

MINO-1101 120km/h speed limits

14 June 2024

Providing information on the criteria that NZ Transport Agency Waka Kotahi as a Road Controlling Authority (RCA) would consider for 120km/h speed limit.

NZ Transport Agency Waka Kotahi (NZTA) response:

NZTA considerations would include the three aspects below:

Design standards

- NZTA RCA standards for safety and engineering standards do not cover a 120km/h speed limit and 120km/h exceeds the scope of the Austroads Guide to Road Design (110km/h max).
- Maximum speeds for motorway design in Australia is 110km/h.

Geometry

- Required stopping visibility increases by 43% (+42m) compared with 100km/h and 15% (+32m) compared with 110km/h.
- Roads would generally cost more to construct:
 - Straighter with wider shoulders to achieve the required visibility
 - Increase in earthworks cost to achieve required visibility on crest and sag curves
 - Larger area and wider spacing for interchanges
 - More land required.
- Superelevation would increase to >8%, levels at which heavy vehicles would become unstable, particularly on gradients >4% (Manawatu Gorge is designed to 9%) – i.e. so roads need to be flatter.
- Increase in speed differential between cars and trucks, especially on steep gradients:
 - Climbing lanes
 - Descending lanes.

Safety

- Increased speed reduces the width of a driver's visual field and peripheral vision, significantly compromising their ability to recognise hazards and increases the distance travelled to react to that hazard at higher speeds.
- Reduced ability of road users to judge vehicle speed and time before a crash and less opportunity for other road users to avoid a crash; increases likelihood of crashes.
- Stopping and following distance requirements between vehicles will increase.
- Road safety hardware (median and side barriers) are not tested for an impact speed of 120km/h speed limit. Safety barrier systems are currently only tested up to 100km/h with a 10-tonne vehicle for wire rope and 90km/h with a 36-tonne truck for concrete.
- 120km/h speed limit exceeds the design requirements for other roadside safety features.
- Energy in crashes increases by 20% over 100km/h and 44% over 110km/h.