a package of regionally important State Highway projects through the ARRP. Taranaki was included as one of the regions eligible for funding to finalise investigation and consenting work for the SH3 Awakino Tunnel and Mt Messenger bypasses, and general improvements along this corridor of SH3.

In early 2016 the Minister of Transport announced that the Mt Messenger project would be funded by the Crown as part of the Government's ARRP. The announcement committed in the order of $90M funding and signalled a construction start date of late 2018/early 2019.

3.4.2 Project confirmation and options assessment

In March 2017 the Transport Agency appointed an Alliance (the Mt Messenger Alliance) to complete a detailed options assessment, and to progress design, consenting and construction of the Mt Messenger Bypass.

The Mt Messenger Alliance comprises: the Transport Agency, Downer Construction, Heb Construction, Opus International Consultants and Tonkin + Taylor. The Alliance has been given the name '*Te Ara o Te Ata*' by Ngāti Tama. Te Ata is a local taniwha which manifests on the coast of Parininihi (Whitecliffs) and is of cultural significance to Ngāti Tama.

The process for assessing options for the Project is summarised in Section 6 of the AEE, with the detailed options assessment reports presented in Volume 4. The process first involved consideration of a longlist of 24 options, with shortlisting and further consideration of 5 options. The 2017 options assessment process referred to, but ultimately superseded, a less detailed options process carried out in 2016.

Except for 'online' options within the Transport Agency's own SH3 land holding at Mt Messenger, all of the options considered traversed land to the west and east of SH3, which is land owned by Ngāti Tama. The options also traversed land owned by number of other private land owners.

Through the process of considering options the Transport Agency has consulted directly and closely with key stakeholders, which has included Ngāti Tama as landowner and mana whenua, other iwi including Ngāti Mutunga, and Ngāti Maniapoto, DOC, the private

landowners potentially affected by the options, and the SH3 Working Party. The Transport Agency has also undertaken wider public engagement throughout the development of the Project, including in respect of the five options shortlisted in 2017. The details of this consultation and engagement process are set out in Section 7.

On 31 August 2017 the Minister of Transport announced that the Transport Agency would be progressing the Project. The announcement confirmed the conclusion from the options assessment process, that the option to the east of SH3 would be progressed. The announcement confirmed that the Project will be funded through the Government's ARRP and National Land Transport Fund, with an estimated cost of $200M.

3.4.3 Mt Messenger Bypass Project Objectives

The Transport Agency's Project Objectives for the purposes of s171(1) of the RMA are:

1. *To enhance safety of travel on State Highway 3;*
2. *To enhance resilience and journey time reliability of the state highway network;*
3. *To contribute to enhanced local and regional economic growth and productivity for people and freight by improving connectivity and reducing journey times between the Taranaki and Waikato Regions; and*
4. *To manage the immediate and long term cultural, social, land use and other environmental impacts of the Project by so far as practicable avoiding, remedying or mitigating any such effects through route and alignment selection, highway design and conditions.*

These objectives respond to the strategic importance of SH3 and to the transportation problems that are currently experienced on the Mt Messenger section of the highway. They also reflect the important cultural and natural environment values associated with the Mt Messenger area, which are outlined in the sections below and described in detail in Section 8 of the AEE.

3.5 Benefits to be delivered by the Project

In delivering the Project and the above objectives, the following fundamental benefits are expected:

- Enhanced safety conditions on SH3 at Mt Messenger.
- A more resilient highway and enhanced journey time reliability.

This will in turn contribute to enhanced local and regional economic growth and productivity.

The Project will traverse areas with high cultural and natural environment values. Constructing and operating the new highway will result in effects on these values. These effects, and the need to avoid, remedy, mitigate or offset them was identified at the start of the Project. The Transport Agency has worked in close collaboration with Ngāti Tama. The Project has been developed with significant cultural and ecological mitigation and offsetting at its core. Delivery of the Project is also expected to result in positive environmental, cultural and social outcomes.

The assessments described in Section 9 of the AEE and in Technical Reports 1 to 4 illustrate how these benefits are being realised in more detail. The following sections summarise key positive outcomes delivered by the Project.

3.5.1 Safety benefits

The Project will result in significantly enhanced safety conditions on SH3 over Mt Messenger. Benefits are summarised in Table 3.2 below.

Table 3.2 – Safety Benefits

Benefit	Measure
Improved Safety Star rating	• Increase in safety Star Rating from 2 to 3 • The new road will be in context with the adjoining sections of SH3 to the north and south, which will benefit all road users, including tourist drivers who, in particular, may be caught unaware by the form and nature of the current Mt Messenger highway
Improved forward visibility	• Existing curves limit forward visibility limited to 30m – 40m on some corners • New road design provides visibility suitable for 100km/hr operating speed throughout
Passing opportunities	• Existing: Substandard passing lane (470m), climbing lane (120m) • Future: Improved forward visibility, increased passing opportunities throughout full length of Project
Reduced exposure	• Reduced length (existing SH3 over Mt Messenger is 7.4km while the new highway will be 6km)
Improved Geometry	• Eased curves with no curves requiring reduced speed advisory signs. • Flatter grades: o Existing max 12%, Average 8% (4.8km above 6%) o Future: max 7.5% (1.6km above 6% for new route) • Wider shoulders (current 0.5–1.5m, new 1.5m throughout (1.2m in tunnel)) • Wider lanes from 3.4m (in localised places narrower) currently, to 3.5m throughout for the new road • Side barriers provided throughout for the new road • The new road will enable safe travel throughout (current constraints such as the tunnel result in observed behaviour where vehicles stop in the lane to give way to oncoming traffic)
Reduce Driver Frustration	• Road Star rating and geometry will be in context with adjoining sections of SH3 creating a 'no surprises' environment • Improved journey time reliability and journey times
Safer connections to recreational walking tracks	• Improvements to existing unsafe vehicle stopping, pull-off and parking for accesses to the walking tracks.

Benefit	Measure
Better provision for active modes	• The current low volume/confident active users is not expected to change but wider shoulders and improved sight distances of the Project enhance safety.

Overall, the Project will enable the current SafetyNet Star Rating 2 to be improved to Star Rating 3, greatly improving the safety of this section of SH3, and importantly also ensuring the safety characteristics are in keeping with driver expectations throughout the adjoining corridor.

3.5.2 Resilience and journey time benefits

Resilience is a measure of the ability of systems to proactively resist, absorb, recover from, or adapt to, disruption within a timeframe that is tolerable from a social, economic, cultural and environmental perspective[16] (Money et al., 2017). In the context of the Project, disruptions may result from operational issues (road closures dues to crashes) as well as natural events (e.g. landslips, floods, earthquakes). As described in Section 3.3.2 above, SH3 at Mt Messenger does not currently meet the reliability standards expected for a Regional Road.

The Project will improve the resilience of the Mt Messenger section of SH3, and therefore the robustness of the broader regional transport network linking Taranaki to the north. This improvement will result from enhanced resilience to natural hazards, along with enhanced safety conditions resulting in fewer crashes and an improved ability to recover from incidents.

Enhanced resilience will in turn lead to significant improvements in the reliability of journey time to road users of SH3. Journey reliability is important for all road users, and particularly for those members of the community that need to have confidence in the network so that their choice of transport maximises their productivity. The reliability of the transport network is an important factor underpinning economic performance.

The Project will also deliver journey time savings for all vehicles (of 4 to 5 minutes), and for trucks in particular (saving 6 minutes 40 seconds on average).

These factors (combined with other projects currently being consented or completed) will significantly improve the connectivity of freight to and from the Taranaki region, appropriately reflecting the Regional Route classification of SH3.

[16] Money, C; Reinen-Hamill, R; Cornish, M; Bittle, N; and Makan, R; Establishing the value of resilience. NZ Transport Agency research report 614. 64pp, 2017.

Table 3.3 – Enhanced resilience and journey time reliability benefits

Benefit	Measure
Less closures	• Current SH3 has suffered six closures >2 hours in the last five years at a level more frequent than acceptable by the ONRC guidelines. The new road, with its wider lanes and shoulders and better design will minimise the potential for such closures • The new road will require less maintenance
Faster recovery	• The current road has poor geometry, narrow shoulders and carriageway. The new road will provide vehicles with greater opportunity to pass a vehicle which has broken down / crashed • Shorter/faster route will enable emergency services to attend events more quickly
Improved journey time reliability	• As a result of fewer planned (maintenance) and unplanned (slips, crashes) closures • Improved drainage/stormwater will reduce amount of closures • For freight (in connection with wider SH3 programme of work) improved network form from Taranaki through to Waikato, Tauranga and Auckland
Reduced driver frustration	• Greater certainty over road remaining open
Reduced journey times (Local)	• Reduced length: 7.4km to 6km • Reduces free-flow travel times: o 3:36min (saving 4:05min) (Light Vehicles) o 6:28min (saving 6:40min) (Heavy Vehicles)
Reduced journey times (Closures)	• Refer Table 3.1for additional journey time if SH3 closed: o Alternative routes add significant time to journeys • Improved road reduces risk/number of closures (see resilience outcomes above)
Reduced journey times (Over Dimension (OD) loads)	• SH3 is not currently suitable for OD loads due to dimension constraints (including the Mt Messenger and Awakino tunnels). The new road, along with other planned SH3 upgrades, will enable the route to accommodate OD loads • The current OD route using SH1 adds an extra 3hr 45min to the journey from Hamilton to New Plymouth
Reduced driver frustration	• Reduced travel times • Greater passing opportunities along full length of bypass • Improved journey time reliability
Increased speeds	• Increased average speeds (77.6km/hr compared to the existing average of 56km/hr)

3.5.3 Economic benefits

The contribution of the Project to enhanced local and regional economic growth and productivity is described in Technical Report 4 (Volume 3 of AEE). The connectivity that SH3 provides to and from the north is essential for the people and communities of Taranaki to

provide for their social, economic, and cultural well-being. SH3 links Taranaki through to the Waikato and on to key economic and transportation hubs at Hamilton, Tauranga and Auckland. The route connects Taranaki's oil and gas, agricultural, forestry and engineering sectors to markets in the north, and provides vital tourism linkages and access to health, cultural and other services.

The Project will lead to reductions in vehicle operating, travel time and road accident costs, along with improvements in route resilience, all benefitting local residents and businesses and visitors to Taranaki and the Taranaki economy.

Construction of the Project will bring additional specific benefits, including construction related expenditure, employment and income for Taranaki businesses and residents. Construction is expected to add 74 additional jobs, $5.5 million per annum in additional wages and salaries and $33.1 million per annum in additional expenditure on goods and services purchased from local Taranaki businesses.

Table 3.4 - Economic benefits

Benefit	Measure
Lower Vehicle Operation Costs (VOC)	• The new road will reduce grades, have a shorter length and height climbed resulting in lower vehicle operating costs (VOC). • Higher average speeds.
Lower VOC (during closures)	• Alternative routes add significant length with associated time/fuel costs. The Project will minimise future closures of SH3 at Mt Messenger.
Freight	• Significantly reduced journey times for OD loads which currently are unable to use SH3. • Significantly reduced journey times for heavy vehicles which, combined with other SH3 and wider network upgrades, will significantly reduce the Wiri – New Plymouth freight journey time. • The new road will provide the ability for trucks to turn around in unlikely event of road closure.
Reduced costs to communities	• Present value cost reductions of: o $44.8 million travel time savings. o $19.9 million vehicle operating costs. o $11.3 million accident costs. o $13.7 million road resilience benefits. o $1.0 million carbon emission reductions. o $1.2 million road maintenance costs.

Benefit	Measure
Wider economic benefits	• Increased attractiveness of Taranaki for business and residential development. • Improve accessibility for visitors. • Increased levels of economic activity. • Transportation industry benefits through enabling reliable return New Plymouth–Auckland journeys within daily maximum allowable driving hours, greater reliability in planning journeys to avoid congestion. • Enabling transportation of over-sized loads for oil and gas and heavy engineering industries.
Direct Project construction economic benefits	• Per annum benefits of: o 74 additional jobs. o $5.5 million in additional wages and salaries. o $33.1 million in additional expenditure on goods and services purchased locally.

3.5.4 Environmental, cultural and social benefits

While the Project will result in disturbance of habitats and the flora and fauna associated with the Project footprint, the Project will ultimately deliver significant ecological benefits through a substantial mitigation and biodiversity offset package. This package is a core part of the Project. It includes pest management in perpetuity (or until technology has changed) over a 560ha area, along with restoration plantings, and will achieve significant positive biodiversity outcomes that will continue on into the future. These benefits are described in detail in Technical Report 7h and in Section 9.8.9 of this AEE.

Environmental, cultural and social benefits are summarised in Table 3.5.

Table 3.5 – Environmental, cultural and social benefits

Benefit	Measure
Ecological benefits	• Pest management over an area of 560ha. Pest management will focus on controlling rats, possums, mustelids, feral cats, feral pigs and goats to very low densities in perpetuity (or until such time as pest management in the form we know of it today is no longer necessary to sustain the levels of biodiversity created), and will exclude all farm livestock. • Restoration planting of 6ha of swamp forest. • Planting of 200 seedlings of the same species for every significant tree that has to be felled, approximately 3000 trees. • Riparian planting and exclusion of livestock from approximately 9km of stream banks. • Restoration planting of 9ha of disturbed areas.
Wider environmental benefit	• Reduced CO_2 emissions from vehicles through shorter length, reduced climb and flatter grades.

Benefit	Measure
Cultural benefits	• Ongoing engagement with Ngāti Tama to ensure their aspirations for the Project are incorporated into the Project design and its construction and operation.
Social benefits	• Way of Life: o Greater resilience and enhanced journey time reliability for people and businesses • Economic growth and development: o Increased attractiveness of Taranaki for business and residential development o Improve accessibility for visitors o Increased levels of economic activity o Enhancing regional liveability which retains skills and services in the region o Improved access and journey experience to essential facilities in the Waikato, such as Waikato hospital (the nearest tertiary hospital) • Wellbeing: o Improvement in the journey experience through reduction in driver frustration o Improved response times for emergency services leading to improved outcomes and reduced perception of isolation

3.6 Ngāti Tama

Ngāti Tama are the iwi and exercise mana whenua for this part of Taranaki. [17]

For many generations Ngāti Tama have occupied, defended, and exercised mana over the land between the Mokau River and southward to the Titoki Stream that flows into the sea at Waiiti Beach. In Ngāti Tama tradition, Ngāti Tama descend from Tamaariki, Rakeiora, and Whata.

The Whitecliffs and Mt Messenger area is known to Ngāti Tama as Parininihi. Parininihi has been referred to as 'Te Matua Kanohi o Ngāti Tama Whanui', 'The parent face of Ngāti Tama'. It is an area of great cultural significance to Ngāti Tama.

The Ngāti Tama Treaty Settlement provided for the redress of historic breaches of Te Tiriti o Waitangi, and included commercial and cultural redress items. Part of this redress was the return of the Parininihi lands to Ngāti Tama (refer Figure 3.87), which provides the base for restoring Ngāti Tama sustenance and connection to the whenua, awa and moana.

[17] Ngāti Tama have provided the Transport Agency with a Cultural Impact Assessment report (CIA) on the Project. The CIA highlights the significant cultural values in relation to the wider Parininihi area and the Project alignment. The CIA may be updated as the Project progresses and as Ngāti Tama's cultural aspirations are addressed.

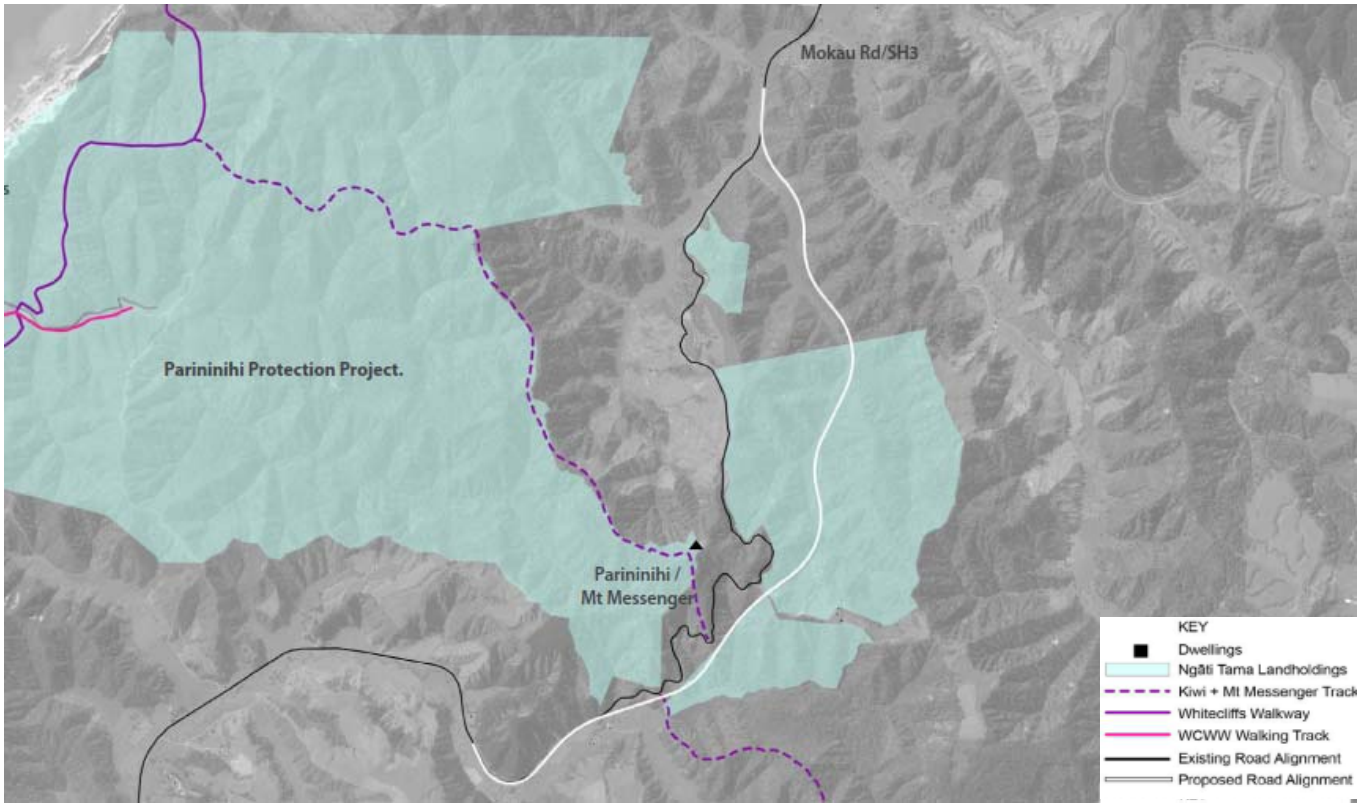


Figure 3.7 – Ngāti Tama land associated with the Project area

In addition, the Treaty Settlement Act acknowledges the cultural, spiritual, historical, and traditional association of Ngāti Tama with the wider 'Mt Messenger conservation area' and provides for a statutory acknowledgement over this area area (refer Figure 3.8).

The significance of the Parininihi land to Ngāti Tama is clearly acknowledged by the Transport Agency. It is recognised that the Mt Messenger Bypass traverses the eastern part of this land and that this will result in significant cultural effects. The Transport Agency has consulted directly and worked constructively with Ngāti Tama through the process of developing the Project. This has included through the options evaluation process and in developing the designs that these RMA applications seek to enable. Ongoing engagement with Ngāti Tama will occur as the Project progresses to ensure that Ngāti Tama's aspirations are incorporated into the Project development and design and on through construction and operation. Ngāti Tama have noted that they have no complaint about the consultation undertaken by the Transport Agency and the ability this has provided for Ngāti Tama to provide input and cultural views on the Project.

Ngāti Tama have led the protection and restoration of biodiversity values and the removal of pests from the Parininihi land to the west of SH3. Through the Tiaki Te Mauri o Parininihi Trust, this work has been ongoing since the late 1990s. An aspiration of the Trust has been to re-establish a self-sustaining population of kōkako within the pest controlled area of the Parininihi land. This was progressed in mid-2017 with the release of 20 kōkako to the west of SH3.

The ecological mitigation and biodiversity offset package proposed by the Transport Agency will lead to significantly enhanced biodiversity values on the land to the east of SH3, significantly expanding the area of pest management around the Parininihi land. The Transport Agency will continue to consult with Ngāti Tama on the development and detail of this package.

3.7 Natural environment values

The natural environment values of the Parininihi area are described in the ecology Technical Reports (Technical Reports 7a – 7h) and in the landscape assessment Technical Report (Technical Report 8a).

The Parininihi land to the west of SH3, which was previously known as "Whitecliffs Conservation Area" comprises a large tract (1,330ha) of mainly primary forest centred on the Waipingao Stream catchment (refer Figure 3.8). The area encompasses a continuous forest sequence from coastal through to the lowland area of Mt Messenger, and is of ecological significance. This area to the west of SH3 has been described as "the best example of primary coastal hardwood-podocarp forest on the west coast of the North Island"[18]. The ecological health and integrity of the area has improved significantly with the pest management work undertaken by the Tiaki Te Mauri o Parininihi Trust. As noted in Section 0, kōkako have recently been released into this area.

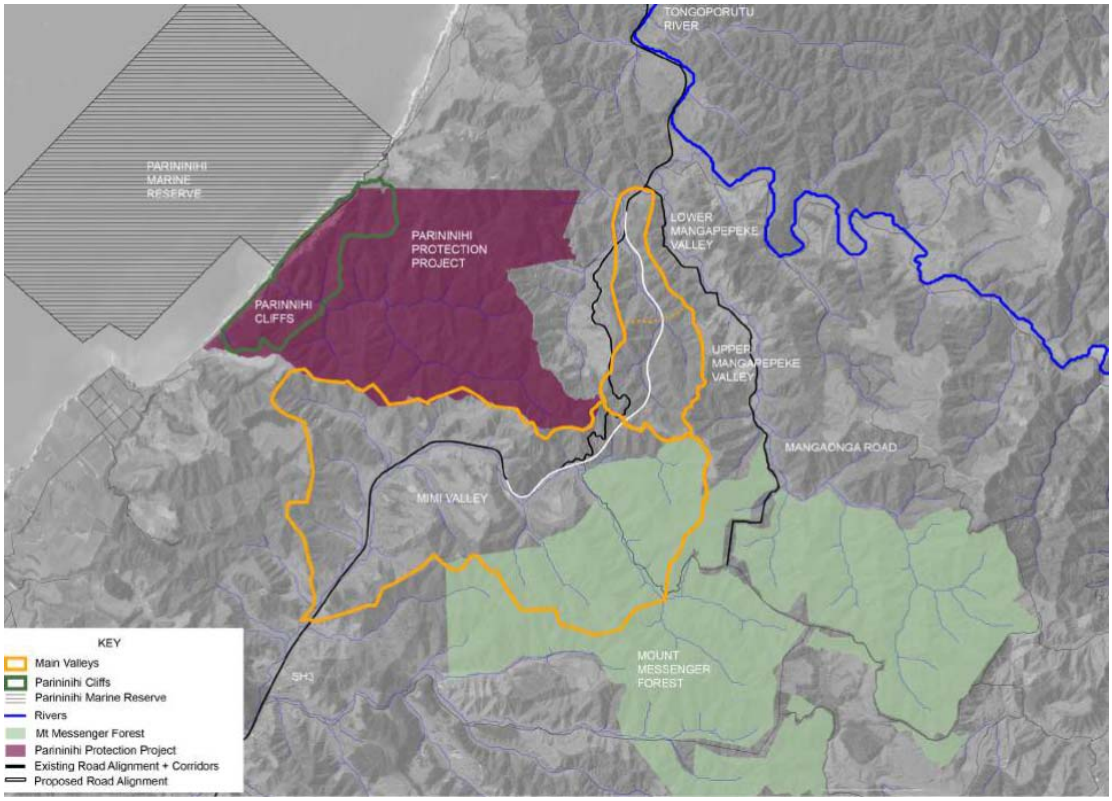


Figure 3.8 – Natural environment features

[18] Bayfield, M.A., Courtney, S.P, Wiessing, M.I. 1991. North Taranaki Ecological District. Survey report for the Protected Natural Areas Programme No. 16. Department of Conservation, Wanganui

The Parininihi land to the west of SH3 has been mapped as a Regionally Significant Landscape in the Operative New Plymouth District Plan. The values of this area are outlined in Technical Report 8a.

The Project avoids all of the Parininihi land and associated natural environment values to the west of SH3.

The Ngāti Tama land to the east of SH3 primarily comprises forest, with some pasture farmland. The forest to the east of SH3, including the DOC Mt Messenger Conservation Area forest, is approximately 3,098ha in area and originally would have been very similar to the western part of Parininihi. However, this land has not had consistent pest management and consequently, the ecological condition of this area is poorer. Vegetation communities are more modified and have been affected by stock grazing, browser pressure, fire and logging.

The area of greatest ecological significance in immediate proximity to the Project alignment is the intact swamp forest and wetland areas in the valley floor of the northern Mimi River catchment (the Mimi swamp forest). The valley floor sequence within the northern tributary of the Mimi River represents a full range of swamp forest, scrub and non-forest wetland communities. This area will be avoided by the Project footprint, although the 120m bridge will span a tributary to part of the wetland.