

To Vanessa Browne
Cc James Hughes
From Kirstan O'Donoghue
Date 22 March 2023
Subject SH1 Pūhoi to Warkworth Speed Limit Changes

SH1 Pūhoi to Warkworth Speed Limit Changes

1. Background

The new Ara Tūhono – Pūhoi to Warkworth motorway will extend the Northern Motorway (SH1) from Johnstones Hill Tunnels to just north of Warkworth. <https://www.nzta.govt.nz/projects/ara-tuhono-puhoi-to-warkworth/>

The motorway will provide people travelling through this region with a separated motorway and vastly improve the safety, connectivity, and resilience of the network between Northland and Auckland, helping to boost the economic potential of the Northland region.

This will be achieved through easier freight movements and better access to major markets south of the region and to export ports at Auckland and Tauranga. The tourism sector will also benefit with improved journey times opening access to popular destinations in Northland and the Far North.



In anticipation of a 2023 opening, it was recommended that the State Highway Speed Management Plan Project team include the RCA boundary changes and speed limit proposals as part of the Interim State Highway Speed Management Plan (ISHSMP). This Plan was consulted on between 14 November and 12 December 2022. <https://www.nzta.govt.nz/safety/what-waka-kotahi-is-doing/interim-state-highway-speed-management-plan/>

Auckland Region - <https://www.nzta.govt.nz/assets/Safety/docs/interim-state-highway-speed-management-plan/ismmp-map-table-auckland.pdf>

However, the speed limits associated with the motorway opening will be required before the majority of the ISHSMP is submitted.

This memo outlines the process that Waka Kotahi has undertaken to determine the proposed speed limits for Ara Tūhono – Pūhoi to Warkworth, the final recommendation, and will accompany a submission letter to the Director of Land Transport requesting an alternative method to set speed limits: Director approval before next plan (cl2.6).

2. Interim State Highway Speed Management Plan (ISHSMP)

The purpose of the ISHSMP is to enable Waka Kotahi to share how it intends to manage speed limits through to June 2024.

During public consultation on the ISHSMP, the public were asked to identify any other factors Waka Kotahi should consider in relation to any of the locations, schools, and marae prioritised for speed limit reductions. People could give feedback on any location within any of the regions outlined.

Feedback was received from a wide variety of respondents, including local government (RCAs - city, district councils and transport groups), school principals, iwi/hapū representatives, directly affected and other interested communities, transport and active transport advocacy groups, residents and ratepayers associations, as well as the public who regularly travel on parts of the state highway network.

3. Technical Considerations

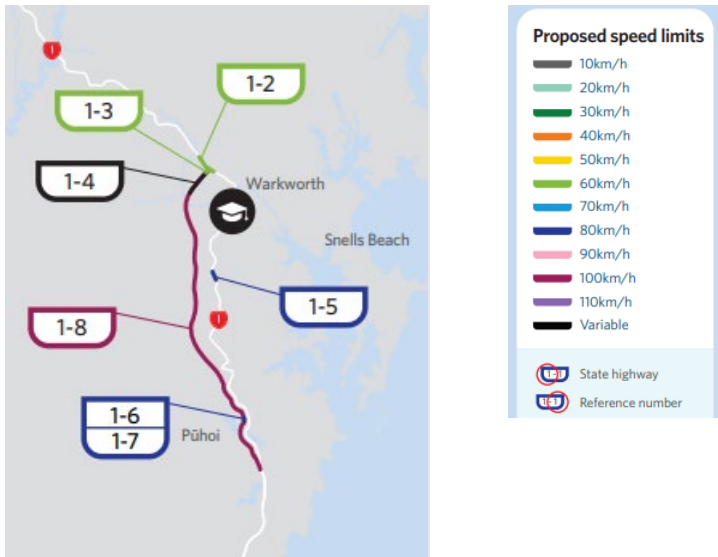
The initial speed proposals were originally requested from the project team based on the operating speeds for the design. These were then reviewed against the guidance and information developed and maintained by Waka Kotahi.

In this case, the Megamaps, Road to Zero edition did not contain the details for the Safe and Appropriate speed (SaAS) for the whole of the Auckland region, so the One Network Framework (ONF) classification was verified from the Road assessment and maintenance management database (RAMM) and using the Speed management guide: Road to Zero edition, an assessment of the SaAS was made.

All the new and existing road alignment had an ONF classification of 'inter-regional connector' with a speed limit range of 80 to 110km/h. The result of the assessment is listed in the summary table.

3.1. Summary table

Please refer to Appendix A for the Summary table for speed proposals for certification. A plan of the proposals used for consultation is shown below:

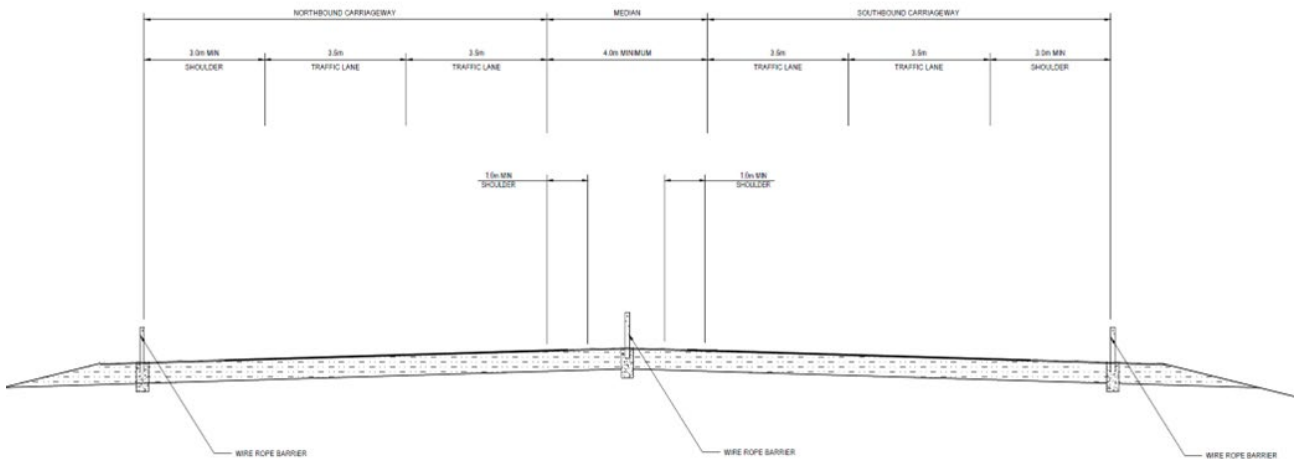


This memo includes for items 1-2 to 1-8 excluding 1-5 (removal of Intersection speed zone on SH1).

3.2. Project design cross-section and standards

The section of the P2Wk over which the 100km/hr posted speed limit is proposed consists of a 4-lane divided carriageway. The geometric design has adopted a 100 km/hr design speed (with a 110 km/hr design speed for some aspects) and wire rope median and side barriers are provided for the corridor, with TL-5 barriers at the various the structures.

The typical cross section for the carriageway is as identified in the figure below.



3.3. VSL operation

A variable speed limit (VSL) is proposed to step down northbound vehicle speeds on the approach to the roundabout (where the new motorway joins the existing SH1) during peak periods, improving capacity and reducing the risk of nose to tail accidents.

A total of six VSL signs will be installed on the roadside. The signs will be automatically controlled from by way of programmable logic controllers installed roadside (with ATOC having the ability to override such controllers, as required). It will make the motorway safer since it will adapt the speed limit to the current road conditions.

3.4. PPP Obligations and Commercial Risk

Waka Kotahi have delegated some of its statutory powers, including the setting of temporary speed limits, to Northern Express Group (NX2) under the terms of the Public Private Partnerships Agreement.

Hence, should the Director certification (and the associated processes) not be completed prior to road opening, there is a commercial risk to Waka Kotahi as there would need to instruct NX2 to implement a temporary speed limit for all, or part, of the P2Wk alignment. This could lead to NX2 either refusing to open the road (and seeking to recover delay costs from Waka Kotahi) or NX2 seeking to be relieved from the 'performance regime' obligations that they are otherwise subjected to under the terms of the PPP agreement.

4. Māori partnership

Waka Kotahi have been working with Hōkai Nuku since 2010 when the partnership was originally formed to collaborate on the Ara Tūhono - Pūhoi to Wellsford. Hōkai Nuku continue to provide specialist cultural and environmental advice for this stage of the project. Hōkai Nuku is the authorised voice of four Iwi and Hapū mana whenua – Ngāti Manuhiri, Ngāti Mauku/Ngāti Kauae of Te Uri o Hau, Ngāti Rango of Kaipara and Ngāti Whātua.

Hōkai Nuku have been acting in the capacity of the 'iwi advisor' under the terms of the conditions imposed by the Board of Inquiry (BoI) in the consent and designation conditions that were granted for the project in 2016.

The relationship between the Transport Agency and Hōkai Nuku as Treaty partners has been formalised in a relationship agreement which includes for the provision of cultural services throughout the 25-year operating period.

5. Interim State Highway SMP Consultation and Feedback

For the overall ISHSMP, we received 1,645* unique submissions in total, comprising 1,529 online survey submissions, 95 by email, and 21 in hard copy.

We asked people to select the region or regions they wished to provide feedback on. Those wanting to give general feedback on the plan could select the 'All regions' category. People could give feedback on more than one region within their submission.

A total of 66 public submissions were received for the Tamaki Makaurau region and **4 submissions were provided in relation to the Ara Tūhono - Pūhoi to Warkworth corridor specifically.**

Locations shown in the feedback overview table below correspond to locations shown in the 'Proposed speed limits' plan in section 3.1 above.

Factors and suggestions from consultation feedback

Location	Feedback from consultation
1-2, 1-3, 1-4, 1-5, 1-6	<p>1-2 supported by AA Northland due to development of new/busy roundabout here; however, AA Northland and AA Auckland want changes to 1-3 to 1-7 to support preferred 110km/h speed limit for 1-8 Pūhoi to Warkworth.</p> <p>Waka Kotahi undertaking works to strengthen the road; reducing speed limit implies the safety works are insufficient.</p> <p>Implement the proposed speed limit reduction from 80km/h to 60km/h (1-2)</p> <p>Adapt all proposed speed limits for on/off ramps (1-3 to 1-7) to support 110km/h on 1-8 Pūhoi to Warkworth mainline</p> <p>Retain the existing speed limits to justify the safety improvement works.</p>
1-7	<p>Proposed speed limit on the ramp does not match the speed limit on SH1 that vehicles are about to join; believes this is inherently dangerous.</p> <p>Match the ramp speed limit to SH1 i.e. 100km/h instead of 80km/h.</p>
1-8	<p>AA Northland and AA Auckland support with changes to align speeds with Waikato Expressway and Waterview tunnel.</p> <p>Road is of excellent condition on par with the Waikato Expressway.</p> <p>Believe this section was designed/built and publicised for a 110km/h speed limit.</p> <p>Consider 110km/h for SH1 mainline Pūhoi to Warkworth and 100km/h through Johnston Hill Tunnels only</p> <p>Increase speed limit to 110km/h for whole section instead of 100km/h to match Waikato Expressway.</p>

Waka Kotahi Response

Waka Kotahi wishes to thank submitters for taking the time to provide their feedback. This feedback has been considered by the technical team and they have provided the following comments:

- The mainline section of motorway will default to a speed limit of 100km/h as per cl 2.1(1)c of the rule. To set a speed limit of 110km/h the road controlling authority (RCA) must request and obtain the Director's approval under cl 4.4(1) of the rule. This requires a technical review that the satisfies the Director that the road has been designed and constructed, and will be managed and operated, to the standard necessary to safely support 110 km/h travel speeds. This review is currently underway and the outcome will be communicated in due course.
- The on and off ramps will be set at 100km/h with short sections as they tie into Pūhoi Road set at 80km/h, the local road posted speed limit.
- The existing 80km/h posted speed limit on SH1, north of Warkworth is proposed to be reduced to 60km/h. This is the safe and appropriate speed for the intersection. This will allow for higher volumes of traffic and improve safety. There will also be a short motorway that will be set at 60km/h as the tie into the existing road network. The variable speed limit will allow traffic to be slowed if congestion or incidents occur.

6. Speed Panel / Regulatory discussion and outcome

On understanding the need for urgency for the speed limits to be certified and registered in the National Speed Limit Register (NSLR), Transport Services liaised with the Regulator to discuss possible pathways for submission and certification.

The Speed Assessment Panel meeting was held where it was agreed that based on the expectation dates around the road opening and the urgency of the changes required that an alternative method for certification would be an appropriate pathway.

7. Requirements of the Rule 2022

The Land Transport Rule: Setting of Speed Limits 2022 sets the process for making new and altering existing speed limits. This process indicates that the preferred method is by a Speed Management Plan. However, the rule has a provision for 'out of cycle' certification by using Clause 2.6 *'Alternative method for Agency (as RCA) or territorial authorities to set speed limits: Director approval before next plan'*.

For Ara Tūhono – Pūhoi to Warkworth:



- Transport Services provides details of the proposed speed limits and seek the Director's approval to set these speed limits.
- It can be confirmed that regard was taken of the guidance and information developed and maintained by the Agency and that discussions with adjoining RCA have taken place with regards to aligned speed limits.
- A good reason exists for proposing the speed limit prior to the next relevant plan due to the opening of the road.
- Consultation was undertaken via the Interim State Highway Management Plan and that clause 3.9 was applied. All submissions to the consultation were considered.

8. Transport Services Recommendation

Transport Services recommend that the Director of Land Transport certifies the Ara Tūhono – Pūhoi to Warkworth speed limit proposals as listed below:


Corridor Name	Description	Start	End	Length (km)	Speed limit (km/h)
SH1 Warkworth north	North of Warkworth	1747759, 5971516	1746998, 5972293	1.8	60
P2Wk north	North end of motorway	1747184, 5971503	1747324, 5971703	0.85	60
P2Wk mainline	Warkworth roundabout to Johnstones Hill tunnels	1750253, 5955724	1747178, 5971495	18.6	100
P2Wk - Smart Motorway – northbound only	Variable speed limit for smart motorway	1746178, 5970127	1747184, 5971503	2.0	30, 40, 50, 60, 70 & 80 Variable
Puhoi Road northbound on-ramp	Puhoi Rd on-ramp	1749413, 5957410	1749393, 5957442	0.2	80
Puhoi Road southbound off-ramp	Puhoi Rd off-ramp	1749577, 5957347	1749657, 5957178	0.03	80

Outcome Endorsement

Name	Position	Date	Signature
Kirstan O'Donoghue	Team Lead (A), Road Safety, SaSS, Transport Services – Programme and Standards	07/03/2023	
James Hughes	Lead Advisor Safety, Transport Services – Programme and Standards	07/03/2023	

Decision

This decision is made by the National Manager Programme and Standards, Transport Services, Office of the GM TS in accord with authority residing in Waka Kotahi.

Name	Position	Date	Signature
Vanessa Browne	National Manager Programme and Standards, Transport Services, Office of the GM TS	22/03/2023	

APPENDIX A

SH	Location	Existing PSL (km/h)	Proposed Speed Limit (km/h)	Speed Limit Type	Implementation Timeframe	Is proposed speed limit different from the Waka Kotahi confirmed assessment of safe and appropriate speed (SAAS) limit? (km/h)	Further information	Dates and times
1	Warkworth North	80	60	Permanent Speed	23-24	N/A**	ONF = interregional connector = meets criteria for 80km/h SaAS. A lower speed provided to match the design speed of the roundabout.	N/A
1	Puhoi to Warkworth mainline 60	N/A*	60	Permanent Speed	23-24	N/A**	ONF = interregional connector = meets criteria for 80km/h SaAS. A lower speed provided to match the design speed of the roundabout.	N/A
1	Puhoi to Warkworth mainline	N/A*	100	Permanent Speed	23-24	N/A**	ONF = interregional connector = meets criteria for 100km/h SaAS. Median barrier provided for full length. Review for 110km/h is underway.	N/A
1	Puhoi to Warkworth (Smart Motorway – northbound only)	N/A*	Various V	Variable Speed	23-24	N/A**	ONF = interregional connector = meets criteria for 80km/h SaAS. Variable speed limit to allow for smart management (permitted speeds 30,40,50,60,70,80 & 100)	Northbound approach during congestion periods or incidents
1	Puhoi Road northbound on-ramp	N/A*	80	Permanent Speed	23-24	N/A**	ONF = interregional connector = meets criteria for 80km/h SaAS. Puhoi Rd - Northbound off-ramp	N/A
1	Puhoi Road southbound off-ramp	N/A*	80	Permanent Speed	23-24	N/A**	ONF = interregional connector = meets criteria for 80km/h SaAS. Puhoi Rd - southbound on-ramp	N/A

* The existing posted speed limits do not apply as most of this corridor is new offline road alignment.

** The Safe and Appropriate speeds for the Auckland region are not shown in Megamaps RtZ Edition.