



Will be considered for: release in full

MIN-4286 Crowning for water run-off and Wairarapa speed limit changes

22 August 2023

Providing note on the appropriate crowning for water run-off and reshaping of the roads due to the crossfall. Also providing note on deaths on SH2 pre- and post- speed changes, and an update on planned future safety improvement works.

Waka Kotahi NZ Transport Agency's response:

Crowning for water run-off:

- Longitudinal slope and crossfall of the road surface are both factors in determining if there is sufficient crowning for water run-off.
- We do collect data on which sections of road have a crossfall of greater than or less than 3%, which is the standard crossfall.
- However, this does not mean there is anything wrong with the crossfall, as road sections are geometrically designed to keep traffic on the road.
- To consider whether the road is at the right crossfall under Austroads design standards would require every curve to be checked.
- It would also be necessary to validate other sites that have crossfall variation for other reasons e.g. rainfall, vertical alignment to ensure the variation is not deliberate.
- There is no easy way to assess the appropriateness of a crossfall for water run-off with the information available.
- Crossfall remediation is not a driver for pavement renewal. However, we do investigate and improve them to the latest standards as part of the renewals programme.
- As part of skid management, in locations where there is good chip performance but a high crash rate, a safety assessment is undertaken. Assessing the crossfall is involved in understanding what happens at the site.

Future safety improvements:

Pedestrian crossings:

- Five raised pedestrian crossings are being planned for construction on SH2 in 2023. Two are in Masterton, and one each are in Carterton, Greytown and Featherston.
- These will replace existing crossings with raised crossings which are more visible.
- The platforms are significantly wider, allowing more room for crossing in both directions. The entrance to each crossing will be level with the footpath and use an anti-slip surfacing.
- For drivers, the pedestrian crossing design includes improved vehicle ramps that are longer and gentler to drive over. We have worked with emergency services, local councils, and other key road-user groups to ensure the design is fit for everyone without compromising on safety.



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Roundabouts and barriers:

- Construction of safety improvements on SH2 between Masterton and Carterton is finishing soon, with final sealing happening in December.
- Three roundabouts have been constructed, along with a turning bay and median barriers.
- The SH2/Ngaumutawa Road roundabout also includes a raised pedestrian crossing, which will improve safety for school children and others to cross the road. There are also new pathways for cyclists and pedestrians.

Other projects under consideration:

- SH2 Mt Bruce to Masterton side barriers
- The following projects on SH2 are being considered for the 2024-27 NLTP:
 - Four intersection safety improvements
 - SH2 Carterton to Greytown median barriers
 - SH2 Opaki Rail Overbridge safety improvements
 - SH2 Hughes Line to Carterton safety improvements
 - SH2 Raised pedestrian crossings upgrade in all townships

Crash information:

Deaths and serious injuries on SH 2 between 260m east of William Donald Drive and 120m west of Renall Street, Featherston			
Year	Deaths	Serious injuries	Total injuries
2013		2	2
2014		3	3
2015		2	2
2016		2	2
2017	1	3	4
2018	1	2	3
2019	1	5	6
2020	1	6	7
2021		2	2
2022*	1	4	5
1 Jan-26 Jan 2023*			0
27 Jan-21 Aug 2023*	1	3	4
Total	6	34	40

Please note the following concerning the data contained in this spreadsheet:

- This data is provided from the road traffic crash database; Crash Analysis System (CAS) version 2.5.0
- Waka Kotahi NZ Transport Agency maintains CAS which is updated once a Traffic Crash Report (TCR) is received from NZ Police sometime after the crash.
- Data is limited to fatal and serious injuries crashes for the years 2013 to 2023 as recorded in CAS to date - 21/08/2023.



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- Data is limited to crashes on SH 2 between 260m east of William Donald Drive and 120m west of Renall Street, Featherston.
- A crash, to be recorded in CAS must have occurred on a road. The CAS definition of a road is any street, motorway or beach, or a place to which the public have access with a motor vehicle, whether as of right or not e.g. a public car park.
- Due to the police reporting time frame and subsequent data processing, there is a lag from the time of a crash to full and correct crash records within CAS.
- Fatal and Serious Injury crash report data is usually recorded in CAS within one working day of Waka Kotahi receiving it from NZ Police.
- Due to the nature of non-fatal crashes, it is believed that these are under-reported, with the level of under-reporting decreasing with the increasing severity of the crash.
- Due to the Covid-19 pandemic, NZ had a 4-level Alert system in place from 21 March 2020 until this changed to a Traffic Light system from 3 December 2021 to 12 September 2022. The amount of traffic on the roads during level 4 lockdowns was greatly reduced, which consequently reduced the number of road crashes. Road movements under the Orange and Red levels of the Traffic Light system would also be reduced due to the restrictions in place, so data from these periods will not align with previous trends.
- 2022 and 2023 data is incomplete in CAS but the figures provided are what is currently in CAS as at 21/08/2023.
- The majority of the section between Masterton and Carterton is under temporary traffic management due to the safety improvement works, which impacts the usefulness of the data. Once this is uplifted, the new speed limits will apply.