

25 June 2026

Nigel Gray
fvi-request-34802-7e90b865@requests.fyi.org.nz

Dear Nigel

Request for information

Thank you for your Official Information Act 1982 (OIA) request received 29 May 2026 in which you asked about speed enforcement tolerances. I have answered your request below.

1. *What is the current operational speed-enforcement tolerance applied by NZ Police for:*
 - a. *Mobile speed cameras*
 - b. *Fixed speed cameras*
 - c. *Hand-held radar*
 - d. *Vehicle-mounted radar*

There is no tolerance for exceeding the speed limit and no "speed-enforcement tolerance" exists. This part of your request is refused under section 18(g)(i) of the OIA, as the information requested is not held.

Driving above the posted limit is unlawful, and all drivers are responsible for complying with speed limits.

For officer-based enforcement methods (including handheld radar, laser devices, and vehicle-mounted radar), enforcement action may be taken at any speed exceeding the limit.

Camera systems require activation settings that determine when an image is captured for enforcement consideration. These are technical trigger points only and do not alter the legal speed limit or provide any allowance to exceed it. Please note that responsibility for speed cameras has transferred to NZ Transport Agency Waka Kotahi (NZTA).

2. *If NZ Police will not disclose the specific tolerance, please provide:*
 - a. *The legal basis for withholding it*
 - b. *The date the current tolerance was set*
 - c. *The agency or individual who authorised it*

As outlined above, no speed enforcement tolerance exists, therefore this part of your request is refused under section 18(g)(i) of the OIA, as the information requested is not held.

3. *Does NZ Police set the enforcement threshold for NZTA-operated fixed cameras? If not, who does?*

Police does not set activation or enforcement parameters for NZTA-operated cameras. These are managed directly by NZTA.

Police National Headquarters

180 Molesworth Street. PO Box 3017, Wellington 6140, New Zealand.
Telephone: 04 474 9499. Fax: 04 498 7400. www.police.govt.nz

4. *Does NZ Police require that any enforcement threshold must account for the known measurement error of radar and camera devices (typically $\pm 2-3$ km/h)?*

Police does not apply an operational tolerance or threshold in response to measurement uncertainty.

All speed detection devices used by Police are calibrated annually and issued with Certificates of Accuracy. Measurement uncertainty is calculated by the Measurement Standards Laboratory of New Zealand and recorded as part of the calibration process. This reflects scientific calibration requirements and does not result in any operational allowance when enforcing speed limits.

Police policy requires that infringement notices reflect the speed recorded by the device at the time of detection.

5. *Please provide all documents, memos, or emails since 2020 discussing speed-enforcement tolerances or thresholds.*

The following documents have been identified and are provided with this response:

- National Road Policing Centre Evidence Review – Speed (2020)
- Audit Trail - Speed Enforcement Chapter – An internal documentation relating to the policy change, including the audit trail for removal of the threshold provision:
- Pānui to staff advising of the policy change
- Speed Camera Activation Levels Memo – 2020
- Appendix A – Speed Memo 2020

These documents outline the research, rationale, and decision-making process informing Police's current approach to speed enforcement.

The Speed Camera Activation Levels memo addresses technical trigger points for image capture and notes that some motorists had interpreted earlier settings as an informal tolerance. This document remained in draft form and was not finalised or implemented as policy.

Reasonable searches were conducted for documents within scope of your request. No additional relevant information was identified.

Police removed the "speed threshold" guidance in May 2021 following internal consultation and consideration of research on speed and crash risk. This change was intended to reinforce that the posted speed limit is the maximum legal speed and to remove ambiguity that may have contributed to public misunderstanding.

The change did not alter officers' ability to exercise discretion based on individual circumstances.

If you are not satisfied with the way I have responded to your request, you have the right under section 28(3) of the OIA to ask the Ombudsman to review my decisions. Information on how to do this is available online at www.ombudsman.parliament.nz.

Yours sincerely



Superintendent Steve Greally
Director: Road Policing
New Zealand Police

Appendix A: Speed Camera Activation Levels- Options Table

	Explanation of Option	Benefits	Issues	Financial Costs	Considerations
Option 1: Status Quo	Retain status quo as is. Do not lower the speed camera activation levels and leave it at 10km/h	- No additional business risks - No immediate trust and confidence issues	- Continues to perpetuate a false 10km/h 'tolerance' to motorists - Potential negative impact on trust and confidence in the future, if Police are perceived to have 'not' done anything. - Status quo does not align with Our Business Goals	- No extra financial costs associated with the Status Quo - Social harm (and the associated financial costs) of crashes does not reduce	- There is a short timeframe before the transfer of the camera network to Waka Kotahi is expected to occur in 2022. - Over 2020, the cameras were not lowered (but will be for the Christmas/New Year period), there is a trending decrease in fatalities on roads - Traffic levels are currently trending at pre-COVID levels
Option 2a: Enforce at 2km/h	Set the speed camera activation trigger levels to 2km/h and take enforcement action for speeds higher than the posted speed limit + 2km/h.	- Long term trust and confidence - Modifies driver behaviour - Consistent expectations around speed enforcement - Reduces the mean speed on roads	- Considerable immediate business risk to the Police Infringement Bureau with the increase in notice volume - Immediate impact on Ministry of Justice and Courts workload	- Significant investment in staff required to process the increase in notices - Further investment in equipment is required for Police Infringement Bureau - Ongoing investment will need to be available to support the sustainability of this option.	- Has an immediate impact on the Police Infringement Bureau - Has an immediate impact on the Police Prosecutions Services - Waka Kotahi have indicated that they have minimal tolerance for speeds in excess of the posted limit. This could be an intermediary step pre-transfer of the cameras.
Option 2b: Gradually Drop Speeds in steps	Drop the speeds over a set period of time to meet at a 2km/h enforcement speed. This may be phased to lower the speeds from 10km/h in stepped increments until the speed reaches 2km/h.	- Long term trust and confidence - Modifies driver behaviour - Consistent expectations around speed enforcement - Reduces the mean speed on roads - Less immediate financial risk, as recruitment can be scaled to meet demand	- Significant financial investment will be required to ensure that there is continuity and commitment to the speeds eventually dropping to 2km/h - Trust and confidence risks if media and comms campaign is not properly managed - Will take a much longer period to implement to get to 2km/h - Ongoing recruitment and training obligations to meet notice volume demand - Future impacts on Ministry of Justice and Courts workload	- Significant investment in staff required to process the increase in notices - Ongoing investment required for equipment and adequate resourcing of staff as required at each gradual drop - Investment in an ongoing media and comms strategy will be required	- There is a short timeframe before the transfer of the camera network to Waka Kotahi is expected to occur. - Waka Kotahi have indicated that they have minimal tolerance for speeds in excess of the posted limit. This could be an intermediary step pre-transfer of the cameras.
Option 3: Long lead-in time	Lower the speed camera activation levels to 2km/h but build in a longer lead-in period. The lead-in period will see an extensive media campaign run before the speeds drop to 2km/h.	- Long term trust and confidence - Modifies driver behaviour with consistent expectations around speed enforcement - Reduces the mean speed on roads - Longer lead-in time, allows for management of impacts on other parts of the business	- This option could take a longer time than others to implement, depending on how it is decided to space the gradual drop of the speeds, and accounting for a strong media campaign that gives fair education and warning to the public - Future impacts on Ministry of Justice and Courts	- Significant investment in staff required - Further investment in equipment is required for Police Infringement Bureau - Investment in an ongoing media and comms strategy will be required	- There is a short timeframe before the transfer of the camera network to Waka Kotahi is expected to occur. - Waka Kotahi have indicated that their view is minimal tolerance for speeds in excess of posted limits. This could be an intermediary step pre-transfer of the cameras that aligns with this.

Option 4: Targeted Approach	Lower the speed activation levels in certain targeted areas.	• Public trust and confidence with Police targeting high risk areas • Lessens the impact on the business and external agencies • Allows Police to target risk rather than the whole network	• This option could be quite reactive as it is difficult to predict crash data. It could be perceived as a bit ad hoc if not properly managed. • The current camera network limited and may not be sufficient to have large impacts when dedicated to certain areas.	• An additional FTE may be required for Police Calibrations Services • Additional FTEs may be required for the Police Infringement Bureau to manage the increase in notices. • Investment in an ongoing media and comms strategy will be required	• All communications and media would need to be clear on the parameters and boundaries of where the <i>'targeted high-risk areas'</i> are to avoid confusion among the public • This option will have a significant impact on Police Calibration Services who will be required to burn discs for mobile speed cameras constantly
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NEW ZEALAND
POLICE
Ngā Pirihimana o Aotearoa

National Road Policing Centre

AUDIT TRAIL

URGENT ☒

SEMI-URGENT ☐

ROUTINE ☐

Document Type POLICE INSTRUCTIONS	Title / Subject SPEED ENFORCEMENT		
File Reference	Date Received	Date Required	Date Dispatched

RESPONSIBILITIES

CHECKED AND APPROVED BY:

Section Operational Support	Comment Upon endorsement, return to BRITTANY YOUNG for publication		
Person Responsible BRITTANY YOUNG	Manager: Road Policing Policy	Manager: Operational Support Jason Eady	
Date Ext.	Date Ext.	Date	Ext. 44318

CONSULTATION

Police Executive ☐ Assistant Commissioner: Road Policing & Prevention National Road Policing Centre Tier 2 ☐ Manager: Portfolio and Programmes ☐ Manager: Insights & Learning ☐ Manager: Strategy & Relationships ☐ Manager: Commercial Vehicle Safety Team ☒ Co-Director: Road Safety Partnership National Road Policing Centre Tier 3 ☐ Manager: Relationships ☒ Manager: Operational Support ☒ Manager: Strategy and Implementation ☐ Principle Advisor: Operational Learning ☐ Manager: Insights and Intelligence ☐ Manager: Evidence ☐ Team Leader: Portfolio Delivery ☐ Portfolio & Insights: Financial Analyst Road Policing Manager (or delegation) ☐ Northland ☐ Counties Manukau ☐ Waitematā ☐ Auckland City ☐ Waikato ☐ Bay of Plenty ☐ Eastern ☐ Central ☐ Wellington ☐ Tasman ☐ Canterbury ☐ Southern ☐ CVST Area 1 ☐ CVST Area 2 ☐ CVST Area 3 ☐ CVST Area 4 ☐ CVST Deployment Manager ☐ CVST Training & Standards	National Manager (or delegation) ☐ Business Planning Group ☐ Community Policing ☐ Communications Centres / SNEN ☐ Criminal Investigations Group ☐ Finance Group ☐ Fleet ☐ Human Resources ☐ Information Communication Technology ☐ International Services Group ☐ Legal Service Centre ☐ Maori Pacific Ethnic Services ☐ National Intelligence Unit ☐ OFCANZ ☐ Operational Services ☐ Organisational Assurance Group ☐ Policy Group ☐ Professional Standards ☐ Prosecutions ☐ Public Affairs ☐ Record Keeping ☐ RNZPC (Training Service Centre) ☐ Road Policing Support ☐ Youth Services Policy & Partnerships ☐ Director: Policy and Partnerships ☐ Manager: Road Policing Policy Other ☐ District staff (specify) ☐ External (specify) ☐ Other (specify) Other (specify below) ☒ POLICE CALIBRATIONS ☒ POLICE INFRINGEMENT BUREAU
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Sign Off

COMMENTS

Superintendent Steve Greally National Manager: Road Policing Date: 27/5/21	Nil
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Police Manual Approval / Cancellation

To	Police Instructions (police.instructions@police.govt.nz)
From	[Brittany Young, [Senior Road Policing Advisor] [National Road Policing Centre]
Topic	Speed Enforcement Policy

Action Required

Amendment of Police Manual chapter.

Brief Rationale (Detail purpose, what changed and why, any other matters)

The Speed Enforcement Chapter of the Police Instruction has been updated to ensure it remains fit for purpose, aligns with current practice, and the removal of the speed thresholds and tolerances.

The main changes include; a new 'Speed Enforcement Levels' section that replaces the previous 'Speed tolerance thresholds' section, a new 'Speed Limit Changes' section outlining the role of Police in supporting the implementation of safe speed limits, and the approach that Police should use as guidance where speed limits are changed.

The removal of the 'Speed tolerance thresholds' section reflects the assertion that there is no acceptable tolerance of a threshold to speed, rather that there is a tolerance at Police discretion.

The new speed limit changes section provides comprehensive guidance on the role of Police and our approach in setting changes to the speed limits. This will be particularly useful in assisting Police if other District Councils choose to lower their speed limits, which has been seen in Auckland and Tasman.

The chapter also has minor amendments to ensure that it reflects changes to titles and the roles and responsibilities of certain groups. This chapter also provides minor amendments and additional guidance on the use of radar and laser equipment and mobile and static speed cameras.

This chapter has been consulted widely with members of the National Road Policing Centre (including Calibrations and the Police Infringement Bureau) and all District Road Policing Managers and their staff. It has not been necessary to consult with the Police Association or Police Managers Guild.

Does the chapter contain reporting requirements (See note 6 next page):	☐ Yes ☒ No
Is the chapter new or significantly updated (See note 1 next page):	☒ Yes ☐ No
If to SLB, detail:	Sub-Committee: Paper ref: Date:

Impact assessment	Recommended security classification
☒ Impact assessment form attached (see note 2 next page)	☐ UNCLASSIFIED ☐ SENSITIVE / RESTRICTED (See note 3 next page)

Communications planning (see note 4 next page)

These communications are planned as a result of publishing this document:

A panui bulletin board message and an email out to Prevention and Road Policing Managers will be sent out.

Consultation (tick to indicate who was consulted)

☒ Police Instructions mandatory	☐ Police Association mandatory, or ☒ Not required (see note 5 next page)
☐ Police Leaders Guild mandatory, or ☒ Not required (see note 5 next page)	☐ Safer People (if there could be possible health & safety issues), or ☒ Not required
☒ National Road Policing Centre	☐
☒ Legal	☐
☐	☐
☐ Other (state)	☐ Other (state)

Approval

The National Manager/Director or equivalent, detailed below, has approved the required action.

Approving Manager details: [Superintendent Steve Greally, Director], National Road Policing Centre]

Note: When emailing the completed form to Police Instructions, you must cc the Approving Manager listed above.

Notes for Completing the Police Manual Approval/Cancellation Form

1 New or significantly updated chapter

Where any Police Manual chapter is new or significantly updated, the relevant Executive member considers whether it is of such importance that it should be forwarded to one of the [Strategic Leadership Board \(SLB\) sub-committees](#) for consideration and endorsement. If so, attach to the SLB/Sub-committee paper:

- a copy of draft chapter
- a completed Impact Assessment.

The Committee will advise whether the chapter can be issued or if amendments are required. Non-SLB chapters can be approved by the relevant National Manager or Executive member.

2 Impact assessment

Complete the form if the impact of a new or updated policy/chapter is significant and effects other groups.

3 Security classification

Is this chapter unclassified (open access for all employees to read) or are there reasons to restrict access to authorised employees by QID? If a document has restricted access only those that are authorised access will be able to locate and access it on-line. You must supply the QIDs of those who will be granted access to the restricted document.

4 Communications planning

How will the change be communicated to Police? (Employees must be informed - use as many methods as possible). Other than publishing the chapter in Police Instructions it is the responsibility of the business owner to communicate the chapter to employees. This must be well considered as employees may be held accountable for non-compliance.

The Police Instructions Team will provide you with a suitable template in their confirmation of publishing notice to you.

5 Consultation

If you have consulted you should attach any written advice you have received from any of the groups, to this approval/cancellation form or retain on your file for audit purposes. If the advice was verbal, detail that on a separate page or retain on file.

The **Police Leaders Guild** and the **Police Association** must be consulted on any proposed new or amended Police Manual chapter:

- that has a direct or immediate personnel, people or industrial relations dimension
- Where non-compliance might have serious consequences for the employee, e.g. firearms, TASER, fleeing drivers, prisoner assessments/management.

Note: Consultation must be "meaningful". Where service union recommendations are not followed, they must be advised of this in writing and given a further opportunity to respond.

Check with the PI Team Leader on whether service union consultation is required.

If a proposed new or amended Police Manual chapter:	then. . .
• is technical in nature; or • changes involve technical amendments such as legislative references, links, words that do not affect content and meaning or does not meet the criteria detailed above	contact the Team Leader: Police Instructions (TLPI) on ext. 44137 for permission not to consult.

Remember: If in **any doubt** contact the TLPI to discuss.

Other business groups must be consulted if the proposed new or amended Police Manual chapter affects any of the other business groups or districts. As an example, ask: Will another

group have to amend any of their Commissioner of Police Circulars, Police Manual chapters or should Legal be consulted to confirm advice given correctly reflects legislative requirements? Will it affect RNZPC training, MyPolice, modules or curriculum?

6 Reporting Requirements

Tick 'yes' if the chapter contains any reporting requirements. This will allow the Assurance Group to be advised so that it can be included in assurance audits.

Policy statement and principles

What

Speed is globally recognised as the leading contributor to the incidence of crashes and the seriousness of crash outcomes. An analysis of New Zealand fatal crashes has shown that speeding is a valid and significant predictor of crash rates. Consistent and proactive speed enforcement activity is essential to influence safe driving speeds and reduce serious outcome crashes.

Why

Police is the principle enforcement agency for the Land Transport Act 1998 and related Regulations. Road policing activities are funded by the National Land Transport Fund.

In the five years to 2020, 3,165 people have died or were seriously injured in crashes where speed was identified as a contributing factor to the crash occurring. While this equates to about 22% of all fatal and serious injury crashes, speed has been identified as being a factor in 78% of New Zealand's outcomes where there is road trauma.

Effective enforcement of speeding drivers will reduce the number of deaths and injuries on our roads and contribute to [Our Business](#).

How

Police will ensure that:

- staff focus on prevention through risk targeted speed deployment that includes a variety of approaches, including enforcement
- excess speed is actively enforced to reduce the overall mean speed of the network
- speed enforcement equipment is supplied, maintained and updated as appropriate to enable employees to enforce excess speed
- all users of speed enforcement equipment are trained and certified appropriately.

Overview

Speed limits must be consistently enforced by appropriately trained Police employees, using approved and calibrated equipment to:

- prevent death and injury on the roads
- ensure enforcement methods withstand scrutiny and align to road safety outcome risks
- provide consistent public expectations of the Police response to speeding offences.

The content of this chapter covers both speed enforcement (estimated speed, pace checking and operating radar/laser equipment), and safe speed camera enforcement (operation of mobile and static safe speed cameras). It applies to all Police employees.

Refer to the '[Fleeing driver](#) policy' and '[Traffic patrol techniques](#)' chapters for stopping drivers.

For the operation of speed detection equipment refer to the '[Speed Detection Equipment Operators Manual](#)'.

Speed enforcement levels

Officer enforcement discretion

Enforcement officers should take circumstance appropriate action for any speed above posted or temporary speed limits, with resolutions applied in line with the following principles:

- Whilst Police should always acknowledge and consider explanations for exceeding the speed limit, there should be exceptional mitigating circumstances to justify a [warning](#) being issued for excess speed; for example a genuine medical emergency.
- In all cases the opportunity should be taken to educate the driver around the relationship between speed and survivability when a vehicle is involved in a crash. A few kilometres per hour can be the difference between a collision being inconsequential or completely avoided, and a crash with fatal or other life-changing outcomes.
- Police will treat all road users and vehicle owners in line with [Police Values](#).

A [written traffic warning](#) (WTW) should not be issued for a speed related offence, unless aligned to the approach for [Speed Limit Changes](#) or there is an exceptional circumstance, which must be recorded on the notice. Refer to the '[Written Traffic Warnings](#)' chapter for further information on warnings.

Remember: Enforce speed limits fairly, transparently and consistently, with the overriding principle of influencing safe speeds to prevent death and injury on the roads.

Safe speed camera detection levels

Safe speed cameras may be programmed to capture data and images for enforcement purposes for any speeds in excess of posted or temporary speed limits. The setting of safe speed camera enforcement levels principally includes consideration of road safety outcome risks and should be evidence based in their application. These settings will be determined, monitored and reviewed by Managers within the National Road Policing Centre as delegated by the Director.

School zones

Speed enforcement, Continued...

A school zone is designated as a single named road, no more than 250 metres from the school boundary, on which any direct school access exists. Early childhood centres can be 'school zoned' if a road sign identifies where the centre is.

To protect children and vulnerable road users near schools, speed limits are enforced on a risk-targeted basis between 7:30am and 6pm on any school day or any other time there is a school activity or event, e.g. sports activities and drama nights.

Speed Limit Changes

Setting of Speed Limits

Speed limit changes are the responsibility of Road Controlling Authorities (RCAs); i.e. the applicable Council or, in the case of state highways, Waka Kotahi (NZ Transport Agency). The RCAs are responsible for consulting and communicating the speed limit changes to the public, including signage and road marking changes. This may include using variable message boards and other media around the time of implementation. Accordingly, requests for media commentary around the implementation of new speed limits should be referred to the RCA.

Role of Police

It is important that the Police approach supports the implementation of safe speed limits. This includes applying an approach the public expects and deserves, that being one which ensures a balance between keeping people safe on the roads, whilst also alleviating perceptions of not being fair and reasonable as motorists adjust to the speed limit changes. This approach should contribute to sector confidence that safe speed limits can be implemented without generating public or political concerns.

Police Approach

- Collaborate with the RCA early
 - Confirm the extent of the proposed changes, that the correct processes are being undertaken to implement them, and that there is a strong RCA led communication plan to ensure widespread public awareness ahead of and at the time of the changes
- Apply a "bedding in" approach for a period of one month from the speed limit changes being implemented
- Continue to deploy to locations and times of greatest road safety outcome risks; i.e. not deploying to affected roads simply because it will be easy to catch motorists exceeding the new speed limits
 - Recognise that reduced speed limits will influence a reduction in mean speeds, even without enforcement, thereby, reducing road safety outcome risks
- If enforcement is carried out on affected roads during the first month after implementation and providing that the speed detected does not exceed the previous posted speed limit, adopt an approach that is appropriate to the circumstance, such as; engage, encourage, educate, warn, enforce methodology, with any such enforcement ideally conducted using marked cars
 - This provides motorists with fair and reasonable opportunity to adjust their driving behaviours in the wake of the changes, whilst also enabling appropriate responses to behaviours and circumstances that pose clear road safety outcome risks

Speed enforcement, Continued...

- This approach assists in building trust and confidence by also alleviating perceptions that Police are taking advantage of the speed limit changes to simply catch people out and issue large numbers of infringement notices
- Mobile safe speed cameras should not be deployed on the affected roads for at least the first month after changes are implemented, with the exception of school zones during high outcome risk times, and thereafter as aligned to road safety outcome risk priorities
 - Again, this will alleviate perceptions that Police are taking advantage of the speed limit changes to simply catch people out and issue large numbers of infringement notices
 - Note that new site codes will be required before operating safe speed cameras on roads where speed limits have changed
- If static safe speed cameras are on roads affected by speed limit changes, early advice must be provided to the Police Infringement Bureau (PIB). PIB will manage setting changes for the cameras to reflect the speed limit changes, and will implement a graduated response to motorists detected exceeding the new speed limit for the first month after implementation of the speed limit change

Communications

For significant speed limit changes a communication plan should be developed, in consultation with the National Road Policing Centre and Media and Communications as required. This should be largely for reactive purposes rather than proactive, noting that requests for media commentary around the implementation of new speed limits should be referred to the applicable RCA. Consider incorporating an approach to significant interest groups, such as AA, to confirm that Police will be deploying to road safety outcome risk and will not be targeting the affected roads for enforcement just because the speed limits have reduced.

Speed enforcement by officers

Tactics

Police:

- apply [TENR](#) in every situation
- employ safe tactics to ensure speed detection and enforcement does not pose unnecessary risks to public and Police safety
- use emergency lights and sirens promptly
- use tactics that minimise the need to complete a U-turn and chase, and take additional care to check for other road users before performing a U-turn
- should not accelerate unnecessarily for the purpose of speed enforcement.

Police vehicle speedometers

Police vehicles used for speed enforcement purposes must have their speedometers calibrated annually in accordance with CU10 (Standard Test and Calibration Procedure Speedometer Testing) by appropriately qualified personnel trained by Police Calibration Services and duly authorised for that purpose by the Commissioner of Police.

When vehicles pass calibration, a Certificate of Accuracy Speedometer and Odometer (POL430) is issued, the record of which must be readily available to all officers using the vehicle for speed enforcement.

Pace checking

Speed enforcement, Continued...

Pace checking is a method of speed enforcement using the Police vehicle's certified speedometer to establish the speed of the target vehicle. In general, this should be conducted at a constant distance and speed behind the suspect vehicle over a distance of not less than 250 metres.

If Police employees drive above the speed limit to gather evidence of an alleged offence, then Police is reliant on the exemptions under the [Land Transport \(Road User\) Rule 2004](#) and the [Land Transport Act 1998](#) for non-compliance with certain traffic rules and regulations where compliance would prevent the execution of that duty. Refer to the [What is a tactical approach](#) and [Legal provisions – defences section](#) of the [Urgent Duty Driving \(UDD\) Police Instruction](#).

An appropriate following distance should be maintained according to clause [5.9 Land Transport \(Road User\) Rule 2004](#).

Police must drive at an appropriate speed and manner and bear in mind that they:

- are individually legally responsible for their actions, including careless, reckless or dangerous manner and dangerous speed
- must prioritise public and Police safety
- must adhere to the '[Urgent duty driving](#)' chapter.

Pace checks should not be carried out in temporary speed limit areas or [school zones](#). Any enforcement in those areas or zones should be by way of radar/laser, safe speed cameras and estimated speed.

If someone is suspected of travelling at excess speed in circumstances where there is undue risk to any road users, they should be signalled to stop as soon as reasonably practicable to minimise exposure to the immediate road safety outcome risks, despite there perhaps being insufficient evidence to support enforcement action.

Prior to an Infringement Offence Notice (ION) or charging document being issued, the speedometer accuracy certificate of the Police vehicle must be reviewed in order to obtain the true speed of the alleged speeding driver. Any discrepancy between the Police vehicle speedometer and the actual speed can then be taken into account.

For example, the following is taken from a Police Vehicle Certificate of Accuracy (POL430).

Results of test in kilometres per hour

Vehicle speedometer	30	40	50	60	70	80	90	100	110	120	130	140	150
True speed	29	39	49	59	69	78	88	98	108	118	128	138	148

If a vehicle was pace checked at 120 km/hr, then the ION would be issued for 118 km/hr.

Note: [Police vehicle speedometers](#) should be calibrated within a 12 month period prior to the date of the offence.

Should it be identified that the vehicle speedometer is not within the 12 month calibration period, consider initiating action based on an estimated speed. However, IONs cannot be issued for estimated speeds. The offence must be proceeded with by way of a charging document.

Speed enforcement, Continued...

Who can use radar/laser equipment?

Only Police employees who hold or are undergoing supervised training (by a certified instructor qualified in the use of the equipment) for a Certificate of Proficiency for New Zealand Police Speed Enforcement Equipment may use radar/laser equipment.

Note: All radar/laser equipment used by Police must be operated in accordance with the [Speed Detection Equipment Operators Manual](#).

Certification standards

Section [146](#) of the Land Transport Act 1998 requires all speed enforcement equipment to be [calibrated](#) within a 12 month period. This includes:

- laser speed detection devices
- Police vehicle radar speed detectors and tuning forks
- Police vehicle speedometers
- Safety cameras (speed and red light camera (RLC)).

Note: Speed enforcement equipment that has not been calibrated within the last 12 months and issued with a current certificate of accuracy must **not** be used for speed enforcement purposes. Refer to the [Calibrating Road Policing Equipment Police Instruction](#).

Calibration testing

[Police Calibration Services \(PCS\)](#) subjects all radar/laser equipment to calibration testing to ensure the equipment is functioning in accordance with the manufacturer's specifications and accurately records a vehicle's speed. PCS advises districts when their equipment is due for calibration. PCS holds certificates of accuracy for every device and a duplicate is sent to District.

Deployment of radar/laser equipment

Radar/laser equipment can be used on all roads but must be deployed in the following manner.

Ensure	Note
Equipment is operated in accordance with the Police Speed Detection Equipment Operators Manual , appropriate to the device being used.	If deployed for speed enforcement purposes. This means laser speed enforcement equipment can be used only when stationary.
When speed is enforced in an area where drivers are transitioning from a higher speed to a lower speed area, Police are not positioned within 200 metres from the point where the posted speed changes, and vehicles are not targeted within 200 metres from the point where the posted speed changes.	The exception is if there is good reason to do so, such as ensuring the safety of vulnerable road users or if other unsafe driving behaviours are occurring within the area.
In situations where advance advisory signs are in place warning motorists of the change in speed limit, a 100 metre distance from the point of the posted speed limit change applies to officer enforcement activity.	This does not apply in school zones or temporary speed limit areas.

Speed enforcement, Continued...

When speed is enforced in stationary mode, Police are not positioned within 250 metres of a final merge of a passing lane or slow vehicle lane, and vehicles are not targeted within 250 metres of a final merge of a passing lane.	This is to ensure drivers do not brake at high speed, thus causing risk. However, enforcement in mobile mode may occur anywhere. The exception is if there is good reason to do so, such as ensuring the safety of vulnerable road users or if other unsafe driving behaviours are occurring within the area.
When vehicles are used to operate speed enforcement equipment in stationary mode, they are parked safely and in accordance with the Land Transport (Road User) Rule 2004, or any bylaws in force for that location.	Police has an exemption from parking related offences that arise under the Land Transport (Road User) Rule 2004, by virtue of clause 1.8(3)(b) where the action was necessary in the performance of duty. However, this exemption should be used in limited circumstances. Despite the general exemption under the Land Transport (Road User Rule) 2004, for the purposes of staff and public safety it is a requirement that during the hours of darkness any vehicle undertaking stationary speed enforcement at the roadside has its park lights operating and visible, unless clearly illuminated and visible from another light source.

Speed enforcement, Continued...

All radar/laser equipment must be operated in an overt manner. Hidden or camouflaged deployment must not be used.	Unless there is a specific operation targeting offending consisting of: • sustained loss of traction • engagement in an unauthorised street or drag race • dangerous or reckless driving • breaches of heavy motor vehicle (HMV) rules • another type of operation that cannot be effectively or safely conducted using overt means. Such speed enforcement operations (involving hidden or camouflaged deployment) must have written operation orders and have prior written approval from the District Road Policing Manager. In the case of HMVs, prior written approval should be gained from the Manager: Commercial Vehicle Safety Team or a member of the National Road Policing Centre Governance Group. Unmarked patrol vehicles may be used for speed enforcement. However, Police must be conscious of the reduced visibility risks associated with speed enforcement from these vehicles, especially when undertaking urgent duty driving, accelerating from stationary mode and completing U-turns.
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Estimated speeds

An estimated speed is an assessment made by Police of a motor vehicle observed to be travelling at a speed well in excess of the prescribed speed limit. The offending driver's speed has not or could not be detected by the use of any speed detection equipment or by any pace checking.

In estimating the driver's speed, Police should rely on their experience in assessing speed. This should include proven experience with operating Police speed detection equipment, and:

- the relative speed of other traffic in relation to the alleged driver's speed, or
- any admission by the driver, or
- the speed of the offending driver relative to a patrol vehicle's speed.

Drivers cannot be issued with an ION for an estimated excess speed. The offence must be proceeded with by way of a charging document.

Interference with operation of speed measuring device

It is an offence to use or possess any equipment designed to interfere with the operation of a speed-measuring device (radar jammer) in a motor vehicle (section [16B](#) of the Land Transport Act 1998).

Speed enforcement, Continued...

Specimen Charge	Offence	Penalties
B404	Used equipment in a vehicle that interfered with a speed measuring device	Infringement fee \$50, 25 demerit points
B405	Had equipment in a vehicle designed to interfere with a speed measuring device	Infringement fee \$50, 25 demerit points

Note: It is **not** an offence to use a radar/laser detector.

Roles and responsibilities

Role	has responsibility for ensuring
District Commander (or their delegated representative)	• this chapter is implemented in their district • staff are trained and certified to use the equipment they operate in accordance with this chapter • approves suitably trained staff in speed enforcement who have completed the training • notifies Police Calibration Services (PCS) on the prescribed form when they have approved a person as speed enforcement qualified. • all speed enforcement equipment is presented for calibration when required • district vehicle, equipment and infringement notice audits are conducted to ensure compliance with this policy • all reasonable measures are taken to ensure equipment is well looked after and operated correctly • a report is submitted if any radar or laser equipment supplied to a district is lost or damaged (i.e., outside normal operational wear or usage), to PCS • only certified speed enforcement equipment is used • training records are maintained, updated and held in the district • breaches of this chapter are reported to the Director: Road Policing.
Director: National Road Policing Centre	• the appropriate authority is gained before new speed enforcement equipment is deployed and certified • PCS completes annual certifications of accuracy for speed enforcement equipment • support to districts is provided as appropriate • audit adherence to this chapter.
Manager: Police Calibration Services	• a database is maintained and certificates of proficiency produced for all Police who have been nominated by a Road Policing Manager • the approval system for Police vehicle speedometer calibration is managed • calibration of all radar equipment annually • calibration of all mobile and static speed cameras annually • calibration of all laser equipment annually • inspection and certification of static camera sites annually.
Police involved in speed enforcement	• they adhere to this chapter • they complete daily operating checks and log books • they comply with the Speed Detection Equipment Operators Manual.
Police Infringement Bureau (PIB)	• processing and management of all notices • notice explanations are adjudicated fairly and consistently, whilst having regard for road safety outcome risks.

Mobile Safe Speed camera enforcement

Safe speed cameras have a proven history of reducing speed-related crashes internationally. These cameras assist to reduce serious and fatal crashes on New Zealand roads.

Who can use mobile safe speed camera enforcement equipment?

Only Police employees trained and certified to operate specific speed camera equipment may operationally deploy such equipment. Equipment may only be used from Police-owned or operated vehicles (if operating a mobile camera).

Roles and responsibilities

Roles	Responsible for ensuring
District Commander (or their delegated representative)	• this chapter is implemented in their district • employees are trained to use the relevant speed camera enforcement equipment • all speed enforcement equipment used has a current and valid certificate of accuracy • all reasonable measures are taken to ensure the equipment is well looked after • report any speed enforcement equipment that is lost or damaged, (beyond normal operational wear or usage) to PCS • mobile speed camera site applications are reviewed and approved before forwarding to PCS • mobile speed cameras are deployed to address road safety risk(s) • breaches of this chapter are reported to the Director: Road Policing.
Director: National Road Policing Centre	• all speed camera equipment is approved and certified before deployment • that PCS regularly tests and re-certifies speed camera equipment • districts are supported with their speed enforcement programmes as appropriate • audit adherence to this chapter.
Manager: Police Calibration Services	• all speed camera operators are trained • all speed camera operator training records are maintained • appropriate speed camera sites are approved • all speed cameras are maintained by an external service agent • all speed camera certificates of accuracy are retained • copies of speed camera certificates of accuracy are supplied for disclosure • all mobile safe speed cameras are regularly calibrated with not more than 12 months between certifications.
Traffic Camera Operators	• compliance with this chapter • compliance with speed camera deployment and health and safety procedures • mobile camera checks and deployment registers are completed and sent to the Police infringement Bureau (PIB) daily • data is downloaded from each camera every two to five days • all equipment faults or other problems are reported to PCS promptly.

Speed enforcement, Continued...

Police Infringement Bureau (PIB)	• processing and management of all notices • images are verified before notices are issued • notice explanations are adjudicated fairly and consistently whilst having regard for road safety outcome risks • the original of all deployment register sheets is stored in line with the current document retention policy.
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Static Safe Speed camera enforcement

Roles and responsibilities

Roles	Responsible for ensuring
District Commander (or their delegated representative)	• this chapter is implemented in their district • report any damage of enforcement equipment to PCS • breaches of this chapter are reported to the Director: Road Policing.
Director: National Road Policing Centre	• all speed camera equipment is approved and certified before deployment • that PCS regularly tests and re-certifies speed camera equipment • consultation on site selection is undertaken with relevant interested parties • audit adherence to this chapter.
Manager: Police Calibration Services	• all speed camera certificates of accuracy are retained • copies of speed camera certificates of accuracy are supplied for disclosure • all static safe speed cameras and camera sites are regularly calibrated with not more than 12 months between certifications
Manager: Police Infringement Bureau (PIB)	• staff authorised to access the static safe speed camera systems are trained • all camera system operator training records are maintained • camera system operators follow the 'Static Camera Expansion Programme Process Guide' when completing any tasks or actioning faults • processing and management of all notices • images are verified before notices are issued • notice explanations are adjudicated fairly and consistently, whilst having regard for road safety outcome risks. • Work Authority requests are actioned promptly.

Safe speed camera site selection and deployment

Static and mobile speed cameras may be used at approved sites (selected to reduce crashes caused by speed).

Site selection process for static and mobile safe speed cameras

This table below summarises the site selection process for safe speed camera sites.

Stage	Process
1	The Sites Selection Methodology is objective, rigorous, and defensible and has been applied nationally and consistently. All safe speed camera sites are selected on the basis of their risk (as determined from the Sites Selection Methodology). This includes crash history and/or predictive analysis.
2	For static camera sites, consultation must be undertaken by the Director: National Road Policing Centre (or their nominee). For mobile camera sites, consultation must be undertaken by the District Commander (or their nominee). For both static and mobile camera sites, consultation must be undertaken with the relevant road controlling authority (whether Waka Kotahi New Zealand Transport Agency, a territorial local authority, or Auckland Transport). The consultative group must consider whether the objectives can be met by other means such as traffic engineering or education.
3	When proposing a new safe speed camera site, consideration must be given to: • site definition, ensuring a single named roadway • readily identifiable location site commencement and end points • engineering improvements taken or proposed • whether the posted speed limit is lawful • a synopsis of evidence to support the site – such as the number of speed related crashes and traffic analysis data.
4	Speed camera site reviews to identify changing vehicle and site dynamics should occur regularly (no more than five yearly) for both static camera sites (by the Director: National Road Policing Centre or their nominee) and for mobile camera sites (by the District Commander or their nominee).

Criteria for static safe speed camera sites

A static speed camera is a permanent pole installation at an approved speed camera site. The site may or may not have an active camera. Static cameras detect vehicle speed using radar and laser.

A location with a proven crash risk that warrants consideration as a static camera site must meet the following criteria:

- The camera, flash unit, and speed detection must have clear lines of sight.
- The road must be straight and of a constant slope for 100 metres.
- The cellular phone signal at the site must be sufficient.
- There must be easy and safe access to the site that will not interfere with traffic flows.
- If the camera is in an area where drivers are transitioning from a higher speed to a lower speed area, the camera must not be located within 250 metres from the point where the posted speed changes, and vehicles must not be targeted within 250

Speed enforcement, Continued...

metres of the point where the posted speed changes. This restriction does not apply in school zones or temporary speed limit areas.

- The camera must not be located within 200 metres of the final merge of a passing lane and vehicles must not be targeted within 200 metres of the final merge of a passing lane.
- The site must have access to a suitable power source.

Additionally:

- It is preferable the camera unit faces south to avoid potential sun strike
- the equipment must be able to be secured
- the equipment must be protected from errant vehicles
- no large permanent metal objects are in the radar zone
- there can be no permanent blocking objects
- any underground services will not be negatively affected by the construction of the infrastructure necessary for a static camera.

In addition, confirm that the proposed site will not be subject to engineering changes within the next two years.

Criteria for mobile safe speed camera sites

A mobile speed camera is located in a Police vehicle that can be moved to any approved speed camera site. Mobile sites should be no longer than five km in rural areas, or three blocks in urban areas. Mobile sites may be adjoining, but each must be selected independently.

For mobile safe speed camera sites, complete the Mobile Speed Camera Site Selection form (POL580) or the Mobile Speed Camera Site Selection - School Zone form (POL581). Submit the form to the RPM for review. The RPM, if in agreement, will forward the form to PCS for approval. These forms are available from the Road Policing section of Police forms in Microsoft Word.

The Manager: Police Calibration Services reviews the proposed speed camera site based on the submitted form. The approved site will be on the next update disc sent to district after PIB have created it.

Note: Copies of Speed Camera Site Selection forms should be held within district and the original at the PCS to ensure traceability.

Mobile speed camera deployment

A mobile speed camera vehicle must be deployed in the following manner.

1	Traffic Camera Operator safety must be the primary deployment consideration, including vehicles crashing into the stationary camera vehicle and clear Police radio communications from the deployment site.
2	A speed camera vehicle must be legally parked. If it is dark, the vehicle must have its park lights on. Refer to deployment of Radar/Laser for further details on parking police vehicles involved in speed enforcement.
3	A speed camera vehicle must be deployed so it is visible to traffic. The speed camera vehicle must not be hidden.
4	The position in which the speed camera vehicle is parked must, so far as is practicable, be at the optimal distance from the normal traffic lanes to ensure the safety of the operator and best quality photography, (i.e., about 1½ lane widths away from the normal path of vehicles).
5	When the speed camera vehicle is being deployed on a roadway, the speed camera vehicle tailgate must be fully extended or closed.

Speed enforcement, Continued...

6	A speed camera vehicle may park on private land, if the occupier of the land gives clear permission for such use.
7	A speed camera vehicle must be parked on a straight section of road, so the operator has adequate reference points for aligning the camera. This ensures any vehicle being measured or photographed is travelling on a straight section of road at that time.
8	If a speed camera vehicle is deployed in an area where drivers are transitioning from a higher speed to a lower speed area, it must not be positioned within 250 metres from the point where the posted speed changes, and must not target vehicles within 250 metres from the point where the posted speed changes. This restriction does not apply in school zones or temporary speed limit sites.
9	While a speed camera vehicle may be deployed within a section of road designated as a passing lane, it must not be positioned within 250 metres of the final merge of a passing lane or slow vehicle lane and must not target vehicles within 250 metres of the final merge of a passing lane or slow vehicle lane.
10	When a camera is operational at a site, a second camera must not be deployed in the same site or an adjoining site.
11	A mobile safe speed camera must not be deployed on the same road as an operating static safe speed camera unless: a) the two locations on that road have a different speed limit; or b) the cameras are a minimum of one kilometre apart on any road with a posted speed limit of less than 70 km/h, or c) the cameras are a minimum of two kilometres apart on any road with a posted speed limit of 70 km/h or above. Note: "Same road: includes the continuation of any section of roadway regardless of any change in name for that road.
12	When a speed camera is deployed in a school zone speed camera site, it must be operated only: • between 7:30am to 6pm on a school day; or • at any other time that a school activity occurs, including sports activities held on school grounds.

School zone mobile speed camera sites

School zone overview

A school zone is designated as a single named road, no more than 250 metres from the school boundary, on which any direct school access exists. Early childhood centres can be 'zoned' as school zones, if a road sign identifies where the centre is.

School zone site selection

Districts must complete the Speed Camera Site Selection - School Zone form (POL581) for a school site that requires attention. School sites do not require a history of speed-related crashes.

These sites, identified through specific site codes, will automatically have the lower speed enforcement threshold applied when the camera is deployed. Any ensuing notices must include reference to the school concerned.

Speed camera vehicle deployment standard

See the ['Mobile speed camera deployment'](#) section.

Safe speed camera deployment data and images

Mobile and static safe speed cameras use digital media

Speed cameras record images and data that can be used for statistical purposes.

Send data from mobile cameras to the Police Infringement Bureau (PIB) within five days

To avoid undue delay in initiating proceedings, all data from mobile safe speed cameras must be sent to PIB no later than five days after the first image is recorded.

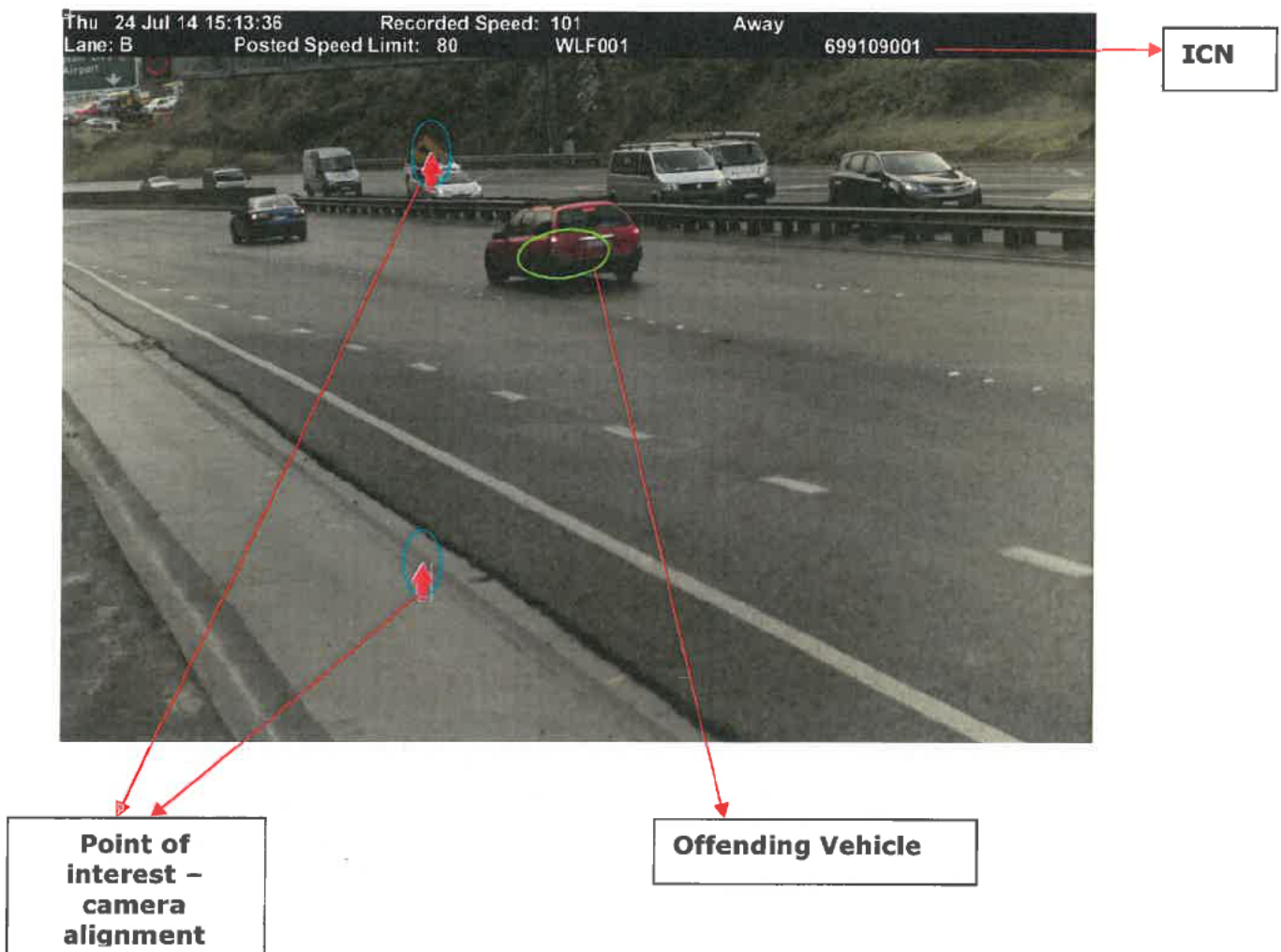
Standard operating procedures explain how a camera operator downloads data and sends it to the PIB.

Incident control number

Every image is identified by a nine-digit Incident Control Number (ICN) that is generated at the same time as the image and incorporated into it. This numbering system enables every image to be traced. See the examples below.

The integrity of the speed camera programme is maintained by ICN accuracy.

STATIC SAFE SPEED CAMERA IMAGE



Speed enforcement, Continued...

MOBILE SAFE SPEED CAMERA IMAGE

Wed 08 Apr 09 14:15:52
Posted Speed Limit: 50

Recorded Speed: 66
WW0021

Away
600074106

ICN



Legal framework for speed enforcement

Speeding offences

Liability for moving vehicle offences

Section [133](#) of the Land Transport Act 1998 provides that proceedings may be taken against any person who, at the time of the offence, was:

- the person allegedly committing the offence
- the registered owner or one of the owners of the vehicle involved
- lawfully entitled to possession of the vehicle, whether jointly owned or not, regardless of whether that person is an individual or was the driver or person in charge of the vehicle at the time.

Defences against proceedings

Where enforcement action is taken against the registered owner/owners, it is a defence to proceedings under section [133](#) of the Land Transport Act 1998 if, at the time the offence was committed:

- the person driving was not lawfully entitled to possession of the vehicle, whether jointly owned or not; or
- another person was driving the vehicle; and
 - immediately after becoming aware of the alleged offence, the person advised the enforcement authority in writing of these things, and
 - the person gives the enforcement authority a statutory declaration:
 - identifying the driver, by giving their name and address; or
 - other particulars that might lead to identification; or
 - establishing that they could not identify the driver, after taking all reasonable steps to do so.

Approved vehicle surveillance equipment

The [Land Transport Act 1998](#) provides the legal framework for speed cameras by defining approved vehicle surveillance equipment (AVSE) that can detect moving vehicle offences. Only AVSE approved by the Minister of Police by way of a notice in the New Zealand Gazette is allowed to be used to enforce speeding offences.

There are four approved AVSE speed camera devices in New Zealand used for enforcement. The statutory regulation numbers for the relevant gazetted Land Transport (Approved Vehicle Surveillance Equipment) Notices are shown in this table.

Publication	Approved Equipment
(No 2) 2008 SR 2008/447 Land Transport (Approved Vehicle Surveillance Equipment) Notice (No 2) 2008	• REDFLEXradarcam camera system (the mobile radar-based speed camera system).
2014 – LI 2014/191 Land Transport (Approved Vehicle Surveillance Equipment) Notice 2014	• REDFLEXspeed Radar NK7 static camera system.
2015 – LI 2015/58 Land Transport (Approved Vehicle Surveillance Equipment) Notice 2015	• REDFLEXred Radar NK7 red light/speed camera system
2017 – LI 2017/289 Land Transport (Approved Vehicle Surveillance Equipment) Notice 2017	• REDFLEXotl radar NK7 Static Speed camera system

Speed enforcement, Continued...

Certification standards

Testing and issuing of Speed Camera and Tuning Fork Certificates of Accuracy are covered by section [146](#) of the Land Transport Act 1998. This section requires the Certificate of Accuracy to have been issued no more than 12 months before the date of the alleged offence.

Section [146](#) of the Land Transport Act 1998 mandates testing and calibration for:

- radar and laser speed detection devices
- mobile and static speed cameras
- static speed camera sites (certificates of accuracy (NK8) issued 12 monthly)
- tuning forks.

Note: Whenever a speed camera has been repaired, it must be returned to Police Calibration Services for testing and recertification if required. Any speed enforcement equipment without a current Certificate of Accuracy must **not** be used for speed enforcement. Note also that radars and lasers undergo this same testing.

Speed camera equipment certificates of accuracy

PCS calibrates all speed camera equipment.

PCS advises districts when their speed camera equipment is due for calibration and holds the original certificates of accuracy for every camera and tuning fork. A copy of the calibration certificate must be kept at the district to which the equipment has been assigned.

The absence of a current certificate may not jeopardise a prosecution, as long as a Police witness can give evidence that testing was carried out and the equipment was found to be accurate.

Note: When the accuracy of the device is in question, the defendant must make an application not less than 14 days before the hearing, for the production of the certificate of accuracy (section [146](#) of the Land Transport Act 1998).

Evidential sufficiency of approved vehicle surveillance equipment image

Section [145\(1\)](#) of the Land Transport Act 1998 covers the evidential sufficiency of a moving vehicle image taken by AVSE. The image must show or record:

- a motor vehicle on a road
- the speed of the vehicle
- the location of the vehicle
- the date and time when the image was taken.

In the absence of proof to the contrary, this is sufficient for the image to be produced in evidence for a moving vehicle offence.

Note: Section [55](#) of the Land Transport Act 1998 makes it an offence to tamper or interfere with AVSE or with the operation of AVSE.

Speed enforcement

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Policy statement and principles

What

Speed is globally recognised as

This chapter contains the leading following topics:

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Executive summary

Summary

Speed tolerance thresholds

- Speed discretion levels
- Reduced speed enforcement threshold during official New Zealand holiday periods
- Use of discretion
- School zones

Speed enforcement by officers

- Tactics
- Police vehicle speedometers
- Estimated speeds
- Pace checking
- Who can use radar/laser equipment?
- Certification standards
- Calibration testing
- Deployment of radar/laser equipment
- Motorcycle officers
- Interference with operation of speed measuring device
- Roles and responsibilities

Speed camera enforcement

- Who can use speed camera enforcement equipment?
- Roles and responsibilities

Speed camera site selection and deployment

- Site selection process for static and mobile cameras
- Criteria for static speed camera sites
- Criteria for mobile speed camera sites
- Mobile speed camera deployment
- School zone mobile speed camera sites
 - School zone overview
 - School zone site selection
 - Speed camera vehicle deployment standard

Speed camera deployment data and images

- Mobile and static cameras use digital media
- Send DVDs to the Police Infringement Bureau (PIB) within five days
- Static camera incident control number

Legal framework for speed enforcement

- Speeding offences
 - Liability for moving vehicle offences
 - Defences against proceedings
- Approved vehicle surveillance equipment
- Certification standards
- Speed camera equipment certificate of accuracy
- Evidential sufficiency of approved vehicle surveillance equipment image

Speed enforcement, Continued...

Executive summary

This chapter provides staff guidance on conducting speed enforcement.

The key, critical points for staff to note are:

- Excessive speed is a key cause of crashes.
- Speed limits must be consistently enforced.
- All Police speed enforcement equipment must be calibrated within a 12-month period.
- Only Police who hold, or are undergoing supervised training for, a Certificate of Proficiency for New Zealand Police Speed Enforcement Equipment, may use radar/laser equipment.

Speed enforcement, Continued...

Overview

Excess speed is a key cause of crashes in New Zealand and a major contributor to the incidence of crashes and the seriousness of crash outcomes. An analysis of New Zealand fatal crashes has shown that speeding is a valid and significant predictor of crash rates. Consistent and proactive speed enforcement to change driver behaviour is the most effective enforcement activity to influence safe driving speeds and, because of its wide deterrent effects, to reduce serious outcome crashes.

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Why

Police is the principle enforcement agency for the Land Transport Act 1998. Statistics from the New Zealand Transport Agency (NZTA) indicate that speed contributed to 31 percent of fatal crashes and related Regulations. Road policing activities are funded by the National Land Transport Fund.

21 percent of serious injury crashes in the period 2013 to 2015. In the five years to 2020, 3,165 people have died or, 496 were seriously injured in, and 1,831 received minor injuries in crashes where speed was identified as a contributing factor to the crash occurring. While this equates to, The social cost of these crashes was about 22% of all fatal and serious injury crashes, speed has been identified as being a factor in 78% of New Zealand's outcomes where there is road trauma.

Effective enforcement of speeding drivers will reduce the number of deaths and injuries on our roads and contribute to Our Business.

How

Police will ensure that:

- employees focus on prevention through risk targeted speed deployment that includes a variety of approaches, including enforcement
- excess speed is actively enforced to reduce the overall mean speed of the network
- speed enforcement equipment is supplied, maintained and updated as appropriate to enable employees to enforce excess speed
- all users of speed enforcement equipment are trained and certified appropriately.

Speed enforcement, Continued...

Overview

Speed limits must be consistently enforced by appropriately trained Police employees, using approved and calibrated equipment to:

- prevent death and injury on the roads
- ~~reduce mean speeds and influence a reduction in road trauma~~
- ensure Police enforcement methods withstand scrutiny ~~action is fair and align to road safety outcome risks transparent~~
- provide consistent public expectations ~~motorists with certainty of the Police response to speeding offences~~ ~~outcome should they exceed a speed limit.~~

The content of this chapter covers both speed enforcement (estimated ~~speeds~~ speeds, pace checking and operating radar/laser equipment), and safe speed camera enforcement (operation of mobile and static safe speed cameras). It applies to all Police employees.

Refer to the 'Fleeing driver policy' ~~Fleeing drivers~~ and 'Traffic patrol techniques' ~~Traffic patrol techniques~~ chapters for stopping drivers.

For the operation of speed detection equipment refer to the 'Speed Detection Equipment Operators Manual' ~~Speed Detection Equipment Operators Manual~~'.

Speed enforcement, Continued...

Speed enforcement level tolerance thresholds

This section contains the following topics:

- Speed threshold levels
- Reduced speed enforcement threshold during official New Zealand holiday periods
- Use of discretion
- School zones

Speed threshold levels

The following principles apply, other than in exceptional circumstances:

Drivers who are detected...	must be...
at a speed of more than 10 km/h above the speed limit	issued with an infringement offence notice or charging document.
driving a heavy motor vehicle, at a speed of more than 5 km/h above the speed limit	
towing a light trailer, at a speed of more than 5 km/h above the speed limit	
within a school zone, at a speed of more than 4 km/h above the speed limit	

Police

Officer enforcement discretion

Enforcement officers should take circumstance appropriate action for may issue an offence notice at any speed above the posted or temporary speed limits, with resolutions applied in line with the following principles:

- Whilst Police limit, but should always acknowledge take note of any applicable threshold level and consider explanations for exceeding the speed limit, there should be exceptional mitigating circumstances to justify a warning being issued for excess speed; for example a genuine medical emergency.
- In all cases the opportunity should be taken to educate the driver around the relationship between speed and survivability when a vehicle is involved in a crash. A few kilometres per hour can be the difference between a collision being inconsequential or completely avoided, and a crash with fatal or other life-changing outcomes.
- Police will treat all road users and vehicle owners in line with Police Values.

A written traffic warning (WTW) exercise their discretion where appropriate. A written traffic warning should not be issued for a speed related offence, speed (in this context speeding outside any established threshold) unless aligned to the approach for Speed Limit Changes or there is an exceptional circumstance, which must be recorded on the notice. Refer to the 'Written Traffic Warnings' chapter for further information on warnings rear of any WTW issued.

Remember: Enforce speed limits fairly, transparently and consistently, with the overriding principle of influencing safe speeds to prevent death and injury on the roads. Refer to the 'Written Traffic Warnings' chapter for further information on warnings.

Safe Reduced speed camera detection levels

Safe speed cameras may be programmed to capture data and images for enforcement purposes for any speeds in excess of posted or temporary speed limits. The setting of safe speed camera enforcement levels principally includes consideration of road safety outcome risks and should be evidence based in their application. These settings will be determined, monitored and reviewed by Managers within the National Road Policing Centre as delegated by the Director: Road Policing. threshold during official New Zealand holiday periods. Increased traffic density and higher than usual network demands increase the road trauma risk during New Zealand's official holiday periods.

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Speed enforcement, Continued...

Police enforce a reduced speed enforcement threshold of 4 km/h during official holiday periods. Motorists exceeding the 4km/h threshold must be dealt with promptly. The action taken will be at the discretion of Police, after consideration of the circumstances surrounding the offending. However, it is vital that visible Police action occurs.

The official New Zealand holiday periods, for which the Ministry of Transport reports holiday fatalities, are the:

- **Easter holiday**, which covers the period from 4pm on the day before Good Friday to 6am the following Tuesday
- **Queen's Birthday holiday**, which covers the period from 4pm on the Friday before the weekend to 6am the following Tuesday
- **Labour Weekend holiday**, which covers the period from 4pm on the Friday before the holiday to 6am the following Tuesday
- **Christmas holiday**, which covers the period from 4pm on 24 December (or 22 or 23 December if 24 December falls on a Saturday or Sunday respectively) to 6am on:
 - 3 January, if 1 January falls on a Monday, Tuesday or Wednesday
 - 4 January, if 1 January falls on a Sunday
 - 5 January, if 1 January falls on Thursday, Friday or Saturday.

Note: Implementation and enforcement of a reduced speed enforcement threshold outside the official holiday periods must be approved in writing by the Assistant Commissioner: Road Policing or on the direction of the Police Executive.

Use of discretion

Applying discretion to speeding offences should be considered in line with the following principles:

- Police will always consider driver explanations.
- Discretion should be exercised wisely and within the guidelines of this chapter.
- A driver must show exceptional mitigating circumstances to justify being issued a warning for a trauma causing offence.
- Police will treat all offending drivers fairly and consistently.

Police may exercise greater discretion when enforcing offences not directly related to speed or trauma (e.g. a warrant of fitness that has expired within a month of the vehicle being stopped by Police). Refer to the 'Traffic compliance scheme' chapter.

School zones

A school zone is designated as a single named road, no more than 250 metres from the school boundary, on which any direct school access exists. Early childhood centres can be 'school zoned' if a road sign identifies where the centre is.

To protect children and vulnerable road users near schools, speed limits are enforced on a risk-targeted basis between 7:30am and 6pm on any school day or any other time there is a school activity or event, e.g., This may include sports activities and drama nights.

Speed Limit Changes

Setting of Speed Limits

Speed limit changes are the responsibility of Road Controlling Authorities (RCAs); i.e. the applicable Council or, in the case of state highways, Waka Kotahi (NZ Transport Agency).

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Speed enforcement, Continued...

The RCAs are responsible for consulting and communicating the speed limit changes to the public, including signage and road marking changes. This may include using variable message boards and other media around the time of implementation. Accordingly, requests for media commentary around the implementation of new speed limits should be referred to the RCA.

Role of Police

It is important that the Police approach supports the implementation of safe speed limits. This includes applying an approach the public expects and deserves, that being one which ensures a balance between keeping people safe on the roads, whilst also alleviating perceptions of not being fair and reasonable as motorists adjust to the speed limit changes. This approach should contribute to sector confidence that safe speed limits can be implemented without generating public or political concerns.

Police Approach

- Collaborate with the RCA early
 - Confirm the extent of the proposed changes, that the correct processes are being undertaken to implement them, and that there is a strong RCA led communication plan to ensure widespread public awareness ahead of and at the time of the changes
- Apply a "bedding in" approach for a period of one month from the speed limit changes being implemented
- Continue to deploy to locations and times of greatest road safety outcome risks; i.e. not deploying to affected roads simply because it will be easy to catch motorists exceeding the new speed limits
 - Recognise that reduced speed limits will influence a reduction in mean speeds, even without enforcement, thereby, reducing road safety outcome risks are exceptional.
- If enforcement is carried out on affected roads during the first month after implementation, adopt an approach that is appropriate to the circumstance, such as: engage, encourage, educate, warn, enforce methodology, with any such enforcement ideally conducted using marked cars
 - This provides motorists with fair and reasonable opportunity to adjust their driving behaviours in the wake of the changes, whilst also enabling appropriate enforcement responses to behaviours and circumstances that pose clear road safety outcome risks, including speeds above the previous speed limit.
 - This approach assists in building trust and confidence by also alleviating perceptions that Police are taking advantage of the speed limit changes to simply catch people out and issue large numbers of infringement notices
 - While an educational approach is preferred, this does not prohibit other enforcement action being taken based on all of the circumstances.
- Mobile safe speed cameras should not be deployed on the affected roads for at least the first month after changes are implemented, with the exception of school zones during high outcome risk times, and thereafter as aligned to road safety outcome risk priorities.
 - Again, this will alleviate perceptions that Police are taking advantage of the speed limit changes to simply catch people out and issue large numbers of infringement notices, any driver

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Speed enforcement, Continued...

- Note that new site codes will be required before operating safe speed cameras on roads where speed limits have changed.
- If static safe speed cameras are on roads affected by speed limit changes, early advice must be provided to the Police Infringement Bureau (PIB). PIB will manage setting changes for the cameras to reflect the speed limit changes, and will implement a graduated response to motorists detected exceeding the new speed limit for the first month after implementation of the speed limit change.

Communications

For significant speed limit changes a communication plan should be developed, in consultation with the National Road Policing Centre and Media and Communications as required. This should be largely for reactive purposes rather than travelling at a speed of more than proactive, noting that requests for media commentary around the implementation of new speed limits should be referred to the applicable RCA. Consider incorporating an approach to significant interest groups, such as AA, to confirm that Police will be deploying to road safety outcome risk and will not be targeting the affected roads for enforcement just because the speed limits have reduced. 4 km/h above the school zone speed limit ~~must~~ be issued an offence notice.

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Speed enforcement, Continued...

Speed enforcement by officers

Tactics

Police:

- apply TENR in every situation

This section contains the following topics:

- Tactics
- Police vehicle speedometers
- Estimated speeds
- Pace checking
- Who can use radar/laser equipment?
- Certification standards
- Calibration testing
- Deployment of radar/laser equipment
- Motorcycle officers
- Interference with operation of speed measuring device
- Roles and Responsibilities

Tactics

Police:

- employ safeguard tactics to ensure speed detection and enforcement does not pose unnecessary risks to public and Police safety
- take care when performing a U-turn, and use emergency lights and sirens promptly
- use tactics so that minimised drivers become aware of the need to complete a U-turn and intercept, Police presence and take additional care to check for other road users before performing a U-turn pull over at the earliest possible opportunity
- should not accelerate unnecessarily fast from stationary mode for the purpose of speed enforcement.

Police vehicle speedometers

Police vehicles used for speed enforcement purposes must have their speedometers calibrated annually in accordance with CU10 (Standard Test and Calibration Procedure Speedometer Testing) by appropriately qualified personnel trained by Police Calibration Services and duly authorised for that purpose by the Commissioner of Police.

When vehicles pass calibration, a Certificate of Accuracy Speedometer and Odometer (POL430) is issued, the record of which must be readily available to all officers using the vehicle for speed enforcement.

Estimated speeds

An estimated speed is an assessment made by Police of a motor vehicle observed to be travelling at a speed well in excess of the prescribed speed limit. The offending driver's speed has not or could not be detected by the use of any speed detection equipment or by any pace checking.

In estimating the driver's speed, Police should rely on their experience in assessing speed. This should include proven experience with operating Police speed detection equipment, and:

- the relative speed of other traffic in relation to the alleged driver's speed, or
- any admission by the driver, or
- the speed of the offending driver relative to a patrol vehicle's speed.

Drivers cannot be issued an Infringement Offence Notice (ION) for an estimated excess speed. The offence must be proceeded with by way of a charging document.

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Speed enforcement, Continued...

Pace checking

Pace checking is a method of speed enforcement using the Police vehicle's certified speedometer to establish the speed of the target vehicle. In general, this should be conducted at a constant distance and speed behind the suspect vehicle over a distance of not less than 250 metres.

-If Police employees drive above the speed limit to gather evidence of an alleged offence, then Police are reliant on the exemptions/defences under the Land Transport (Road User) Rule 2004 and the Land Transport Act 1998 for non-compliance with certain traffic rules and regulations where compliance would prevent the execution of that duty. Refer to the What is a tactical approach and Legal provisions – defences section of the Urgent Duty Driving (UDD) Police Instruction.

An appropriate following distance should be maintained according to clause 5.9 Land Transport (Road User) Rule 2004.

Police must drive at an appropriate speed and manner and bear in mind that they:

- are individually legally responsible for their actions, including careless, reckless or dangerous manner and dangerous speed
- must prioritise public and Police safety
- must adhere to the 'Urgent duty driving' chapter.

Pace checks should not be carried out in temporary speed limit areas or school zones. Any enforcement in those temporary speed limit areas or school zones should be by way of estimated speed, radar/laser, safe mobile speed cameras and estimated static speed cameras.

If someone is suspected of travelling at excess speed in circumstances where there is undue risks to any road users, they should be signalled to stop as soon as reasonably practicable to minimise exposure to the immediate road safety outcome risks, despite there perhaps being insufficient evidence to support enforcement action.

However, situations may arise where a pace check in a temporary speed limit or school zone can be justified based on your TENR risk assessment. There is an expectation however that pace checks will not be conducted in high risk areas, e.g., road works with loose surface material and worksites where workers are only separated from the main traffic flow by cones.

Prior to an Infringement Offence Notice (ION) or charging document being issued, the speedometer accuracy certificate of the Police vehicle must be reviewed in order to obtain the true speed of the alleged speeding driver. Any discrepancy between the Police vehicle speedometer and the actual speed can then be taken into account.

For example, the following is taken from a Police Vehicle Certificate of Accuracy (POL430).

Results of test in kilometres per hour

Vehicle speedometer	30	40	50	60	70	80	90	100	110	120	130	140	150
True speed	29	39	49	59	69	78	88	98	108	118	128	138	148

If a vehicle was pace checked at 120 km/hr, then the ION would be issued for 118 km/hr.

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Speed enforcement, Continued...

Note: ~~Police vehicle speedometers~~ Police vehicle speedometers should be calibrated within a 12 month period prior to the date of the offence.

Should ~~it be identified~~ you identify that the vehicle speedometer is not within the 12 month calibration period, consider initiating action based on an estimated speed. However, IONs cannot be issued for estimated speeds. The offence must be proceeded with by way of a charging document.

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Who can use radar/laser equipment?

Only Police employees who hold or are undergoing supervised training (by a certified instructor qualified in the use of the equipment) for a Certificate of Proficiency for New Zealand Police Speed Enforcement Equipment may use radar/laser equipment.

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~~If radar/laser equipment is deployed from a vehicle, it must be from a Police owned or operated vehicle.~~

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Note: ~~All radar/laser equipment used by Police must be operated in accordance with the Speed Detection Equipment Operators Manual~~ Speed Detection Equipment Operators Manual.

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Certification standards

Section ~~146~~ 146 of the Land Transport Act 1998 requires all speed enforcement equipment to be ~~calibrated~~ calibrated within a 12 month period. This includes:

- laser speed detection devices
- Police vehicle radar speed detectors and tuning forks
- Police vehicle speedometers
- Safety cameras (speed and red light camera (RLC)).

• ~~Police vehicle speedometers.~~

Note: Speed enforcement equipment that has not been calibrated within the last 12 months and issued with a current certificate of accuracy must **not** be used for speed enforcement purposes. Refer to the Calibrating Road Policing Equipment Police Instruction.

Calibration testing

Police Calibration Services (PCS) ~~Police Calibration Services (PCS)~~ subjects all radar/laser equipment and ~~Police vehicle speedometers~~ to calibration testing to ensure the equipment is functioning in accordance with the manufacturer's specifications and accurately records a vehicle's speed. PCS advises districts when their equipment is due for calibration. PCS ~~and holds the certificates of accuracy for every device and a duplicate is sent to District.~~

Deployment of radar/laser equipment

Radar/laser equipment can be used on all roads, but must be deployed in the following manner.

Ensure	Note

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Speed enforcement, Continued...

Equipment is operated in accordance with the Police <u>Speed Detection Equipment Operators Manual</u> Speed Detection Equipment Operators Manual , appropriate to the device being used.	If deployed for speed enforcement purposes. This means laser speed enforcement equipment can be used only when stationary.
When speed is enforced in an area where drivers are transitioning from a higher speed to a lower speed area, Police are not positioned within <u>200</u> 250 metres from the point where the posted speed changes, and vehicles are not targeted within <u>200</u> 250 metres from the point where the posted speed changes. <u>In situations where advance advisory signs are in place warning motorists of the change in speed limit, a 100 metre distance from the point of the posted speed limit change applies to officer enforcement activity.</u>	The exception is if Unless there is good reason to do so, such as ensuring the safety of <u>vulnerable road users</u> or if other <u>unsafe driving behaviours are occurring within the area</u> children . This does not apply in <u>school zones</u> school zones or temporary speed limit areas.
When speed is enforced in stationary mode, Police are not positioned within 250 metres of a final merge of a passing lane or slow vehicle lane, and vehicles are not targeted within 250 metres of a final merge of a passing lane.	This is to ensure drivers do not brake at high speed, thus causing risk. However, enforcement in mobile mode may occur anywhere. <u>The exception is if there is good reason to do so, such as ensuring the safety of vulnerable road users or if other unsafe driving behaviours are occurring within the area.</u>
When vehicles are used to operate speed enforcement equipment in <u>stationary mode</u> , they are parked <u>safely and in accordance with the Land Transport (Road User) Rule 2004</u> Land Transport (Road User) Rule 2004 , or any bylaws in force for that location.	Police has have an exemption from parking related offences that arise under the Land Transport (Road User) Rule 2004, by virtue of clause <u>1.8(3)(b)</u> 1.8(3)(b) where the action was necessary in the performance of duty. However, this exemption should be used in limited circumstances. Despite the general exemption under the Land Transport (Road User Rule) 2004, for the purposes of staff and public safety it is a requirement that during the hours of darkness <u>any vehicle undertaking stationary speed enforcement at the roadside has its park lights operating and visible, unless clearly</u> vehicle is illuminated and visible from <u>another</u> a light source so that it is visible or vehicle park lights are operated when conducting speed checks or any similar enforcement, when stationary on the roadside.

Speed enforcement, Continued...

All radar/laser equipment must be operated in an overt manner. Hidden or camouflaged deployment must not be used.	Unless there is a specific operation targeting offending consisting of: • sustained loss of traction • engagement in an unauthorised street or drag race • dangerous or reckless driving • breaches of heavy motor vehicle (HMV) rules • another type of operation that cannot be effectively or safely conducted using overt means. Such speed enforcement operations (involving hidden or camouflaged deployment) must have written operation orders and have prior written approval from the District Road Policing Manager. Road Policing Manager. In the case of HMVs, prior written approval should be gained from the Manager: Commercial Vehicle Safety Team or a member of the National Road Policing Centre Governance Team. Manager: Commercial Vehicle Safety Team. Unmarked patrol vehicles may be used for speed enforcement. However, Police must be conscious are reminded of the reduced visibility risks associated with speed enforcement from these vehicles, especially when undertaking urgent duty driving, accelerating from stationary mode and completing U-turns.
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Motorcycle officers

Motorcycle officers who have completed the Motorcycle Qualifying Course and are trained and certified in the use of laser devices from Police motorcycles (in accordance with the Police 'Speed Detection Equipment Operators Manual') can enforce speed limits of traffic travelling in the same direction and on the same side of the road as their motorcycle is parked.

Any offending vehicle can be signalled to stop, or may be followed and stopped where it is safe or practicable to do so after full consideration of the risks involved to both the motorcycle officer and other road users.

Estimated speeds

An estimated speed is an assessment made by Police of a motor vehicle observed to be travelling at a speed well in excess of the prescribed speed limit. The offending driver's speed has not or could not be detected by the use of any speed detection equipment or by any pace checking.

In estimating the driver's speed, Police should rely on their experience in assessing speed. This should include proven experience with operating Police speed detection equipment, and:

- the relative speed of other traffic in relation to the alleged driver's speed, or

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Speed enforcement, Continued...

- any admission by the driver, or
- the speed of the offending driver relative to a patrol vehicle's speed.

Drivers cannot be issued with an ION for an estimated excess speed. The offence must be proceeded with by way of a charging document.

Interference with operation of speed measuring device

It is an offence to use or possess any equipment designed to interfere with the operation of a speed-measuring device (radar jammer) in a motor vehicle (section 16B16B of the Land Transport Act 1998).

Specimen Charge	Offence	Penalties
B404B404	Used equipment in a vehicle that interfered with a speed measuring device	Infringement fee \$50, 25 demerit points
B405B405	Had equipment in a vehicle designed to interfere with a speed measuring device	Infringement fee \$50, 25 demerit points

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Note: It is **not** an offence to use a radar/laser detector.

Roles and responsibilities

Role	has responsibility for ensuring
District Commander (or their delegated representative)	• this chapter is implemented in their district • staff are trained and certified to use the equipment they operate in accordance with this chapter • approves suitably trained staff in speed enforcement who have completed the training • notifies Police Calibration Services (PCS) on the prescribed form when they have approved a person as speed enforcement qualified • all speed enforcement equipment is presented for calibration when required • district vehicle, equipment and infringement notice audits are conducted to ensure compliance with this policy • all reasonable measures are taken to ensure equipment is well looked after and operated correctly • a report is submitted that if any radar or laser equipment supplied to a district is lost or damaged (i.e., outside normal operational wear or usage), to PCS the equipment is replaced or repaired • only certified speed enforcement equipment is used • training records are maintained, updated and held in the district • breaches of this chapter are reported to the Director National Manager: Road Policing
Director National Manager: Road Policing	• the appropriate authority is gained before new speed enforcement equipment is deployed and certified • PCS completes annual certifications of accuracy for speed enforcement equipment • support to districts is provided as appropriate • audit adherence to this chapter.

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Speed enforcement, Continued...

Manager: Police Calibration Services Road Policing Support Assurance Group	• a database is maintained and certificates of proficiency produced for all Police who have been nominated by a Road Policing Manager • the approval system for audit 'district audits' • audit Police vehicle speedometer calibration is managed • calibrations to ensure compliance with CU10 • calibration of all radar equipment annually • calibration of all mobile and static speed cameras annually • calibration of all laser equipment annually • inspection and certification of static camera sites annually • reports breaches of this chapter to the National Manager: Road Policing
Police involved in speed enforcement Manager: Calibrations	• they adhere to this chapter • they complete daily operating checks and log books • they comply with the Speed Detection Equipment Operators Manual • a database is maintained and certificates of proficiency produced for all Police who have passed the Speed Detection Code of Operations module • the approval system for Police vehicle speedometer calibration is managed • calibration of all radar equipment every 12 months • calibration of all mobile and static speed cameras every 12 months • calibration of all laser equipment every 12 months • inspection and certification of static camera sites every 12 months
Police Infringement Bureau (PIB) involved in speed enforcement	• processing and management of all notices • notice explanations are adjudicated fairly and consistently, whilst having regard for road safety outcome risks, they adhere to this chapter • they complete daily operating checks and log books • they adhere to the Speed Detection Equipment Operators Manual

Mobile Safe

Speed enforcement, Continued...

Speed camera enforcement

Safe speed This section contains the following topics:

- Who can use speed camera enforcement equipment?
- Roles and responsibilities

Speed cameras have a proven history of reducing speed-related crashes internationally. These cameras assist Police to reduce serious and fatal crashes on New Zealand roads.

Who can use Police works with its road safety partners and communities to reduce vehicle speeds and works strategically with the National Road Safety Committee and at district, territorial local authority, and area levels to develop Road Safety Action Plans. All these groups run speed management operations, including deployment of speed cameras.

Traffic safety cameras have been used in New Zealand since 1993. Camera-based enforcement has been carried out using a mix of mobile safe speed (vehicle-mounted) and static (or fixed) cameras.

Speed camera enforcement is managed by Police Calibration Services (PCS) in conjunction with District Road Policing Managers (RPMs).

Standard operating procedures explain how to download data and undertake other activities associated with the static cameras. The procedures are available from the Manager: Calibrations.

Note: The use of Police vehicle speedometers and radar and laser equipment? is covered in the 'Speed enforcement by officers' section of this chapter.

Who can use speed camera enforcement equipment?

Only Police employees trained and certified to operate specific speed camera equipment may operationally deploy such equipment. Equipment may only be used from Police-owned or -operated vehicles (if operating a mobile camera).

Roles and responsibilities

Roles	Responsible for ensuring
District Commander (or their delegated representative)	• this chapter is implemented in their district • employees are trained to use the relevant speed camera enforcement equipment • all speed enforcement equipment used has a current and valid certificate of accuracy • all reasonable measures are taken to ensure the equipment is well looked after • <u>report</u> any speed enforcement equipment that is lost or damaged, (beyond normal operational wear or usage) <u>to PCS</u> is replaced or repaired • mobile speed camera site applications are reviewed and approved before forwarding to the PCS • mobile speed cameras are deployed to address road safety risk(s) • breaches of this chapter are reported to the <u>Director</u> National Manager: Road Policing.

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Speed enforcement, Continued...

DirectorNational Manager: Road Policing	- all speed camera equipment is approved and certified before deployment - that PCS regularly tests and re-certifies speed camera equipment - districts are supported with their speed enforcement programmes as appropriate - audit adherence to this chapter.
Police Infringement Bureau (PIB)	- images are verified before notices are issued - notice explanations are adjudicated fairly and consistently - the original of all deployment register sheets is stored.
Manager: Police Calibration ServicesCalibrations	- all speed camera operators are trained - all speed camera operator training records are maintained - appropriate speed camera sites are approved - all speed cameras and speed camera sites are maintained by an external service agency - all speed camera certificates of accuracy are retained - copies of speed camera certificates of accuracy are supplied for disclosure - all mobile safe and static speed cameras are regularly calibrated with not more than 12 months between certifications - annual inspection and certification of static camera sites.
Road Policing Performance and Reporting Team	the speed camera enforcement programme is continually monitored.
Traffic Camera OperatorsSpeed camera operators (mobile and static)	- compliance with this chapter - compliance with speed camera deployment and health and safety procedures - mobile camera checks and deployment registers are completed and sent to the Police Infringement Bureau (PIB) daily - each static camera's deployment register is updated on each visit to the camera and left in the side cabinet - data is manually downloaded from each static camera every two to five 2-5 days (depending on volume of traffic at each site)* - all equipment faults or other problems are reported to PCS promptly.
Police Infringement Bureau (PIB)	- processing and management of all notices - images are verified before notices are issued - notice explanations are adjudicated fairly and consistently whilst having regard for road safety outcome risks - the original of all deployment register sheets is stored in line with the current document retention policy.

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Speed enforcement, Continued...

Static Safe * A manual process for extracting images from the static cameras, copying them to DVD, and delivering the DVD to PIB will be followed until the Police ICT system and infrastructure can utilise the wireless capabilities of the new static camera system and data can be downloaded remotely from the camera. This chapter will be revised and reissued at that point.

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Speed enforcement, Continued...

Speed camera ~~enforcement~~ site selection and deployment

Roles and responsibilities

<u>Roles</u>	<u>Responsible for ensuring</u>
District Commander (or their delegated representative)	• this chapter is implemented in their district • report any damage of enforcement equipment to PCS • breaches of this chapter are reported to the Director: Road Policing.
Director: Road Policing	• all speed camera equipment is approved and certified before deployment • that PCS regularly tests and re-certifies speed camera equipment • consultation on site selection is undertaken with relevant interested parties • audit adherence to this chapter.
Manager: Police Calibration Services	• all speed camera certificates of accuracy are retained • copies of speed camera certificates of accuracy are supplied for disclosure • all static safe speed cameras and camera sites are regularly calibrated with not more than 12 months between certifications
Manager: Police Infringement Bureau (PIB)	• staff authorised to access the static safe speed camera systems are trained • all camera system operator training records are maintained • camera system operators follow the 'Static Camera Expansion Programme Process Guide' when completing any tasks or actioning faults • processing and management of all notices • images are verified before notices are issued • notice explanations are adjudicated fairly and consistently, whilst having regard for road safety outcome risks • Work Authority requests are actioned promptly

Speed enforcement, Continued...

Safe speed camera site selection and deployment

This section contains the following topics:

- ~~Site selection process for static and mobile cameras~~
- ~~Criteria for static speed camera sites~~
- ~~Criteria for mobile speed camera sites~~
- ~~Mobile speed camera deployment~~
- ~~School zone mobile speed camera areas~~
 - ~~School zone overview~~
 - ~~School zone site selection~~
 - ~~School zone speed enforcement~~
 - ~~Speed camera vehicle deployment standard~~

Static and mobile speed cameras may be used at approved sites (selected to reduce crashes caused by speed).

Site selection process for static and mobile safe speed cameras

This table below summarises the site selection process for ~~safe~~static and mobile speed camera~~s~~ sites.

Stage	Process
1	A formal Sites Selection Methodology was used to rank all state highways and other roads across the country on the basis of their proven crash risk. The highest risk sites that are physically suitable for a static camera have been selected; other high-risk sites have been considered for other forms of enforcement activity (such as a mobile camera). The Sites Selection Methodology is objective, rigorous, and defensible and has been applied nationally and consistently. All safeFuture static speed camera sites arewill be selected on the basis of their proven risk (as determined from the Sites Selection Methodology). This includes crash history) and/ their suitability for a static camera (or predictive analysis if the site is unsuitable, a mobile camera).

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Speed enforcement, Continued...

2	For static camera sites, consultation must be undertaken by the DirectorNational Manager: Road Policing (or their nominee). For mobile camera sites, consultation must be undertaken by the District Commander (or their nominee). For both static and mobile camera sites, consultation must be undertaken with the <u>relevant road controlling authority</u> (whether Waka Kotahi New Zealand Transport Agency, a territorial local authority, or Auckland Transport).:- • relevant road-controlling authority (whether NZTA, a territorial local authority, or Auckland Transport) • New Zealand Automobile Association. Consultation may also be undertaken with community groups such as:- • road transport associations • local iwi or hapū • school representatives • road safety committees • commerce groups • area health boards • any other interested party. The consultative group must consider whether the objectives can be met by other means such as traffic engineering or education.
3	When proposing a new <u>safe</u> speed camera site, consideration must be given to: • site definition, ensuring a single named roadway • readily identifiable location site commencement and end points • engineering improvements taken or proposed • whether the posted speed limit is lawful • a synopsis of evidence to support the site – such as the number of speed related crashes and traffic analysis data.
4	Complete the Speed Camera Site Selection form or the Speed Camera Site Selection – School Zone form. Submit the form to the RPM for review. The RPM, if in agreement, will forward the form to PCS for approval. These forms are available from the Road Policing section of Police forms in Microsoft Word.
5	The Manager: Calibrations reviews the proposed speed camera site, based on the submitted form, and advises the District Road Policing Manager of the outcome of this consideration (approved or not approved). Note: Copies of Speed Camera Site Selection forms should be held within district and the original at the PCS to ensure traceability.
46	Speed camera site reviews to identify changing vehicle and site dynamics should occur regularly (no more than five yearly) for both static camera sites (by the DirectorNational Manager: Road Policing or their nominee) and for mobile camera sites (by the District Commander or their nominee).

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Criteria for static safe speed camera sites

A static speed camera is a permanent pole installation at an approved speed camera site. The site may or may not have an active camera. Static cameras detect vehicle speed using radar and laser.

A location with a proven crash risk that warrants consideration as a static camera site must meet the following criteria:

- The camera, flash unit, and speed detectionsenser must have clear lines of sight

Speed enforcement, Continued...

- The road must be straight and of a constant slope for 100 metres
- The cellular phone signal at the site must be sufficient
- There must be easy and safe access to the site that will not interfere with traffic flows
- If the camera is in an area where drivers are transitioning from a higher speed to a lower speed area, the camera must not be located within 250 metres from the point where the posted speed changes, and vehicles must not be targeted within 250 metres of the point where the posted speed changes. This restriction does not apply in school zones or temporary speed limit areas
- The camera must not be located within 250 metres of the final merge of a passing lane and vehicles must not be targeted within 250 metres of the final merge of a passing lane
- The site must have access to a suitable power source

Additionally:

- ~~It is preferable~~ the camera unit ~~faces~~ must be able to face south to avoid potential sun strike
- the equipment must be able to be secured
- the equipment must be protected from errant vehicles
- no large permanent metal objects are in the radar zone
- there can be no ~~permanent~~ temporary blocking objects (e.g., buses at bus stops)
- any underground services will not be negatively affected by the construction of the infrastructure necessary for a static camera.

In addition, confirm that the proposed site will not be subject to engineering changes within the next two years.

Criteria for mobile safe speed camera sites

A mobile speed camera is located in a Police vehicle that can be moved to any approved speed camera site. Mobile sites should be no longer than ~~five~~5 km in rural areas, or three blocks in urban areas. Mobile sites may be adjoining, but each must be selected independently.

For mobile safe speed camera sites, complete the Mobile Speed Camera Site Selection form (POL580) or the Mobile Speed Camera Site Selection - School Zone form (POL581). Submit the form to the RPM for review. The RPM, if in agreement, will forward the form to PCS for approval. These forms are available from the Road Policing section of Police forms in Microsoft Word.

The Manager, Police Calibration Services reviews the proposed speed camera site based on the submitted form. The approved site will be on the next update disc sent to district after PIB have created it.

Note: Copies of Speed Camera Site Selection forms should be held within district and the original at the PCS to ensure traceability.

Mobile speed camera deployment

A mobile speed camera vehicle must be deployed in the following manner.

1	Traffic Camera Operator safety must be the primary deployment consideration, including vehicles crashing into the stationary camera vehicle and clear Police radio communications from the deployment site.
21	A speed camera vehicle must be legally parked. If it is dark, the vehicle must have its park lights on. Refer to deployment of Radar/Laser for further details on parking police vehicles involved in speed enforcement.
32	A speed camera vehicle must be deployed so it is visible to traffic. The speed camera vehicle must not be hidden.

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Speed enforcement, Continued...

43	The position in which the speed camera vehicle is parked must, so far as is practicable, be at the optimal distance from the normal traffic lanes to ensure the safety of the operator and best quality photography, (i.e., about 1½ lane widths away from the normal path of vehicles).
54	When the speed camera vehicle is being deployed on a roadway, the speed camera vehicle tailgate must be fully extended or closed.
65	A speed camera vehicle may park on private land, if the occupier of the land gives clear permission for such use.
76	A speed camera vehicle must be parked on a straight section of road, so the operator has adequate reference points for aligning the camera. This ensures any vehicle being measured or photographed is travelling on a straight section of road at that time.
87	If a speed camera vehicle is deployed in an area where drivers are transitioning from a higher speed to a lower speed area, it must not be positioned within 250 metres from the point where the posted speed changes, and must not target vehicles within 250 metres from the point where the posted speed changes. This restriction does not apply in school zones or temporary speed limit sites.
98	While a speed camera vehicle may be deployed within a section of road designated as a passing lane, it must not be positioned within 250 metres of the final merge of the passing lane or slow vehicle lane and must not target vehicles within 250 metres of the final merge of a passing lane or slow vehicle lane.
109	When a camera is operational at a site, a second camera must not be deployed in the same site or an adjoining site.
11	A mobile safe speed camera <u>must not be deployed on the same road as an operating static safe speed camera unless:</u> a) the two locations on that road have a different speed limit; or b) the cameras are a minimum of one kilometre apart on any road with a posted speed limit of less than 70 km/h. or c) the cameras are a minimum of two kilometres apart on any road with a posted speed limit of 70 km/h or above. Note: "Same road: includes the continuation of any section of roadway regardless of any change in name for that road.
1210	When a speed camera is deployed in a school zone speed camera site, it must be operated only: • between 7:30am to 6pm on a school day; or • at any other time that a school activity occurs, including sports activities held on school grounds.

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School zone mobile speed camera sites

School zone overview

A school zone is designated as a single named road, no more than 250 metres from the school boundary, on which any direct school access exists. Early childhood centres can be 'zoned' as school zones, if a road sign identifies where the centre is.

School zone site selection

Districts must complete the Speed Camera Site Selection - School Zone form (POL581POL-581) for a school site that requires attention. School sites do not require a history of speed-related crashes.

These sites, identified through specific site codes, will automatically have the lower speed enforcement threshold/tolerance applied when the camera is deployed. Any ensuing notices must include reference to the school concerned.

Speed enforcement, Continued...

Speed camera vehicle deployment standard

See the '[Mobile speed camera deployment](#)' section.

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Speed enforcement, Continued...

Safe speedSpeed camera deployment data and images

Mobile and static safe speed cameras use digital media

Speed This section contains the following topics:

- ~~Mobile and static cameras use digital media~~
- ~~Send DVDs to the Police Infringement Bureau (PIB) within five days~~
- ~~Static camera incident control number~~

Mobile and static cameras use digital media

The speed cameras record images and data that can be used for statistical purposes deployment data onto a DVD.

Send data from mobile camerasDVDs to the Police Infringement Bureau (PIB) within five days

To avoid undue delay in initiating proceedings, all data from mobile safe speed cameras DVDs containing downloaded images from camera deployments must be sent to PIB no later than five days after the first image is recorded.

Standard operating procedures explain how a camera operator or technician downloads data and sends it to the PIB.

IncidentStatic camera incident control number

Every image is identified by a nine-digit Incident Control Number incident control number (ICN) that is generated at the same time as the image and incorporated into it. This numbering system enables every image to be traced. See the examples below.

The integrity of the speed camera programme is maintained by ICN accuracy.

STATIC SAFE SPEED CAMERA IMAGE



Speed enforcement, Continued...

Point of
interest –
camera
alignment

Offending Vehicle

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Speed enforcement, Continued...

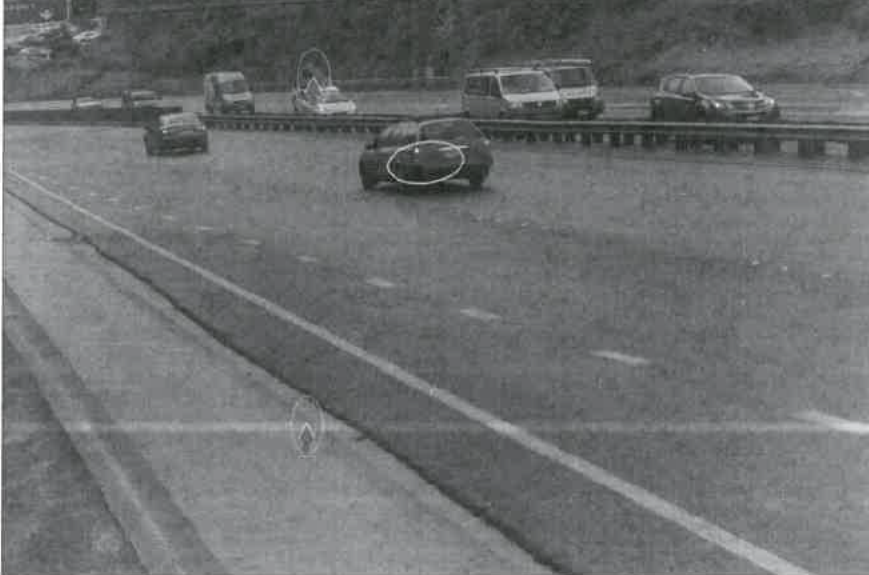
MOBILE SAFE SPEED CAMERA IMAGE

Wed 08 Apr 09 14:15:52 Recorded Speed: 66 Away
Posted Speed Limit: 50 WW0021 600074106

ICN



Thu 24 Jul 14 15:13:36 Recorded Speed: 101 Away
Lane: B Posted Speed Limit: 80 WLF001 699109001



Speed enforcement, Continued...



Speed enforcement, Continued...

Legal framework for speed enforcement

This section contains the following topics:

- ~~Speeding offences~~
 - ~~Liability for moving vehicle offences~~
 - ~~Defences against proceedings~~
- ~~Approved vehicle surveillance equipment~~
- ~~Certification standards~~
- ~~Speed camera equipment certificates of accuracy~~
- ~~Evidential sufficiency of approved vehicle surveillance equipment image~~

Speeding offences

Liability for moving vehicle offences

~~Section 133~~Section 133 of the Land Transport Act 1998 provides that proceedings may be taken against any person who, at the time of the offence, was:

- the person allegedly committing the offence
- the registered owner or one of the owners of the vehicle involved
- lawfully entitled to possession of the vehicle, whether jointly owned or not, regardless of whether that person is an individual or was the driver or person in charge of the vehicle at the time.

Defences against proceedings

Where enforcement action is taken against the registered owner/owners, it is a defence to proceedings under section ~~133~~133 of the Land Transport Act 1998 if, at the time the offence was committed:

- the person driving was not lawfully entitled to possession of the vehicle, whether jointly owned or not; or
- another person was driving the vehicle; and
 - immediately after becoming aware of the alleged offence, the person advised the enforcement authority in writing of these things, and
 - the person gives the enforcement authority a statutory declaration:
 - identifying the driver, by giving their name and address; or
 - other particulars that might lead to identification; or
 - establishing that they could not identify the driver, after taking all reasonable steps to do so.

Approved vehicle surveillance equipment

~~The Land Transport Act 1998~~The Land Transport Act 1998 provides the legal framework for speed cameras by defining approved vehicle surveillance equipment (AVSE) that can detect moving vehicle offences. Only AVSE approved by the Minister of Police by way of a notice in the New Zealand Gazette is allowed to be used to enforce speeding offences.

There are ~~four~~two approved AVSE speed camera devices in New Zealand used for enforcement. The statutory regulation numbers for the relevant gazetted Land Transport (Approved Vehicle Surveillance Equipment) Notices are shown in this table.

Publication	Approved Equipment
(No 2) 2008 SR 2008/447 (No 2) 2008 SR-2008/447 Land Transport (Approved Vehicle Surveillance Equipment) Notice (No 2) 2008	• REDFLEXradarcam camera system (the mobile radar-based speed camera system).

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Speed enforcement, Continued...

2014 – LI 2014/1912014 – SR 2014/191 Land Transport (Approved Vehicle Surveillance Equipment) Notice 2014	• REDFLEXspeed Radar NK7 static camera system.
2015 – LI 2015/58 Land Transport (Approved Vehicle Surveillance Equipment) Notice 2015	• REDFLEXred Radar NK7 red light/speed camera system
2017 – LI 2017/289 Land Transport (Approved Vehicle Surveillance Equipment) Notice 2017	• REDFLEXotl radar NK7 Static Speed camera system

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Certification standards

Testing and issuing of Speed Camera and Tuning Fork Certificates of Accuracy are covered by section ~~146~~146 of the Land Transport Act 1998. This section requires the Certificate of Accuracy to have not been issued no more than 12 months before the date of the alleged offence.

Section ~~146~~Section 146 of the Land Transport Act 1998 mandates testing and calibration for:

- radar and laser speed detection devices
- mobile and static speed cameras
- static speed camera sites (certificates of accuracy (NK8) issued 12 monthly)
- tuning forks.

Note: Whenever a speed camera has been repaired, it must be returned to Police Calibration Services for testing and recertification if required. Any speed enforcement equipment without a current Certificate of Accuracy must **not** be used for speed enforcement. Note also that radars and lasers undergo this same testing.

Speed camera equipment certificates of accuracy

PCS calibrates all speed camera equipment.

PCS advises districts when their speed camera equipment is due for calibration and holds the original certificates of accuracy for every camera and tuning fork. A copy of the calibration certificate must be kept at the district to which the equipment has been assigned.

The absence of a current certificate may not jeopardise a prosecution, as long as a Police witness can give evidence that testing was carried out and the equipment was found to be accurate.

Note: When the accuracy of the device is in question, the defendant must make an application not less than 14 days before the hearing, for the production of the certificate of accuracy (section ~~146~~146 of the Land Transport Act 1998).

Evidential sufficiency of approved vehicle surveillance equipment image

Section ~~145(1)~~145(1) of the Land Transport Act 1998 covers the evidential sufficiency of a moving vehicle image taken by AVSE. The image must show or record:

- a motor vehicle on a road
- the speed of the vehicle
- the location of the vehicle, and
- the date and time when the image was taken.

Speed enforcement, Continued...

In the absence of proof to the contrary, this is sufficient for the image to be produced in evidence for a moving vehicle offence.

Note: Section 555 of the Land Transport Act 1998 makes it an offence to tamper or interfere with AVSE or with the operation of AVSE.

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DRAFT



EVIDENCE REVIEW

Speed

2020

NRPC Edition 2



**NATIONAL ROAD
POLICING CENTRE**





*“Excessive and inappropriate **speed** is the **number one** road safety problem in many countries, often contributing to as much as **one third** of fatal accidents and **an aggravating factor in all.**”*

– OECD report on speed management



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SPEED

Evidence Review Edition 2
July 2020 National Road Policing Centre



Purpose and content

The purpose of the current document is to provide a systematic review of the evidence on the efficacy of enforcement in raising compliance with speed limits, influencing safe driving speeds, and reducing speed-related road trauma. The review examines speed in the wider context of road safety, why it matters, and why it is a salient and persisting problem. The review examines the underpinnings of speeding (including speed limit exceedance and inappropriate speed), its countermeasures and the role of enforcement. Finally, the evidence for tactical considerations that may facilitate the effectiveness of enforcement is reviewed, and opportunities for new interventions are identified.

Summary of findings

- » Speed is at the very centre of road safety. The risk of fatal and severe traffic crashes is now well demonstrated to rise exponentially as driving speeds increase.
- » The safety of driving speeds and optimal speed limits depend on the level of protective elements built into the road and roadside.
- » New Zealand has a large mismatch between speed limits and driving speeds on one hand, and (what are objectively determined to be) 'safe speeds' on the other.
- » People do largely not understand or recognise the risks of speed, an issue which continues to fuel resistance to measures designed to restrict driving speeds such as speed limit reductions, and speed enforcement.
- » There is good evidence that speed enforcement is effective in raising speed limit compliance, and the research has found a dose-response relationship between enforcement intensity and the incidence of severe crashes.
- » This evidence extends to local, specific effects (time and distance halo of an enforcement unit), to general area effects where enforcement is shown to reduce speeds even when no enforcement unit is present.
- » Enforcement should ideally be the last intervention as part of an integrated speed management approach, which does not describe the current New Zealand situation.
- » There are several deployment tactics that can be utilised to enhance the effect of manual speed enforcement.
- » Use of covert methods of enforcement is effective and could be undertaken more widely to leverage its effects on perceptions of unpredictability.
- » Publicity can effectively raise perceptions of speed enforcement and improve compliance.

WHY SPEED MATTERS



Background

In the last five years, 3,165 people have died or were seriously injured in crashes where speed was identified as a contributing factor. This is about 22% of all fatal and serious crash injuries. This proportion may sound relatively minor given the prominence given to the role of speed in road trauma by road safety authorities, such as the World Health Organization; “Speed is at the core of the road traffic injury problem” (WHO, 2017, p. 5). However, aside from this statistic likely underestimating the role of speed as a factor contributing to the crash occurring, speed is a trauma aggravating factor in almost all single and multiple vehicle crashes resulting in serious injury or death [1].

The most recent speed survey taken from sites across the country showed that 23% of vehicles were travelling above the speed limit in rural locations, and 46% were speeding in urban locations [2]. Speeding is a well-studied aspect of road safety; large scale international reviews have concluded it to be the primary source of traffic-related mortality [3, 4]. Speeding encompasses driving at excessive speed and driving at inappropriate speeds [1]. This section will unpack why it is wrong to assume speed is not a factor in 78% of New Zealand road trauma.

The physics of speed

A small change in speed has a relatively large change in stopping distance, which has a much larger change in impact speed, a still larger change in impact energy and a very large change in probability of death and serious injury [5]. To illustrate this, a driver reacting to an object 70 metres away will be able to stop in time if travelling at 80 km/h; a driver travelling at 100 km/h who immediately commences braking will hit the object at 67 km/h (see Figure 3) [6]. If that object is an oncoming vehicle or solid stationary object, the probability of sustaining severe injuries or death for light vehicle occupants is estimated to be greater than 90% at that impact speed [7]. Had the initial speed been just 20 km/h lower, the crash could be avoided entirely.

The severity of crash forces can be described generally as the change in velocity, known as Delta-v, this is when the kinetic energy of the vehicle travelling at speed transfers onto the vehicle, its occupants, and object or road user struck [8]. Kinetic energy quadruples for every doubling in speed, which in part explains the non-linear relationship between speed and the risk of fatal crash involvement (see also Figure 4) [4].

Two cars of the same mass travelling at the same speed colliding head on at 100 km/h is sometimes viewed as comparable to an impact speed of 200 km/h, however as per Newton’s third law of motion, this is rather the same colliding force with a solid wall or roadside object such as a tree at 100 km/h. When mass is unequal, however, the lighter vehicle and its occupant(s) is subjected to relatively greater crash forces at the same speed. For this reason, head-on collisions involving trucks have high fatality rates for the occupants of passenger cars.

What is the relationship between speed and crash risk?

There is a strong, well demonstrated, relationship between mean speed and the risk of fatal crashes; risk curves estimating this relationship were developed in Nilsson’s power model [9, 10], and Kloeden’s relative risk model [11–13]. The earlier iterations of the power model provided a simple conversion of a 1% change in mean speed being associated with a 3% change in serious injury crashes and a 4% change in fatal crashes. Kloeden’s model showed that casualty crash risk doubles for each 5 km/h increase in speed above the mean. The original power model becomes less accurate in higher and lower speed environments which was addressed in subsequent revisions [14].

Later work showed that this relationship varies by road type, with changes to speed in urban environments to have a lower effect on severe crashes than in rural environments [15]. Later models have also shown that the change in fatal crash risk is greater for higher initial speeds, meaning reducing speeding on rural roads by a relatively smaller proportion would yield a greater safety benefit [16]. Based on these latest models proposing an exponential relationship, a reduction in mean speed from 110 to 100 km/h would reduce the incidence of fatal crashes by about 50% (see Figure 4) [16]. This relationship has later been found to also be applicable for attributing risk to individual driving speeds [17–19].

The relationship between speed and crash risk can be most succinctly be summarised as a 28% reduction in the incidence of fatal crashes for every 5 km/h reduction in speed compared to the crash rate at the initial speed, or 6% per km/h [4]. This model is accepted by the World Health Organization and OECD/ITF [4, 20].

What are safe speeds?

While vehicle protection systems and infrastructure measures can reduce vehicle occupants' exposure to crash forces, these are relatively applied; the same risk curve applies as speeds increase. I.e. the same car on the same road has an equal exponential relationship between a change in driving speed and the risk of a fatal crash (refer Figure 4). Survivability probabilities based on travel speed, however, vary given the possible crash angle (e.g. side on), and the mode of travel (e.g. pedestrian). These are reflected in what are known as 'safe system speeds'.

Safe system speed limits were introduced in Sweden's Vision Zero based on the premise that there are critical speed cut-offs (10% fatality risk) above which the probability of death increases rapidly [21, 22]. Despite being frequently cited in road safety literature, there have been few attempts to validate these limits with experimental data, and these limits may be seen as aspirational in nature [23]. Although there have been some more recent models that provide support for these limits, and that these critical limits are even lower if set for serious injury (Figure 5) [7, 23, 24].

Table 1. "Safe system speed limits" (Tingvall & Haworth, 1999).

Type of Infrastructure and traffic	Possible travel speed (km/h)
Locations with possible conflicts between pedestrians and cars	30
Intersections with possible side impacts between cars	50
Roads with possible frontal impacts between cars	70
Roads with no possibility of a side impact or frontal impact (only impact with the Infrastructure)	100+

Safe speed limits can also be set by keeping in mind the role of braking prior to collision, which would bring the critical speed limits in line with or slightly above the proposed 'safe system speed limits' [25, 26]. Maximum speed limits may for various other reasons not be a good indicator of collision speeds and their risk, including the fact that traffic won't be all be travelling at the maximum allowable speed and that vehicle occupant protection levels vary widely among passenger cars [27]. Basing safe speed limits on the probability of a crash resulting a fatality in given a crash scenario produces a different set of critical speed limits (Table 2) [27].

Optimal speed limits are in most cases going to be higher than limits based primarily on safety and possible conflict angles but require investment into infrastructure to safely operate. The safer a road becomes due to various measures, the higher the optimal speed limit. A contemporary assessment of Vision Zero speed limits based on the biomechanical tolerance of the human body to crash forces mostly aligns with the original "safe system speed limits", where the goal is to eliminate road deaths. This would mean 30-40 in pedestrianised zones, 50 in other urban zones, 70-80 in rural zones without barrier protection, and 90-110 km/h in rural zones and motorways with barrier protection [28].

Table 2. Safe speed limits for a given threshold fatal crash rate

Crash type	1 in 100 safe speed limit (km/h)	1 in 1,000 safe speed limit (km/h)
Hit pedestrian	40	<40
Head-on	50	<50
Hit fixed object	60	<50
Right angle	80	50
Right turn	80	50
Left road/rollover	80	<60
Rear-end	110 or >110	80

What is the role of speed variation?

In addition to mean speeds and the rate of speeding, there is also a relationship between the variation in driving speeds and the rate of crashes. Homogenous speeds being safer than large differences in vehicle speeds. Although the relationship between speed the variation in speeds and crash rates is more difficult to summarise or quantify [4], it appears to largely affects property damage only and minor injury crash rates [29, 30]. On motorways, higher between lane speed variation also combines with traffic volumes and speed to influence injury crash rates [31].

Some have taken this to mean that given the relationship with speed variation and crashes it to be more unsafe to drive below the speed limit or at lower speeds than surrounding traffic [30, 32]. This also appears to be a false belief held by some drivers [33]. Absolute speed (individual or mean) remains the key risk factor, and it is not safer to speed or drive at higher speeds if this is closer to the mean speed [30, 32]. There is no such a power or exponential relationship between variation in speed and severe crash risk [4].

Why does low-level speeding matter?

The issue of low level speeding is a perpetuating and common issue in road safety, characterised by public perceptions that low level speeding (defined as less than 10-15 km/h over the limit) is not much of an issue and police should focus their efforts on high-end speeding [34]. Having established the exponential relationship between speed and fatal crash risk, it is clear that, not only do relatively small increments in speed have a large effect on fatal crash risk, the prevalence of low-level speeding comes into play (which describes Kloeden's earlier mentioned approach to estimating risk).

Total speed attributable risk should be seen in the context not only of the risk associated with the higher-end speeds, but take into account the proportion of vehicles travelling at those speeds (i.e. relative risk of driving at +x km/h over the speed limit * percentage traffic driving at that speed) [35]. This makes the issue of 'low-level' speeding particularly problematic; while high-end speeding is very risky, it is relatively rare. Low-level speeding increases risk less severely, but is much more common [36].

Compounding this problem are public perceptions of acceptability and permissibility of lower-end speeding, particularly in the <11 km/h excess range. This effectively raises already excessively high speed limits to a de facto limit of 110 km/h on rural roads and 60 km/h on urban roads. Police's position on speed camera activation settings and officer discretion (including the practice of

'speed discounting' or setting even higher thresholds) has inadvertently reinforced this perception [37–39].

Due to the prevalence and implicit acceptance of low-level speeding as 'normal' the majority of collective casualty crash risk associated with speeding is attributable to speeding below 16 km/h excess (at the population level) [35, 40, 41].

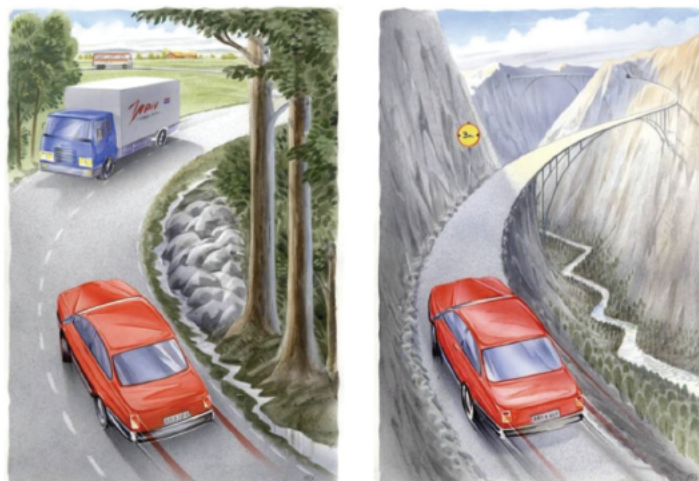
Why do drivers speed?

There are a number of reasons why drivers speed and factors that relate to speeding behaviour, such as age, sex, attitudes and other behaviours like drink driving [42, 43]. There are also road factors, vehicle factors, enforcement levels, sanction severity, education, and publicity [44]. However, three fundamental reasons underpin the persistence of speeding behaviour, resistance to speed limits and their enforcement [43]. This includes the reluctance to adopt safety-appropriate driving speeds and support speed limit reductions that would align with this [45].

Recognition of risk

People don't readily appreciate the stark relationship between speed and the risk of severe injury and death. Humans are not exposed to speed in the same way we learn to fear height, for example; despite this, the exposure to potential energy transfer from speed is identical to falling from a height [5]. The physics are essentially the same. The potential kinetic energy transfer for a vehicle travelling at 100 km/h can be expressed as similar to the same car falling from a 40-metre height [5]. While the risk of harm in the latter case is readily accepted and understood, the same risk presented by the former is not [46].

Figure 1. Perceived and actual risk of exposure to kinetic energy transfer (Tingvall, as cited in Woolley et al. (2018)).



When it comes to heights and unforgiving environments, there is a great tendency to mitigate the potentially injurious results of human error; balconies and stairs have railings, ravines have barriers. It is likely unacceptable to rely on education or signage to produce careful balcony users in order to prevent people from falling off elevated balconies. However, driving environments that carry the same potential for exposure to transfer of kinetic energy because of human error, but are viewed and treated differently. Speed carries several economic and time saving benefits but the necessity to make those speeds safe is not typically appreciated in the same way [46].

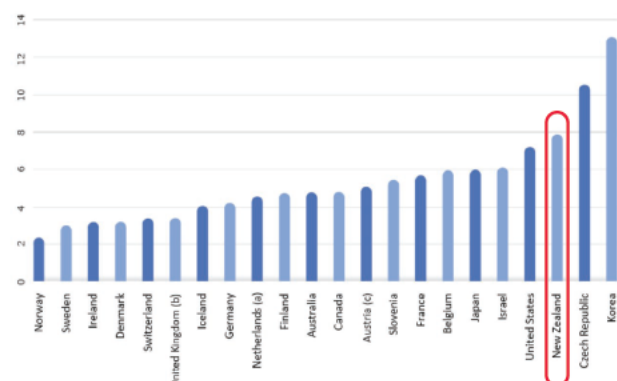
Having safely used a railing-less balcony for years and it being uneconomical or otherwise undesirable to put one in is irrelevant; it is an uncontroversial matter of public safety. Speed limit setting and its enforcement can be described in remarkably similar terms and yet has attracted significant controversy and contention [47]. The risk is not recognised.

This failure to recognise the risk of speed is reinforced by a feedback loop of having experienced a growing driving history filled with high speed driving but most likely a lack of involvement in severe crashes [33]. It is also true that the odds of being involved in a high-speed crash are low for the individual driver because they are relatively rare events. Driving at 100 km/h rather than 80 km/h carries more than twice the fatal crash risk, however, at the individual level this is making an exceptionally rare event no more appreciably likely.

Say the odds of a New Zealand driver being involved in a crash killing a driver or passenger each year is about 1 in 13,000; doubling that risk to say 1 in 6,500 by driving faster still makes it highly improbable for an individual driver to be involved in a fatal crash that kills a driver or passenger.

However, multiplying that doubling in risk at the population level, all things being equal (infrastructure is for example not put in place to safely accommodate higher speeds), means accepting twice the number of road deaths; some 3,000 additional preventable deaths over a decade.

Figure 2. Road deaths per billion KM travelled (OECD/ITF, 2019).



Paradoxically, drivers have been shown to happily accept and prefer this risk if it means getting somewhere more quickly but simultaneously want the government to provide safe roads [48]. In 2016, 80% of New Zealand drivers surveyed believed our roads were safe [49]. In contrast to New Zealand drivers' belief regarding the safety of our roads, New Zealand had the third highest rate of road deaths per distance travelled in the OECD (Figure 2), and experienced the largest rise in the rate of road deaths recorded across the OECD over 2013-2017 (Figure 6) [50]. Speed has a large part to play in shaping our road safety record [51].



Illustration 1: Speed and field of vision (Ministry of Infrastructure, 2015)

Normalised behaviour

The majority of drivers speed because it is widespread and because other drivers speed (normative behaviour) [43, 52]. The majority of drivers who speed tend to do so in response to other drivers around them, and in response to social influences [53, 54]. This finding has been replicated in a number of local and international studies [39, 43, 52, 55–57]. There is also a minority of high-risk drivers who drive at substantially high speeds (e.g. thrill-seeking behaviour) and at considerable risk that fall outside this, but most drivers speed because surrounding traffic speeds.

False belief speed preference is rational

There are a number of biases and false perceptions that perpetuate the preference to drive faster, and drivers tend to ignore impacts of speed they don't immediately notice [58]. Drivers tend to overestimate the time savings impact from higher maximum driving speeds [59]. Drivers tend to fail to appreciate the increased fuel consumption, reduced efficiency and increased emissions of higher driving speeds [58, 60].

Drivers tend to underestimate the role of impact speed on their own safety, perceiving the relationship between speed and severe crash risk to be linear, when it is in fact exponential [58]. Drivers tend to underestimate braking distances at various speeds [61]. Perceived risk is actually an important predictor of drivers' speed preference [62, 63]. However drivers tend to read risk through various cues that have no relation to actual risk and fail to identify real risks in the driving environment that are beyond their control [64, 65].

Speed management

Speed management describes measures intended to reduce driving at excess speed and/or driving at inappropriate speed [1, 20, 44].

Speed limits

Speed limits and speed limit reductions are in themselves effective in bringing driving speeds down and reducing severe crashes. On average, a 20 km/h speed limit reduction will reduce the mean speed by about 8 km/h [6]. NZTA's assessment of the road network shows that 87% of the road network has speed limits that are above what are considered to be safe driving speeds, for some roads the safe and appropriate driving speed is 40 km/h lower than the posted speed limit. This restricts the ability of enforcement to bring about safe driving speeds.

Speed limit enforcement

Automated (camera) and manual enforcement (officer) describe various methods of enforcement. Fixed speed cameras have a very localised effect (250-500 metres) and reduce all crashes by about 20%, the fatal crash reduction rate is uncertain [66]. This localised (kangaroo) effect seems to increase with higher conspicuity and may encourage speeding outside camera areas if camera numbers are small but highly visible [67, 68].

Covertly and unsigned overtly operated mobile speed cameras have a less pronounced local effect but project wider deterrence and speed reductions across the network [69]; increases in camera numbers and operating hours is strongly related to reductions in severe crash rates [70]. There is a strong network-level dose-response relationship between the amount of mobile camera enforcement and fatal crashes that seems to improve with random scheduling [71, 72]. A covert mobile speed camera programme with sufficient intensity has a general network effect on casualty crash reductions ranging 21-30% [73].

Section control cameras are used to calculate a driver's average speed between two or more distances using ANPR and are very effective in reducing speeding and severe crash risk on enforced sections of road. Section control reduces fatal and serious injuries by 56% [66].

Manual enforcement using lasers and radars is less efficient at offence detection compared to automated methods but has several advantages over automated technology. Manual enforcement can be targeted to entire road network with agility to foster general deterrence and prefer deployment to routes with high operating speed and low infrastructure protection. This makes manual enforcement more effective when crashes and risk is more widely dispersed across a route or the network [74]. Apprehension and resulting feedback is also immediate and can be connected to a specific instance of speeding behaviour. Officer-based speed enforcement also produces much greater speed reduction halo effects compared to fixed cameras (distance over which speed reductions are achieved), up to 10 km [75]. Public support for manual speed enforcement is high at 73%, and higher than that for the use of speed cameras (63% support) [49].

Credibility of speed limits

Credible speed limits describe speed limits that align with the function and design cues of the road; drivers are more likely to comply with the limit if it is perceived as credible [76]. Various types of visual and physical treatments, such as markings, use of traffic islands, cycle lanes, provisions

for pedestrians, and roundabouts can substantially reduce vehicle speeds by making the correct speed on roads intuitive [77–79].

Dynamic and variable speed limits

Dynamic speed limits can be varied according to road and weather conditions, and have been found to significantly reduce crashes by 18% [80]. Temporary speed limit reductions in school zones are also an example of a variable speed limit. Another application is the rural intersection active warning system which temporarily reduces the speed limit on main roads when a car is approaching from an intersecting road, significantly reducing speed by 6–28 km/h [81].

Road narrowing

Road narrowing including physical and perceptual narrowings encourage earlier deceleration and probably reduce mean speeds, for example in anticipation of an intersection or pedestrian crossing [82]. Gateways and transition zones can also make use of narrowings to physically signal to drivers that they are entering a different speed zone on a continuous road [1].

Speed activated warnings

Speed activated warnings flash either a warning message or the approaching vehicle's speed. Generic warnings do not tend to significantly reduce speeds, but displaying the trigger speed can reduce mean speeds by between 5 km/h (day) and 8 km/h (night) [83].

Speed humps

Speed humps are a category of vertical speed deflection devices usually installed in urban locations to physically restrict driving speeds. Speed humps reduce crashes by about 17% [84].

Incentives and rewards

Various incentive programmes to reward speed limit compliance have been tested and found to be effective in motivating compliance up to 80%. However, reward schemes are difficult to target to the right drivers (drivers who would most benefit from the reward scheme being least likely to take part), and cost prohibitive to implement to good effect [85].

In-vehicle technology

There is good evidence that various forms of intelligent speed adaptation (ISA) are effective in reducing speeding and can provide a substantial safety benefit [86]. ISA provide feedback to the driver when the speed limit gets exceeded. ISA generally covers three levels of control:

- » Informative – where the speed limit is displayed, and the driver is warned when the limit is exceeded (-7.5% DSI risk). These systems are most effective for drivers who oppose voluntary ISA.
- » Over-ridable – where informative is combined with a counterforce that gets applied to the gas pedal when the speed limit is exceeded (-9.3% DSI risk).
- » Mandatory – where the driver is prevented from accelerating further when the speed limit gets exceeded (-16.2% DSI risk).

ISA is currently not utilised as part of the criminal justice process, but like mandatory alcohol interlocks could be effective sentencing or relicensing options for repeat and high-end speeding offenders, and cases involving speed as part of a dangerous driving conviction [87].

Education

Given the reasons drivers speed and resist appropriate speed management, getting drivers to understand their speeding matters, and that the speed limit setting policy should reflect the risk of exposure to life threatening collisions, is a tough sell. However, as there is an association between attitudes and speeding behaviour [88, 89], and also a lack of understanding around the risks of speed [5], it would appear to make sense to pursue educative measures. Many road safety campaigns and education programmes do assume that a certain proportion of road users do not behave legally or safely because they lack knowledge of traffic rules, risk of speeding, or have negative attitudes. These measures further presume that exposure to information can provide increased knowledge, which in turn leads to a positive change in attitude, thereby improving driving behaviour and consequently reducing crash risk [84].

The research regarding education and information measures for speeding is characterised by poor evaluations and lack of evidence for behaviour changes or reductions in crash risk, some reporting no change or even negative results [84, 90, 91].

A notable exception may be in the UK's National Speed Awareness Course, where drivers apprehended for speeding by a police officer or speed camera are given the option to have the fee and demerits waived if they complete the 4-hour course. Reoffending reduced by 14% for those who participated in the course compared to those who refused; crash involvement was also 7% lower in the three years following participation [92]. There is good incentive for repeat offenders, who tend to be more resistant to participating, to complete the course if it provides an avenue to avoid licence suspension for excess demerit point accumulation.

Education and information initiatives do have a role to play in speed management and may be more effective when tied to enforcement efforts such as the intensive awareness course operated in the UK (which may be seen as a rehabilitation measure).

Integrated speed management

Speed enforcement and other speed management measures all have an individual impact on speed. The concept of integrated speed management brings measures together to bring about enduring reductions in speed and associated trauma [1]. Setting speed limits to align with human tolerance to crash forces in mind without enforcement are not going to achieve the maximum effect. Effective speed enforcement is ideally the final aspect of an integrated speed management approach that first seeks to encourage appropriate speed [93]. This involves setting appropriate speed limits (based on the function and forgivingness of the road), providing information about speed limits (such as signs and in-vehicle systems), putting in place road engineering measures (including protection features and design cues) followed by enforcement aimed at intentional violations [74].

What enforcement does

Traffic enforcement should above all else seek to prevent those behaviours most closely related to the incidence of fatal crashes and severity of serious injury crashes [74]. Speeding is chief among these.

Police enforcement has consistently been found to have a strong dose-response type of relationship to the incidence of speeding, mean speeds, and risk of severe crashes [6, 72, 94–97]. The overall summary effect of speed enforcement has been estimated at a 29% reduction in fatal crashes, however, speed enforcement can be delivered to varying degrees of intensity and there is variation in effect size estimates in the literature. The dose-response model, called the crash modification factor, summarises these effects (Figure 7) [98]. A comparison of patrol activities found speed enforcement to produce the greatest reduction in fatal crashes, while ‘general patrolling’ did not have a significant effect on casualty crashes [84].

Speed enforcement is primarily effective in bringing about safety and compliance via general deterrence and general effects by raising perceptions that the risk of being apprehended is high but be difficult to anticipate [70, 99]. Secondary to this, speed enforcement has specific effects in the locations it is being undertaken and has specific deterrent effects for those drivers who are apprehended for speeding [100]. While manual enforcement is less efficient than automated methods, it is better suited to produce wider general effects across the network [101], and therefore more suited to New Zealand’s relatively large rural road network. New Zealand has the highest proportion of fatal crashes on rural roads across the OECD (Figure 8).

Enforcement has a unique effect on speed in comparison to many other speed management measures in that it specifically targets and affects the high-end of the speed distribution i.e. a relative minority of the riskiest speeds [17]. The downside of this is that it cannot affect inappropriate speeds below the speed limit and is hampered in conducting safety when speed limits permit driving above speeds that would be safe in a given driving environment. This currently describes the majority of New Zealand’s road network. Notwithstanding this, the mere presence of a stationary police car on the side of the road has been shown to reduce vehicle speeds substantially and to slow speeds below the posted speed limit [102].

So even though, given the high rural speed limits, a relatively small proportion of traffic will be travelling above the speed limit and can be targeted by enforcement, enforcement still positively affects the driving speeds of most drivers through exposure to enforcement (witnessing it taking place) [75].



HOW ACTIVITIES AND TACTICS ARE BEST UNDERTAKEN



➤ Background

On a whole, considerations given to how, where, and when speed enforcement activities are undertaken are of lesser concern to the intensity or amount of speed enforcement undertaken [103]. However, a risk targeted approach is more efficient than a general one [99, 100]. Using techniques to heighten general deterrence and produce general effects are more efficient than techniques aimed at specific deterrence and producing specific effects. At a high level, this means prioritising high speed environments with lower levels of protective infrastructure.

NZ Police currently delivers to an enforcement level of around 256 speeding offences per 1,000 population (2019). This compares relatively favourable to EU member states with only two reporting a higher level of offence detection (where data is available, 2017) [104].

Stationary versus moving patrols?

Stationary speed enforcement using radar or laser have been shown to be approximately twice as effective in reducing crash rates, and the local speed reduction effect for stationary patrol vehicles is larger [75, 105]. The mere presence of an unmanned police car at the side of the road is able to slow traffic down [106, 107].

Nevertheless, mobile patrols undertaking speed enforcement are effective in reducing speeding, and may reduce speeds over greater distances [108], but may not be as efficient in offence detection, and are visible to fewer drivers [75, 109]. Having two stationary patrol cars per road segment is most effective at bringing speeds down (or one stationary and one circling) [110]. Overall stationary speed enforcement that moves around sites is preferred over mobile patrols, but both methods are effective.

High visibility versus covert?

Mobile unmarked patrol vehicles have no local speed reduction effect (presumably unless lights are activated), while there is some evidence of a local effect on speeds involving stationary unmarked patrol vehicles [75, 111]. This finding may be a combination of greater awareness that a stationary patrol vehicle on the side of the road is undertaking speed enforcement, and the fact that a stationary vehicle is seen by traffic travelling in both directions.

Covert speed enforcement is more effective in detecting speeding and overt enforcement is more effective in reducing local speeds [110], however marked cars can be used to the same effect if stationary speed checks are being undertaken in locations where their presence cannot easily be anticipated from a significant distance [112]. High visibility speed enforcement is also effective in producing local reductions in speeding, and have in a number of studies been shown to produce a similar or greater local reduction in speed [111, 113]. Covert, or difficult to anticipate overt (unpredictable) speed enforcement is, however, better at producing a general effect on speeding and crash risk across a wider area [69, 84, 101, 114].

A study comparing enforcement undertaken overt versus covert with immediate or delayed feedback found that covert enforcement combined with immediate feedback (apprehension) was most effective in reducing speeding [115]. Overall, a manual speed enforcement programme is most effective when it employs a combination of high visibility and inconspicuous patrol vehicles/methods [84, 116].

There is high public awareness (93%) that covert traffic enforcement is undertaken in New Zealand using unmarked patrol cars and 85% of people surveyed believed this to be fair [49]. This is a good starting position to build on and encourage greater use of inconspicuous and unpredictable speed enforcement activities.

Risk based deployment and randomisation

Local effects can be achieved through such a simple mechanism as parking police cars near stations on the side of the road to elicit speed reductions, so long as the risk of apprehension for speeding is kept high overall, and offence detection is most closely connected with deterring traffic offending [117, 118].

It is better to slow drivers down across the network because speed enforcement is difficult to anticipate, but perceived as a credible risk in a given environment (perceived as likely), than a strategy aimed at slowing drivers down in particular areas because it carries more risk than others [1, 70, 99]. However, pursuing one does not preclude the other. Speed enforcement can be efficiently targeted more strongly to routes that carry high speeds but lack median barriers, and roads where the rate of speeding is high while still maintaining a focus on network-level general deterrence.

There is some evidence of a longer-term lag effect of speed enforcement of up to one year [119]. This means that there are immediate effects associated with enforcement with a speed reduction halo of a few kilometres, an intermediate effect with a time halo up spanning from two weeks [110] to eight weeks [120] (likely depending on the intensity of the local operation), and a long-term effect [119] of speed enforcement on driving speeds and risk of severe crashes.

One study found that conducting about 22 hours of speed enforcement in 2-hour blocks over a week was associated with a 5-day local speed reduction halo in the next week [121]. These effects go both ways, i.e. for introducing and maintaining speed enforcement compliance will go up, and for removing and discontinuing speed enforcement compliance will go down. This also highlights the preventative role of speed enforcement, and the need for enforcement even when compliance is high, in that its removal will likely see speeding revert back to previous levels [122].

In terms of time, speed enforcement has a greater effect on driving speeds on weekend days than weekdays. Enforcement appears to be least effective in the afternoon, but more effective during early mornings [110].

Covert, random and difficult to anticipate speed enforcement principles should be kept in mind when considering 'risk targeting' to avoid 'site learning' adaptation and supports the 'any time, anywhere' approach [1, 123].

Targeting low-level speeding

Previous local [124–126] and international research has shown that immediate and dramatic reductions in speeding are attainable with a publicised reduction or removal of the 'tolerance' or well-known discretionary/detection threshold for speeding [71, 127–129]. Local reduced speed enforcement operations that involved increased officer enforcement for lower excess speeding, a reduced speed enforcement threshold for speed cameras, accompanied by publicity was associated with various benefits. This included an immediate and sustained reduction in speeding <11 km/h excess of 22%, and a reduction in speeding >10 km/h of 25% [124].

An increased focus on enforcing lower-end speed offending also reduced speeding above the enforcement threshold, and it shifted the entire excess speed distribution to the left. Best

estimates for crash reductions indicated a 22% reduction in fatal crashes, an 8% reduction in serious injury crashes, and a 16% reduction in minor injury crashes [37].

Australian research has indicated that drivers are quick to respond to reductions in the activation settings of speed cameras, with rapid reductions in detected offending as it becomes well-known that lower-level speeding is no longer 'tolerated' [130].

Despite various controversial media reports, New Zealand drivers largely support enforcement of the speed limit for speeding below 11 km/h so long as there is fairness, transparency, and consistency in messaging and its application [39, 55]. Surveys conducted in relation to Police and ACC's Safer Summer operations indicated that 74% of respondents believed enforcement action should be taken for speeding by <11 km/h in excess in rural locations and 80% supported enforcement action for low level speeding in urban locations. Fifty-eight percent of those surveyed indicated the increased focus on lower-end speeding made a positive impact on their driving. A separate Austroads survey indicated support for lower rather than higher detection thresholds. Preferences were 4.5 km/h in rural locations, 1.5 km/h in school zones, and 3.2 km/h in urban locations.

For an enforcement policy that focusses on targeting lower-end speeding to either temporarily or permanently be effectively introduced as part of a local or national operation, there needs to be adequate publicity and awareness that enforcement action can be expected for lower excess speeds. It would be realistic to expect a large reduction in fatal crashes under such a programme. Temporary reductions in the discretionary speed enforcement threshold could be perceived as arbitrary [55].

N.B. a focus on lower-end speed enforcement by officers should not be taken to mean higher end speeds is lower priority. It's more about shifting public perceptions of what is acceptable and taking enforcement action for speeding offences that may otherwise be ignored. Stopping more drivers for lower excess speeds also presents the opportunity to subject drivers to a breath screening test, make intel notings, and other risky driving offences can still be detected while undertaking speed enforcement.

Public messaging and publicity

Information or publicity campaigns on speeding in isolation may have a modest effect on behaviour and associated risk [131]. Publicity campaigns that aim to elicit fear through presenting confronting or shocking consequences of risky driving like speeding have mixed results, and overall do not appear to be effective [132]. Publicity with fear appeals relating to speed, however, may even be counterproductive [133]; the audience may deny, ridicule, personally disconnect or minimise the messaging and defiantly increase their speeding behaviour [134]. The message of fear-based appeals may, however, be accepted if it elicits an emotional connection in the intended audience [135].

Publicity is effective at enhancing the effects of speed enforcement, but may not be as efficient if the publicity is not connected to actual enforcement operations [136, 137]. Publicity and advertising for speed enforcement is effective and associated with a greater risk reduction if it also accompanies greater enforcement intensity [96, 138].

Earned advertising through providing commentary, interviews and messaging in news media for speed enforcement can be positive, particularly if it highlights why speeding is a problem and what Police is going to be doing locally or nationally [139]. There are, however, many examples of articles being run on a few extremely high speeds being detected where staff are being quoted calling for such behaviour to cease and that those drivers will be held to account.

While it may be headline grabbing, the emphasis of highlighting extreme and high-end speeding in public messaging may be more harmful than it seems. Firstly this line of messaging reinforces the idea in a larger subset of drivers who routinely drive over the speed limit by a small to moderate amount that it's 'the other drivers' that are the problem [34]. Secondly, those few drivers who do at times choose to drive at very high speeds are least likely to respond to such messaging [43]. There are various examples of studies on media campaigns conducted by Police, NZTA and ACC where 'average' drivers use such terms as 'over-speeding', 'safe speeding' and 'sticking to their speeding allowance' pointing to this habitual low-level speeding and belief that only extreme speeds are the problem [39, 55].

Instead most drivers tend to shift the problem with speed onto those driving at extreme speeds and hold on to their average speed norms of 5-11 km/h excess [33]. These are unhelpful and harmful attitudes. To shift perceptions of what is, and is not acceptable when it comes to speeding, the focus in the messaging ideally needs to relate to most drivers.

Given the majority of speed related risk above the limit is attributable to lower end speeding <15 km/h excess, due to this being a normalised behaviour. Highlighting high-end speeds reinforces the view that there is not much risk of being apprehended for lower-end speeding [34].

Alternative measures to legal penalties

Wider use of rehabilitation and education measures could be better and more consistently integrated as part of enforcement and sanctioning. Use of warnings and an escalating penalty system for repeat offending could fit within this.

Avenues for new interventions

There is substantial scope to expand mobile speed camera operations and introducing section control speed enforcement.

In-vehicle systems may have a greater role to play in addressing repeat and high-end speeding offenders and high-risk drivers. ISA is a promising technology that offers a substantial safety benefit.

In the Netherlands, France, and Switzerland (possibly more) it is illegal to own or operate a radar detector. In France and Switzerland, it is additionally illegal for GPS systems to indicate the presence of speed camera sites or installations. Such prohibitions seek to diminish drivers' belief that speed controls (being manual or automatic) can be anticipated and apprehension can be avoided when speeding. These measures could be easily adopted in New Zealand.

Evidence base for activity

Strong: Meta-analyses and systematic reviews containing level 4/5 studies.

There is strong evidence that the speed of traffic has a strong relationship with the incidence of severe crashes. Managing speed is the number one road safety priority. Speeding, including low-level speeding and driving at inappropriate speeds continues to present a substantial road safety problem and is rated as harmful.

There is strong evidence that police enforcement of speed limits is effective at raising compliance locally and, depending on the intensity and mode of operation, more generally across the network. There is promising evidence of a dose-response type of relationship between manual speed enforcement and the incidence of fatal crashes.

The various tactics described in the current review should be viewed as complimentary to one another that may be employed to target a particular set of risks or to inform an ongoing strategy.

Table 3. Ratings guide

Strong	Robust evidence from meta-analysis; level 4/5 studies with consistent results
Promising	Robust and consistent evidence from lower quality study designs
Inconclusive	Conflicting evidence or lack of good quality evidence
Fair	Some evidence
Poor	Robust evidence that shows no effect
Harmful	Robust evidence that shows a negative effect

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APPENDIX

Figure 3. Speed and stopping distance (Elvik 2011).

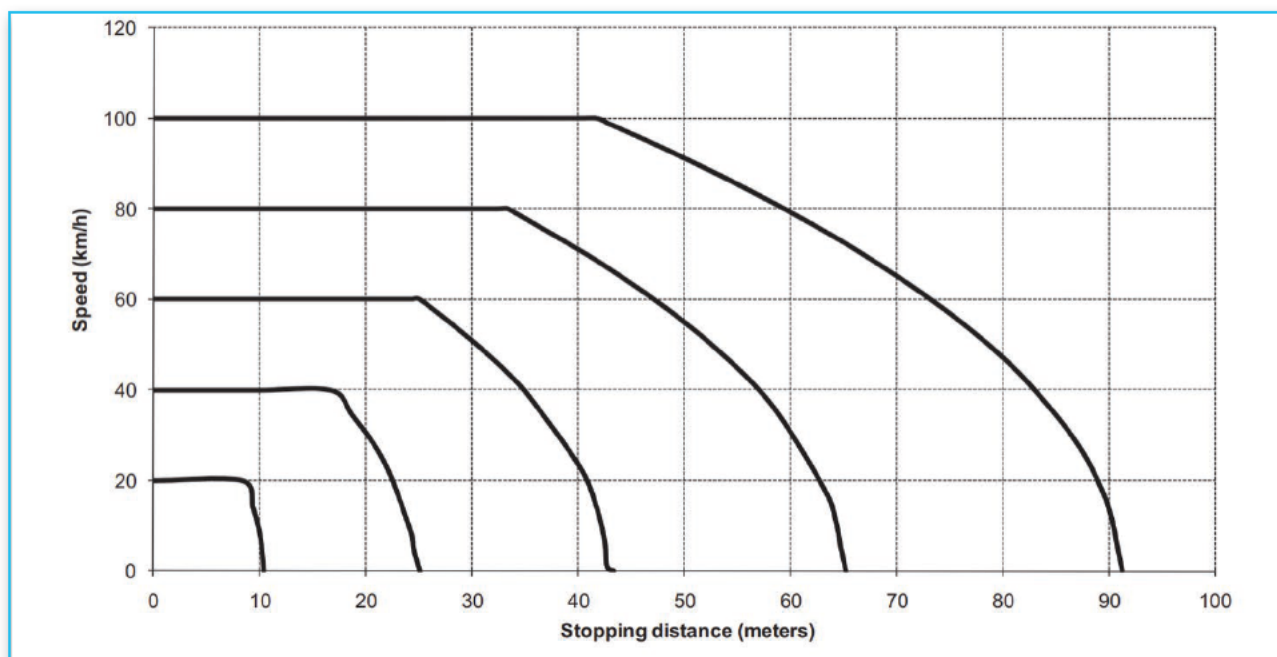


Figure 4. Relationship between speed and incidence of fatal crashes - solid line has best fit (Elvik 2013).

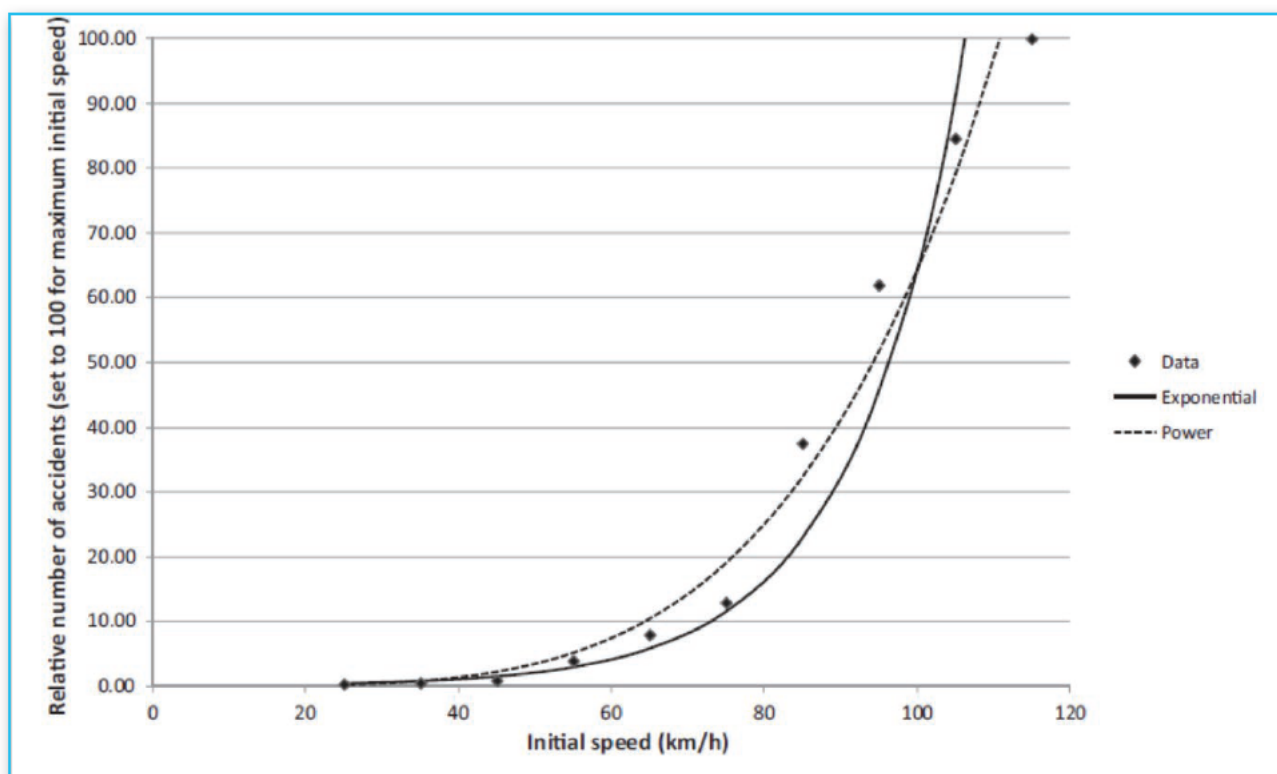


Figure 5. Severe injury probability vs. bullet vehicle impact speeds in different crash types (Jurewicz et al., 2015).

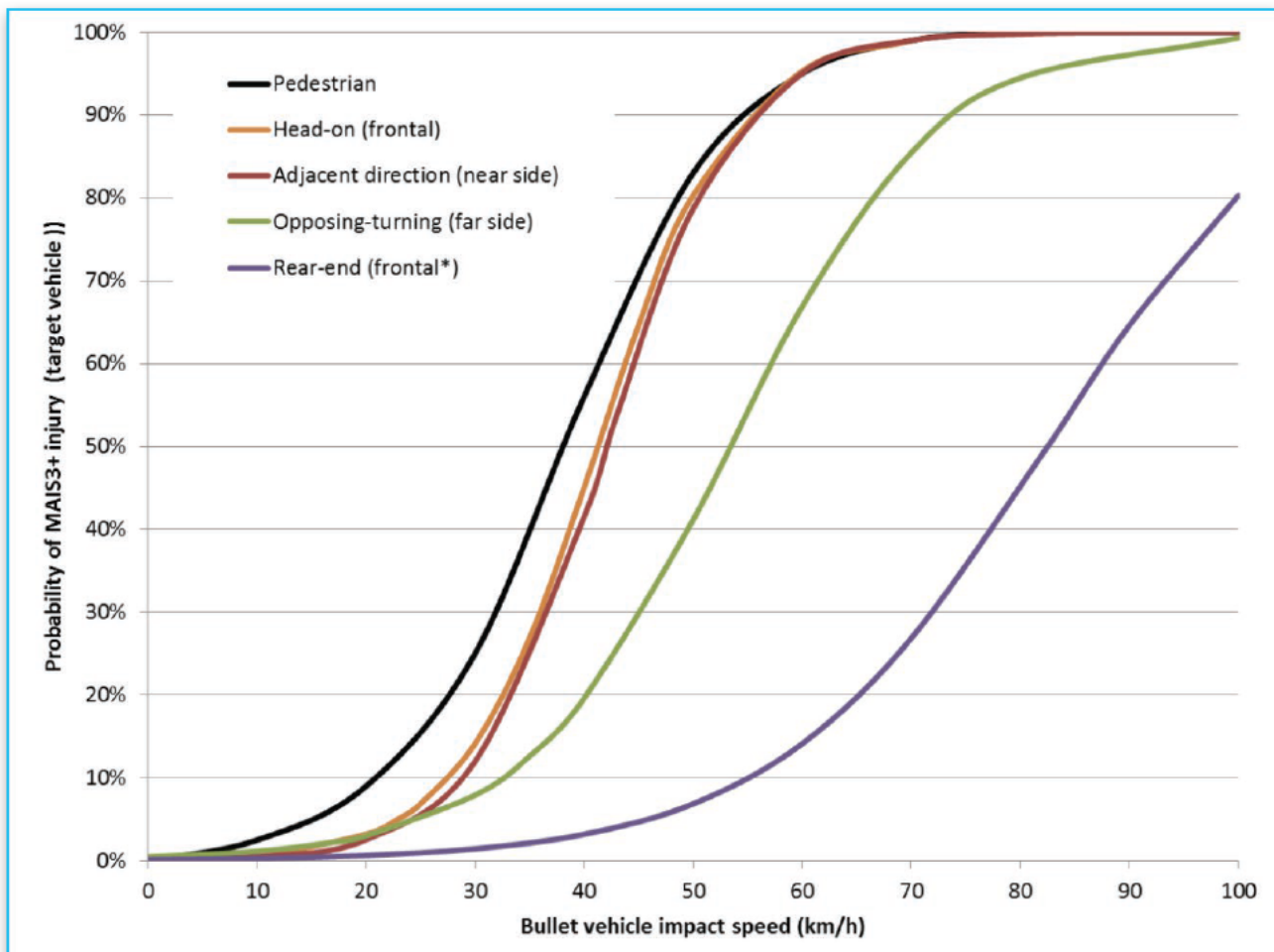


Figure 6. Change in number of road deaths, 2000-13 vs. 2013-17 (ITF, 2019).

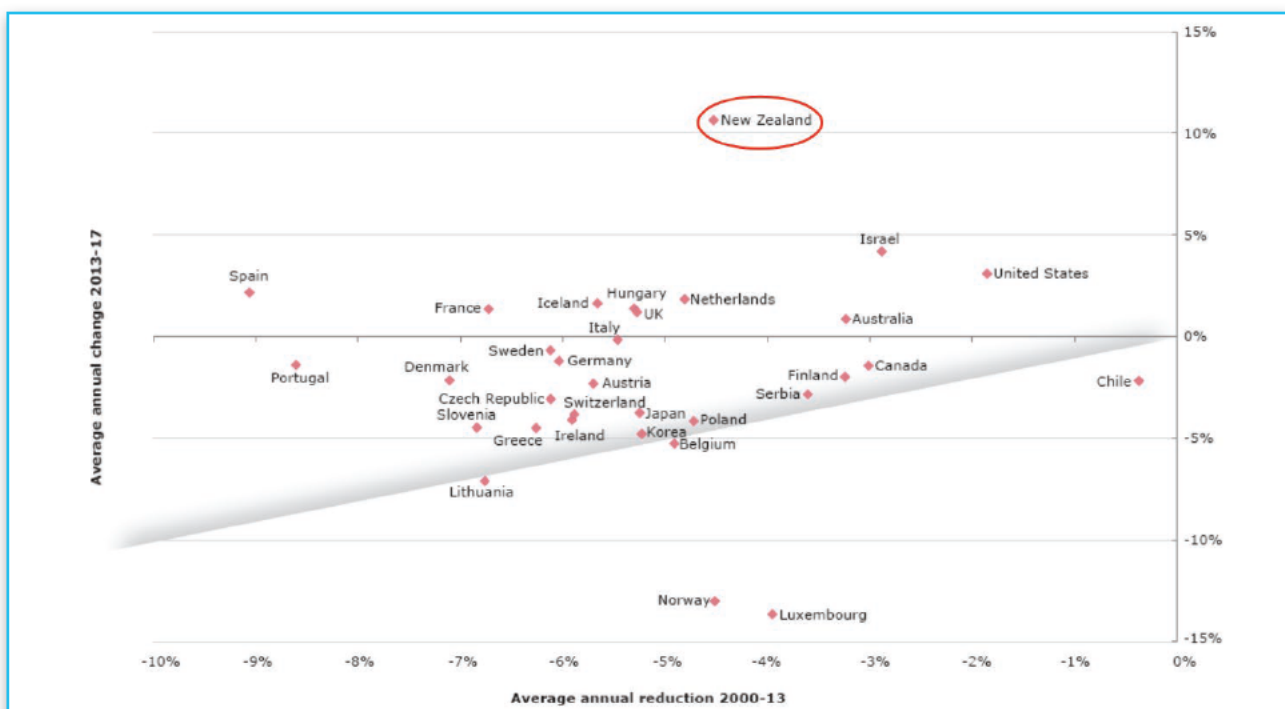


Figure 7. Dose-response relationship between speed enforcement and rate of fatal crashes (Elvik, 2012).

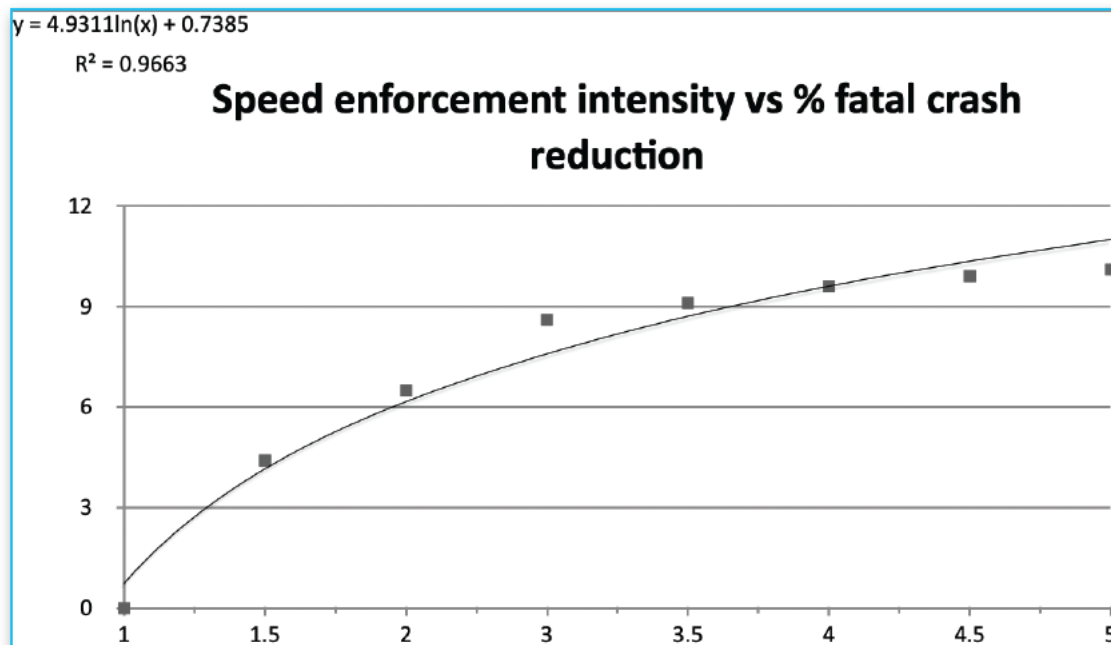
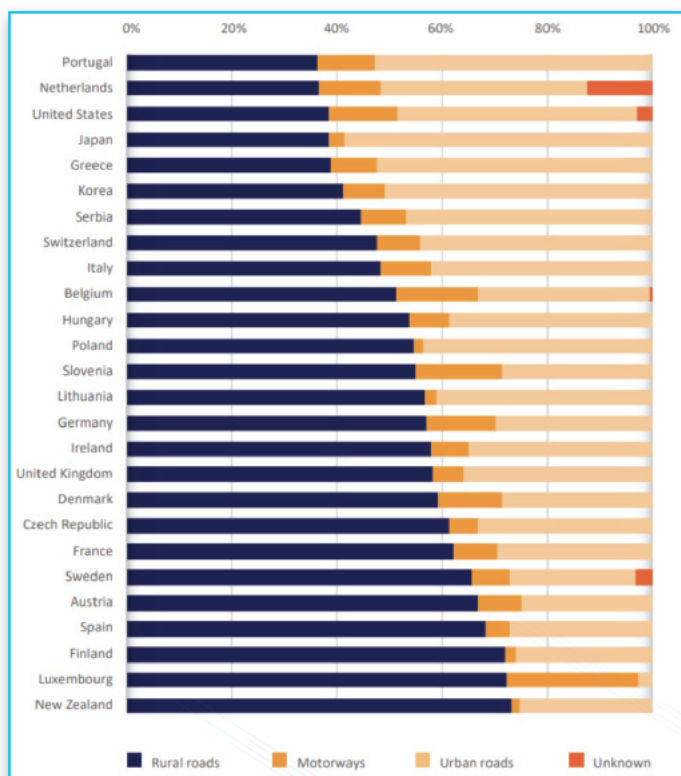


Figure 8. Proportion of fatal crashes by road type (OECD/ITF, 2020).



NEW Speed Enforcement Policy- Police Instructions

Date: 09 April 2021

Category:

Bully Title: **NEW Speed Enforcement Policy- Police Instructions**

Today, a new version of the Speed Enforcement Policy is available for you to read under Police Instructions. This Speed Enforcement Policy has seen significant change from the older version which staff will be required to familiarise themselves with.

A overview of the key changes can be found below:

- A new 'Speed Enforcement Levels' section
 - Replaces previous 'Speed tolerance thresholds' section
 - Outlines officer enforcement discretion and provides some considerations for safe speeds and safe roads
 - Adds a 'Safe speed camera detection levels' sections which provides information with how detection levels are set, and who they are managed by.
 - Minor amendments to 'school zones' section
- A new 'Speed Limit Changes' section
 - Outlines information regarding the setting of speed limits, particularly where delegated responsibility falls (with RCAs or Waka Kotahi on state highways).
 - Outlines the role of Police is supporting the implementation of safe speed limits.
 - Outlines the approach that Police should use as guidance where speed limits are changed.
 - Provides guidance for how communications should be prepared and developed where there are significant speed limit changes.
- Amendments to the 'Speed Enforcement by Officers' section
- Amendments to 'Static Safe Speed Camera Enforcement' section
- Amendments to 'Safe Speed Camera Site Selection and Deployment' section
- Amendments to 'Safe Speed Camera Deployment Data and Images' section

Please ensure that you and your team take the time to read the new changes and understand how this may affect you.

If you have any questions or queries, please do not hesitate to get in touch with Brittany Young (BYMM74), Senior Road Policing Advisor.

Jason Eady

Manager: Operational Support
National Road Policing Centre

To: Acting Superintendent Gini Welch, National Road Policing Manager
From: Inspector Dan Mattison, Operations Manager: National Road Policing Centre
Prepared by: Brittany Young, Senior Road Policing Advisor, National Road Policing Centre
Date: 17 December 2020
Subject: Speed Camera Activation Levels

Purpose

1. This memorandum updates you on the impact of reducing speed camera activation levels on Police and stakeholders.
2. This memorandum also provides you with options (Appendix A) to inform next steps.

Background

3. In November 2019, the Government released the Road to Zero strategy (the Strategy) that outlined a plan to reduce deaths and injuries (DSI) on our roads. The strategy details 15 initial actions, one of which is 'introduce a new approach to tackling unsafe speeds'.
4. As part of reducing DSI's on our roads, Police is committed to the Strategy, and the subsequent Tackling Unsafe Speeds (TUS) programme. It establishes a coordinated partner response to speed management, reducing vehicle speeds, and speed enforcement.
5. The proposal to reduce speed camera activation levels is expected to work in conjunction with other partner initiatives to improve road safety under the TUS programme; such as, lowering posted speed limits, improving the engineering of roads, modernising the fleet and improving driver training.
6. Lowering the speed activation levels on speed cameras
 - 6.1. New Zealand has 48 static speed cameras and 44 mobile speed cameras. Lowering the levels on speed cameras has been an ongoing discussion over the last few months. With speed cameras currently activating at 10km/h above the posted speed limit, some motorists have treated this as a de facto speed limit and have a belief that they are immune from the consequences of driving at this speed.
 - 6.2. International studies indicate that a safe speed, being one where a driver is likely to survive a crash, on roads without protective median or roadside barriers is 70-80km/h. This means many drivers are travelling 20-30km/h over the safe speed limit.
 - 6.3. It is proposed that Police lower the speed camera activation level to 2km/h (the highest margin of error of calibration across the camera network) above the posted limit. Lowering the activation level aims to increase driver compliance with the posted limit.
 - 6.4. While lowering the activation levels from 10km/h to 2km/h aligns with Police's commitments to the Road Safety Partnership and Tackling Unsafe Speeds, as well as the organisations' commitment to safer roads; it is unknown if the scale of the camera network is expansive enough to effectively impact on driver behaviour (reduced mean speeds) across the entire network.
7. Compliance across the network

- 7.1. In 2019, 217.8 million vehicles had their vehicle speed recorded by a camera. Of these vehicles, 200.5 million were complying with the posted speed limit, and 17.3 million vehicles were captured driving over the posted speed limit.
 - 7.2. Of the vehicles exceeding the posted limit
 - 7.2.1. **13,331,087 (6%)** vehicles exceed the speed limit by 1-5km/h
 - 7.2.2. **2,927,149 (1%)** vehicles exceeded the speed limit by 6-10km/h
 - 7.2.3. **1,002,735 (0.4%)** vehicles exceeded the speed limit by going 11km/h and over
 - 7.3. Should the speed camera activation level change, there is potential the compliance rate may increase, as there are 13.3 million vehicles travelling in speeds that are 1-5km/h over the posted speed limit. Where the camera activation levels drop; particularly to 2km/h, it is anticipated that drivers will adjust their behaviours, however, it is difficult to ascertain how many of the 17.3 million vehicles that drive in excess of the posted speed limit will drop their speeds low enough to comply.
 - 7.4. With a potential 16 million extra infringements as estimated off the 2019 statistics, all Police messaging, both public and internal, must be clear and transparent to ensure no surprises. With recent media headlines about a 'zero' speed enforcement threshold, it has already been communicated to the public the expectation that Police will be taking a stronger stand on speed enforcement, therefore, any speed management initiative will need to be consistent with previous actions and messaging, particularly across our agency partners such as, Waka Kotahi and AA.
 - 7.5. It is also important to recognise the benefits of a warning period, or lead-in time. This will enable motorists to modify their driving and if appropriate, to receive a warning letter, acknowledging that the speed enforcement thresholds are changing. This will be instrumental in maintaining trust and confidence in Police if motorists are given a fair warning period to receive their letters and make gradual adjustments to their driving behaviours. All messaging and enforcement action must be transparent and consistent with road safety in order to maintain public trust and confidence.
8. Limitations of Static Speed Cameras
- 8.1. Static speed cameras can capture 999 images before they are at capacity. The cameras download images remotely, however, it is unknown how long this takes. During peak traffic times, there is potential that the camera cannot download as quickly as it takes photos, rendering the camera inoperable. It may generate an unintended gap in road safety enforcement if it misses potential high-risk drivers.

Waka Kotahi New Zealand Transport Agency Camera Transfer

- 8.2. As per the 2019 Cabinet decision to transfer the camera programme to Waka Kotahi, it is expected to be completed in 2022. Waka Kotahi's view on speed management is that there should be minimal tolerance for a threshold of speeds that sits in excess of the posted speed limit. Any lowering of speed camera activation levels aligns with this.

Implications for the Police Infringement Bureau

9. There are several pre-existing constraints which complicate lowering the speed camera activation levels. These relate to current staffing levels and the logistical considerations of the location of PIB.

10. Resourcing and Staffing Levels

- 10.1. The PIB has 81 FTE. Typical staffing capacity would see it staffed at 101 FTEs (98 non-sworn and 3 sworn). As they are currently operating at about 80% capacity, any lowering of the speed camera activation levels would have an immediate impact on workload.

- 10.2. The current workload is manageable within PIB due to the impacts of COVID-19 which has seen a reduction in infringements. Over the 2020-21 Christmas/New Year period, the activation levels will be lowered for the first time in 2020 to 4km/h.
- 10.3. If the infringement levels in 2020 were in line with previous years, the PIB would need to be operating at 101 FTEs in order to process the infringements within the set timeframes. The PIB are currently recruiting to increase FTE capacity to pre-COVID levels.
- 10.4. PIB staff required to process infringements need to be qualified as Authorised Officers (AO). Because of the length of time that the process takes to train staff (with the 2-week AO course, and the further 2-week supervision by current PIB staff), this will place considerable strain on existing staff resourcing, with staff being taken out of normal duties to assist with training.

11. Logistical Considerations

- 11.1. At 101 FTE, PIB is at full occupancy of the 10th floor of PNHQ. Any increases to the PIB would require split occupancy across another floor, or Police may be required to think about potentially a new building where the entirety of PIB could be located together. Conversely, the PIB could move to split shifts, which would enable them to increase staff capacity without requiring another floor. However, this would change PIB staff collective agreement, changing to shift workers bands. This will increase costs of FTEs.
- 11.2. Should the PIB increase its staff, it will require additional funding to resource it properly with desks, screens and laptops in case staff are required to work remotely.

12. The Numbers of PIB

- 12.1. Currently, the PIB process about 1.7 million infringements per year. 1 million of these are camera captured, and 700,000 of these are officer issued infringements for a range of offences not strictly limited to speed.
- 12.2. If the activation levels were lowered to 2km/h, this projects yearly infringement totals to 17 million (10 times current levels). The PIB would be required to process roughly their current yearly number of infringements each month to keep up with the projected statistics. However, it's predicted that a large portion of the increased 'enforcement action' would be warning letters, which on average require 30% of the work required for infringement notices.
- 12.3. While it is anticipated that infringements will decrease as drivers adjust behaviours, the estimated volume of notices is difficult to predict. During the 2-week Christmas/New Year's to 4km/h enforcement period, the PIB can take up to 8 weeks to recover from the backlog. Dropping the speed camera activation levels to 2km/h will have an immediate impact on the PIB which they will be unable to process, particularly within the statutory timeframes.

Flow-on Effects to External Agencies

13. Lowering the speed camera activation levels has implications for our partner agencies such as the Ministry of Justice and the Courts.

14. Ministry of Justice

- 14.1. A significant increase in infringements will have flow-on effects as drivers accumulate unpaid fines resulting in increases in fines collection and the issuing of Driver Licence Stop Order (DLSO).

15. Courts

- 15.1. Similarly, there may also be an increase in demand for the Courts on charges of not paying fines. This potentially may have a compounding effect on particularly vulnerable members of the community, with unintended adverse effects on those who cannot pay.

As there is no compliance for speed, a speeding ticket may become an entry point to the Court system. With Police's supported resolutions strategy, issuing an infringement is not philosophically aligned to this practice.

- 15.2. If an infringement is contested or escalated to court, this creates compounding effects for the PIB to prepare the cases for court. Ministry of Justice will also need to fit extra hearings in at the Courts.

Implications for Police Prosecution Services

16. Police Prosecution Services prosecute all defended hearings for Police; therefore, it is likely that lowering the speed camera activation levels will have an impact on their capacity. Extra FTEs may be required, at least in the short to medium term.

Implications for Police Calibration Services

17. Police Calibrations Services (PCS) are responsible for calibrating 95 cameras, including; 48 static cameras, 44 mobile cameras and 3 red light cameras.
18. Dropping the camera activation levels will have two key impacts for PCS; the increase in official correspondence for Certificate of Accuracy for static cameras and the resetting of activation levels for mobile speed cameras.

19. Certificate of Accuracy (CoA)

- 19.1. PCS may be asked by PIB to provide a CoA for infringement disputes or as part of official correspondence. This is commonly asked where a member of the public trying to prove the camera was not accurate when disputing a static camera ticket. The lower the activation level, the likely increase for certificates.
- 19.2. With the digitisation of the CoA due to be completed in March 2021, this may mean that an increase in demand for certificates does not impact the capacity of staff who must locate and prepare the certificates to be sent via mail to Districts or electronically to PIB.

20. Resetting of Mobile Speed Cameras

- 20.1. Each time activation levels are changed; PCS are required to burn a single-use disc to reset a mobile camera's trigger speed. This process can take up to 2 weeks to be burnt, sent and deployed into cameras.
- 20.2. If it is decided that only a few of the mobile speed cameras have their trigger speeds changed, a disc will need to be burnt for every camera regardless. This is largely due to their versatile deployment around the country, however, when mobile cameras return to PCS for repairs, other cameras can be deployed in its place.

Options for Potential Next Steps

21. As a result of the scale of the operational implications being realised, 5 options have been developed in a table in Appendix A.

22. These options are;

- | | |
|--|------------------------------------|
| 22.1. Option 1: Status Quo | 22.4. Option 3: Graduated Response |
| 22.2. Option 2a: Enforce at 2km/h | 22.5. Option 4: Targeted Approach |
| 22.3. Option 2b: Gradually drop speeds | |

Recommendations

23. It is recommended that you:

- | | | |
|----|--|------------------------|
| a) | Note the contents of this memorandum and Appendix A; | Noted |
| b) | Note that the paper for the Organisational Capability Governance Group is temporarily on hold until next steps are decided. | Noted |
| c) | Agree to an option for next steps: | |
| 1) | Agree to Option 1: Status Quo | Agreed /
Not Agreed |
| 2) | Agree to Option 2a: Enforce at 2km/h | Agreed /
Not Agreed |
| 3) | Agree to Option 2b: Gradually drop speeds | Agreed /
Not Agreed |
| 4) | Agree to Option 3: Graduated Response | Agreed /
Not Agreed |
| 5) | Agree to Option 4: Targeted Approach | Agreed /
Not Agreed |

.....
Acting Superintendent Gini Welch

National Manager: National Road Policing Centre

Inspector Dan Mattison

Operations Manager: National Road Policing Centre (Acting)