


OC241134

21 November 2024



Tēnā koe 

I refer to your email of 25 September 2024, requesting the following under the Official Information Act 1982 (the Act):

“...the 14 documents that were in scope of the below request [OC240755 and OC24068], which were refused under Section 9(2)(f)(iv) of the OIA.”

There are 17 documents in total as some attachments are listed separately. Of these, nine documents are being released to you either in full or with some information withheld under the following sections of the Act:

- 9(2)(a) to protect the privacy of natural persons.

Eight documents are withheld in full under section 9(2)(g)(i) of the Act. These include early drafts of the interim Regulatory Impact Assessment (RIA) and comments on draft briefings. I am withholding these draft documents and related comments to maintain the Ministry’s ability to express free and frank opinions throughout the early stages of policy development. I am satisfied that the reasons for withholding the information under section 9 is not outweighed by the public interest in releasing it, as the final versions of the RIA and briefings are already, or will soon be, publicly available.

The document schedule attached as Annex 1 outlines all the documents and how they have been treated under the Act.

You have the right to seek an investigation and review of this response by the Ombudsman, in accordance with section 28(3) of the Act. The relevant details can be found on the Ombudsman’s website www.ombudsman.parliament.nz.

The Ministry publishes our Official Information Act responses, and the information contained in our reply to you may be published on the Ministry website. Before publishing we will remove any personal or identifiable information.

Nāku noa, nā

A handwritten signature in black ink, appearing to read 'Chris Nees', written in a cursive style.

Chris Nees
Director, Sector Strategy

Annex 1 – Schedule of Documents

Doc #	Date	Title of Document	Approach
1	5/12/23	FW: Speed management and speed limits	Some information withheld under 9(2)(a)
2	18/12/23	Speed management evidence request from Minister	Some information withheld under 9(2)(a)
3	22/12/23	Re: Decisions with emissions impacts	Some information withheld under 9(2)(a) and some removed as out of scope
4	22/1/24	Speed and Crash Risk - IRTAD report	Some information withheld under 9(2)(a). Attachment link: https://www.itf-oecd.org/sites/default/files/docs/speed-crash-risk.pdf
5	24/1/24	Issues spreadsheet – Issues to work through tab	Withheld in full under section 9(2)(g)(i)
6	25/1/24	Road Safety Case Studies – What works	Released in full
7	1/3/24	Notes and actions from workshops on issues table	Released in full
8	12/3/24	Excerpts from NZTA feedback on 12 March speed briefing appendix	Withheld in full under section 9(2)(g)(i)
9	18/3/24	Approach to Speed Management 2024	Released in full
10	27/3/24	RE: DRAFT Speed Rule 2024 RIA	Withheld in full under section 9(2)(g)(i).
10a	27/3/24	Attachment: Speed Rule 2024 RIA (Bryan's comments)	Withheld in full under section 9(2)(g)(i)
11	28/3/24	Feedback on MoT Speed Rule RIS	Withheld in full under section 9(2)(g)(i)
11a	28/3/24	Attachment: Speed Rule 2024 RIA (NZTA comments)	Withheld in full under section 9(2)(g)(i)
12	5/4/24	System Leadership ESC - Speed Briefing #3	Withheld in full under section 9(2)(g)(i)
12a	5/4/24	Optimum speeds on New Zealand rural state highways: An update	Released in full
13	18/4/24	GPS24 safety impact analysis	Released in full
14	13/5/24	Attachment: Regulatory Impact Assessment - Setting of Speed Limits 2024 (NZTA comments)	Withheld in full under section 9(2)(g)(i)

From: Bronwyn Turley
Sent: Tuesday, 5 December 2023 1:28 pm
To: Joanna Heard
Subject: FW: Speed management and speed limits

Bronwyn Turley

Pou Turuki | Deputy Chief Executive
Regulatory Group

Te Manatū Waka Ministry of Transport

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Executive Assistant: Anna Northcott | M: [s.9\(2\)\(a\)](#) | E: a.northcott@transport.govt.nz



From: Simon Kingham <S.Kingham@transport.govt.nz>
Sent: Tuesday, December 5, 2023 1:27 PM
To: Bronwyn Turley <B.Turley@transport.govt.nz>
Cc: Bryan Sherritt <B.Sherritt@transport.govt.nz>
Subject: FW: Speed management and speed limits

Bronwyn,

I was chatting to Jo Heard and she mentioned she had been instructed to prepare the paperwork to change some speed management/limit rules.

I think only fair that we point out to the Minister that this is highly likely to lead to increased deaths and serious injuries.

The best recent work I have seen is this summary of the impact of reductions in speed limits on deaths and serious injuries, and there is evidence to support this.

<https://viastrada.nz/pub/2023/lower-speeds>

It shows the impact of reduced speed limits and how they save lives and injuries.

Perhaps this <https://viastrada.nz/sites/default/files/2023-09/GKoorey-ARSC23-BenefitsLowerSpds-PPT.pdf> could be printed and included in the Minister's weekend reading.

This may be also be useful as a summary of the co-benefits of lower speed limits.

<https://theconversation.com/lower-speed-limits-dont-just-save-lives-they-make-nz-towns-and-cities-better-places-to-live-194448>

Ngā mihi

Simon

Prof Simon Kingham

M: [s.9\(2\)\(a\)](#) | E: s.kingham@transport.govt.nz | transport.govt.nz



From: Simon Kingham
Sent: Tuesday, 5 December 2023 1:17 pm
To: Joanna Heard <J.Heard@transport.govt.nz>
Subject: Speed management and speed limits

Joanna,

This may be of interest.

<https://viastrada.nz/pub/2023/lower-speeds>

It shows the impact of reduced speed limits and how they save lives and injuries.

Perhaps this <https://viastrada.nz/sites/default/files/2023-09/GKoorey-ARSC23-BenefitsLowerSpds-PPT.pdf> could be printed and included in his weekend reading.

Ngā mihi

Simon

Prof Simon Kingham

Kaitohutohu Matua Pūtaiao | Chief Science Advisor

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From: Simon Kingham
Sent: Monday, 18 December 2023 12:03 pm
To: Joanna Heard
Cc: Bronwyn Turley; Bryan Sherritt
Subject: Speed management evidence request from Minister

Jo,

I see that over the weekend the Minister said that he was seeking advice from the Ministry about the impacts of his speed limit and management policies.

I had my monthly meeting with Bryan today and we discussed this.

There has been a lot of work looking at the impacts on DSIs of lowering speed limits, including the summary from Glen Koorey (<https://viastrada.nz/pub/2023/lower-speeds>). Bryan is also aware of the sources of a lot of this work and other studies.

We also agreed that it would be useful to provide evidence of the impact of speed limits on a range of other outcomes, in addition to travel time savings.

Bryan is the key person here, but I am happy to help in any way to ensure that the policy advice we provide is evidence based. Please let me know what I can do to help.

Fyi – I am only taking the statutory days off over Christmas so am available.

Ngā mihi

Simon

Prof Simon Kingham

Kaitohutohu Matua Pūtaiao | Chief Science Advisor

Te Manatū Waka | Ministry of Transport

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From: Jo Gould
Sent: Friday, 22 December 2023 11:08 am
To: Bryan Sherritt
Cc: Joanna Heard; Hugh Mazey
Subject: RE: Decisions with emissions impacts (legally privileged)

It's going to be very difficult to quantify the costs and benefits of changing the speed rule (esp as it will be up to RCA to implement it, so the pace and scope of changes will be impossible to predict with any certainty). At best we will be coming up with good estimates of these, based on available research etc.

I'm on the Steering Group for the Waka Kotahi research report on the economic, social and environmental impacts of safe and appropriate speed limits – EY has been contracted to undertake the research, but unfortunately it won't be complete by the time we do the RIS on the rule change.

From: Bryan Sherritt <B.Sherritt@transport.govt.nz>
Sent: Friday, December 22, 2023 10:43 AM
To: Jo Gould <J.Gould@transport.govt.nz>
Cc: Joanna Heard <J.Heard@transport.govt.nz>; Hugh Mazey <H.Mazey@transport.govt.nz>
Subject: RE: Decisions with emissions impacts (legally privileged)

Hey Thanks Jo

Out of Scope

But seriously, I don't have a feel for the quantum of what we are talking about here, I don't know much additional CO2 emissions would be created by increasing a speed limit to 110. I guess it depends on the length of road, the time period and the traffic volumes and traffic make up etc

Do we think its likely to be way under these thresholds?

Coincidentally, Dave Cliff was talking about this yesterday at AT, he was essentially saying that the CO2 emission increased exponentially if you increase an already existing high speed, due to drag etc.

I am not even sure who we can ask, just to get a feel for the quantum.

And yes, as I understand it we should include it in the RIS.

Ngā mihi

Bryan Sherritt
Director Road to Zero | Kaiwhakahaere Rautaki
Te Manatū Waka Ministry of Transport

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From: Jo Gould <J.Gould@transport.govt.nz>
Sent: Friday, December 22, 2023 9:37 AM

To: Bryan Sherritt <B.Sherritt@transport.govt.nz>
Cc: Joanna Heard <J.Heard@transport.govt.nz>; Hugh Mazey <H.Mazey@transport.govt.nz>
Subject: RE: Decisions with emissions impacts (legally privileged)

Hi Bryan

I don't think the CIPA requirements will apply, as any speed limit rule change proposals won't have significant emission impacts (see exert below from the relevant Cabinet Office circular which sets out CIPA requirements):

A Climate Implications of Policy Assessment (CIPA) disclosure is likely to be required for proposals for Cabinet in which decreasing greenhouse gas emissions is identified as a key policy objective, or:

- 2.1 the direct impact on greenhouse gas emissions is likely to be less than 0.5 million tonnes CO2-e within the first ten years of the project
- 2.2 the direct impact on greenhouse gas emissions is likely to be less than 0.5 million tonnes CO2-e within the first ten years of the project

We will need to consider costs and benefits more broadly when completing the Regulatory Impact Statement, so we can note in that statement any potential impacts on emissions.

Jo

From: Bryan Sherritt <B.Sherritt@transport.govt.nz>
Sent: Thursday, December 21, 2023 3:05 PM
To: Joanna Heard <J.Heard@transport.govt.nz>; Safety <Safety@transport.govt.nz>
Subject: RE: Decisions with emissions impacts (legally privileged)

This will need to be a consideration in our work on the speed rule.

As I understand it there will be implications particularly around increasing speeds to 110km/h on transmission gully and anywhere else

Ngā mihi

Bryan Sherritt
Director Road to Zero | Kaiwhakahaere Rautaki
Te Manatū Waka Ministry of Transport

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Out of Scope

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From: Bryan Sherritt
Sent: Monday, 22 January 2024 12:32 pm
To: Hugh Mazey
Cc: Safety
Subject: Speed and Crash Risk - IRTAD report
Attachments: speed-crash-risk IRTAD OECD.pdf

Hi Hugh

Not sure if I have shared this previously – If I have my apologies.

There are some really interesting and relevant case studies in this report, and a very clear articulation of the increased crash risk and increased injury risk and severity with increased speeds and the converse with lower speeds.

Where we are looking to increase speeds under the government direction – “where it is safe to do so” the following quote is salient and aligns with what we have been discussing internally...

If a speed limit increase is envisaged, compensation measures should be considered, such as more enforcement or an upgrade of the infrastructure. If not, more deaths and injured road users can be expected. It is important to ensure that the compensation measures are effective enough, otherwise they will only compensate partly for the increased speed limits.

I have been talking a bit recently about the retention of the movement and place framework in what ever we do with speed management in New Zealand moving forward

Speed limits should be set based on the Safe System principles and taking into account the function and use of the roads.

...which is exactly what the movement and place framework does.

For consideration in our speed management deliberations

Ngā mihi

Bryan Sherritt

Director Road to Zero | Kaiwhakahaere Rautaki

Te Manatū Waka Ministry of Transport

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Document number 6 25/01/2024 – Road Safety Case Studies – What works

Email from Hugh Mazey to Brent Johnston, Richard Cross and Joanna Heard. The email had no material in scope however, the below excerpt from the attachment was in scope

Page 3

Intersection speed zone • 69% reduction in Fatal and Serious crashes: Waka Kotahi Intersection speed zone Safe System case study 65%

Page 13

[UNCLASSIFIED]

Intersection Speed Zones

Evaluation of ten (10) rural intersection speed zone sites

Effectiveness

- 69% reduction in fatal and serious crashes
- 28% reduction in all crashes

Additional information

- Mean speed reduction of 4-19km/h comparing sites from before installation to when signs are turned on
- As well as reducing harm through lower speeds, ISZs also seem to increase the awareness of people travelling along main road

Supporting treatment

Table 1: Aggregated crash reductions across all ten sites compared to control sites

	Average fatal and serious crashes per month			Average total crashes per month		
	Pre	Post	% change	Pre	Post	% change
Original sites	0.035	0.011	-69%	0.228	0.164	-28%
Control sites	0.005	0.012	+140%	0.073	0.147	+88%

Figure: Northbound VSL sign at Brynderwyn Intersection Speed Zone
Table 2: List of ten (10) sites assessed



#	Site name	Intersection	District	ISZ live date	VSL (km/h)
Original ISZ sites					
1	Hiruhanga	SH1/Trwy 56/Hematang Beach Rd	Manawatu	Dec-12	70
2	Yaldhurst	SH73/Buchanans Rd	Christchurch City	May-13	70
3	Kennington	SH1/Kennington Rd	Invercargill City	Oct-13	70
4	Newbury	SH3/SH4	Manawatu	Oct-13	70
5	Pakaraka	SH1/SH10	Far North	Oct-13	60
6	Puketona	SH10/SH11	Far North	Oct-13	70
7	Burnham	SH1/Burnham Rd/Aylesbury Rd	Selwyn	Oct-14	70
8	Longlands	Railway Rd S/Longlands Rd E	Hastings	Oct-14	70
9	Kaipoi	SH1/Williams St	Waimakariri	Nov-14	70
10	Puketaha	Holland Rd/SH1B	Waikato	Jan-15	70

Case study document link - <https://www.nzta.govt.nz/assets/safety/cross-road-to-zero/safe-system-case-study-intersection-speed-zones.pdf>



Document number 7 01/03/2024 – Notes and actions from workshops on issues table

Email from Eden Christie (NZTA) to MoT officials. The email had no material in scope however, the below excerpt from the attachment was in scope

Page 9

Risks with increased DSI – will be discussed in RIS to accompany Rule

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Document number 10 18/03/2024 – Approach to Speed Management 2024 (003)

*Email from Anna Cleary (NZTA) to MoT officials. The email had no material in scope however, the below excerpt from the attachment was in scope
Pages 6-8*

Key considerations for developing a new approach to speed management

A key underlying logic that should be considered as part of the setting safe and appropriate speed limits is the rationalising and consistency of speed limits.

When reviewing and implementing speed limits, consideration must be given to adjacent speed limits so that the number of speed limit changes is minimised, as well as ensuring consistency of speed limits along each length of road, and across a network of roads.

Taking a safety led approach vs a compliance led approach

Achieving compliance is not a good indicator of safety performance if the speed limit is set too high. Safety can be substantially improved, even before compliance is achieved. For example, if a speed limit on an undivided road is 100km/h and the mean operating speed is 95km/h then there is 100% compliance, but there is unacceptable high likelihood of a crash resulting in a death or serious injury. In contrast, if the speed limit is reduced align with the SAAS of 80km/h and the mean operating speed drops 10km/h to 85km/h then compliance is now zero, but the mean operating speed has reduced approximately 10%, in turn reducing the chance of death or serious injury from a crash by 30-40%.

Likewise in an urban area, if a speed limit is 50km/h and the mean operating speed is 45km/h then there is 100% compliance, but an unacceptable high likelihood of a crash resulting in a death or serious injury, as the operating speed exceeds the safe system survivability threshold for people outside vehicles. In contrast, if the speed limit is reduced align with the SAAS of 30km/h and the mean operating speed drops 10km/h to 35km/h then compliance is now zero, but the mean operating speed has reduced approximately 20%, in turn reducing the chance of death or serious injury from a crash by 70-80%.

Both examples illustrates that a substantial safety benefit is achievable independent of compliance rates.

In either example, the value of investing in further speed management interventions on the corridor over time to support improved compliance and further reduced mean operating speeds (e.g., safety cameras, infrastructure and design) can be considered in the context of the network as a whole, and where the greatest need and opportunity for further operating speed reductions exists.

The use of 85th percentile travel speed in setting speed limits

One of the oldest criteria for setting speed limits, the 85th percentile speed, is no longer considered fit-for-purpose¹. It is the speed at or below which 85% of drivers travel under free flow conditions (their speed choice is not constrained by vehicles in front of them). Most international jurisdictions including Australia are moving or have already moved away from using the 85th percentile speed.

The approach that limits should be set at, or close to, the 85th percentile speed dates to the early 1940s in the USA (TRB 1998). This assumed that most drivers can make good judgements about 'safe' driving speeds and will choose to drive at 'safe' speeds. There is now a substantial body of evidence to indicate that this approach is not aligned with safety.

As summarised in the WHO Speed management: a road safety manual for decision-makers and practitioners, 2nd edition² the setting of speed limits based on the 85th percentile is documented as being potentially harmful, as evidence shows that it could result in an increase of fatalities or injuries.

Typically, drivers' subjective assessments of risk, and the relationship between speed and risk, are likely to be inaccurate, for the following reasons.

- Although serious and fatal crashes happen every day, they are rare in the experience of individual drivers.
- The personal experience of most drivers convinces them that the speeds at which they usually drive are 'safe'.
- Many people find the objective data on speed risks surprising and counter intuitive.

The appeal of 85th percentile speed limits is that they are, by design, 'acceptable' to the great majority of drivers. If the limits are enforced with a broad tolerance, and not very intensively, not many drivers will be penalised, or even inconvenienced.

The use of the 85th percentile as a proxy for public acceptability has been used historically. This is where on corridors changing the speed limit when the 85th percentile travel speed is close to the proposed speed limit. Because it was assumed the change would be more acceptable by the community and drivers as they are already travelling close to the proposed speed limit. However, it is an unreliable proxy as:

- Many drivers tend to overestimate their actual travel speed over a whole journey.
- Many people find the objective data on 85th percentile travel speeds surprising as they don't believe it reflects their typical experience or journey.

It's just fundamentally wrong to base speed limit policy on the judgements of road users, who are not aware of the many factors of risk in terms of crash risk and crash severity involved. On this basis current speed measured as means or percentiles are not a sound basis or partial basis for

¹ <https://safesystemsolutions.com.au/wp-content/uploads/2022/10/Myth-5-85-percentile-method-works-best-BUSTED.pdf>

² [Speed management: a road safety manual for decision-makers and practitioners, 2nd edition \(who.int\)](#)

the setting of speed limits ... Speed limits should be set on the basis of safety (which is their ultimate purpose), and the community can be educated and incentivised to comply with those limits (personal correspondence from Dr Soames Job to Colin Brodie in April 2021).

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Optimum speeds on New Zealand rural state highways: An update

Abstract

An optimum cruise speed is one that balances the increased cost of travel time with the benefits of reduced costs of road trauma, vehicle emissions and vehicle operating costs. In 2012, the optimum speeds were estimated for light and heavy vehicles on six categories of New Zealand rural highways, based on relationships and unit costs in the government's Economic Evaluation Manual. Since that time, surveys of the New Zealand population have found that preventing road trauma is now valued substantially higher, with a fatal crash valued 3.3 times higher than previously. The values placed on reduced travel time have also significantly increased. Optimum speeds on undivided rural highways are now generally at most 70 km/h. On divided motorways/expressways, the optimum is 95-100 km/h for light vehicles and 80 km/h for trucks. These optima are consistent with the Safe System speeds recommended for each category of rural road.

Post on X

Estimating economically optimal speeds based on increased costs of road trauma and travel time in New Zealand

Introduction

The theme of the Australasian Road Safety Conference for 2024 is *Target 2030: What's the pathway forward?* This theme calls for a focus on effective road safety programs and initiatives that contribute to reaching the 2030 target. At least half of all fatal crashes in the Australasian jurisdictions occur on rural roads, principally because speed limits are set too high for the quality of the road and the type of vehicle. However, proposals to reduce rural speed limits often face opposition from those pointing to the additional cost of travel time, particularly by heavy commercial vehicles.

In 2012, the New Zealand Transport Agency (NZTA) commissioned an economic analysis of the benefits and costs to society of different speeds on six categories of New Zealand rural State Highways by five classes of vehicle ranging from passenger cars to heavy commercial vehicles type II (Cameron 2012). For each cruise speed (unimpeded free speed), the benefits and costs relative to current average speeds were assessed in terms of crash frequencies and costs; travel time costs; vehicle operating costs; and air pollution costs. The changes in crash frequency and severity with speed were based on recalibration of Nilsson's (1981) power model by Cameron and Elvik (2010). Relationships with speed for all other factors were based on NZTA's (2010) Economic Evaluation Manual (EEM) that also included the unit cost of each societal impact. For example, a fatal crash was valued at NZ\$ 4.332 million in year 2009 prices. Additional travel times, vehicle operating costs and air pollution emissions due to stops and decelerations for slow curves by each vehicle type in each road environment (relatively straight compared with winding) were included.

Update of EEM parameter values in 2023

In 2021, NZTA commissioned Resource Economics Ltd, Auckland to derive new unit costs for road trauma, travel time and reliability of trips (Denne et al., 2023). The new values have been included in an update of EEM released by NZTA (2023) retitled as the Monetised Benefits and Costs Manual (MBCM). The values placed by New Zealand society on road trauma have been substantially increased, as has the valuation of travel time. In year 2021 prices, a fatal crash is now valued at NZ\$ 14.2 million (3.28 times increase) and the values placed on serious and minor injury crashes have increased 1.64 and 2.92 times, respectively. Business travel time cost by light vehicles has increased by 22.5% to 25% and travel time cost by trucks has increased by 44% to 46.5%. Commuting travel time costs have increased by 35% for light vehicles and 57% for trucks. Leisure trip costs have increased 51% for light vehicles and 72% for trucks. Together these increases in road trauma values and travel time costs suggested that optimum speeds in NZ may have changed.

Method

The method was the same as that described by Cameron (2012), readily downloadable from the NZTA website. Each of the costs of crashes, travel time, vehicle operations and air pollution emissions on each category of rural State Highway for each vehicle type were valued using the unit costs in MBCM updated to 2021 prices. For each cruise speed, the total economic cost was aggregated and the speed that minimises the total cost of the impacts of all light vehicles, in steps of 5 km/h within the range 50 to 110 km/h, was found. The optimum speed that minimises the total economic cost due to heavy vehicles aiming to travel at each cruise speed was found in the same way.

Results

The estimated optimum speeds in 2021, in comparison with current cruise speeds and estimated optima in 2012, are shown in Table I. Where the total economic cost was almost identical for two adjacent cruise speeds, both speeds are shown as a range. The true optimum speed that minimizes the total cost lies between them.

Table 1. Cruise speeds by vehicle type and estimated optimum speeds in 2012 and 2021.

Road Category	Cruise speeds on straight sections of rural highway (km/h) 2012		Optimum cruise speeds (km/h) 2012		Optimum cruise speeds (km/h) 2021	
	Cars & light commercial vehicles (LCV)	Heavy commercial vehicles (HCV I)	Light vehicles (Cars & LCVs)	Heavy vehicles (MCVs & HCVs)	Light vehicles (Cars & LCVs)	Heavy vehicles (MCVs & HCVs)
1. Motorways/Expressways (divided four-lane) roads	99.1	92.5	105	80	95-100	80
2. High Volume National Strategic roads	93.9	87.7	85	70	75	70
3. Straight National & Regional Strategic roads	95.8	89.5	80	70	70-75	65-70
4. Winding National & Regional Strategic roads	83.6	78.4	75	65	65-70	60-65
5. Straight Regional Connectors & Distributors	95.7	89.4	80	70	70	65
6. Winding Regional Connectors & Distributors	79.7	74.9	65	55	60	55

The optimum speeds for light vehicles during 2021, based principally on the higher values given to preventing road trauma and travel time, were about 10 km/h lower than in 2012. For heavy vehicles, their estimated optimum speeds during 2021 were generally about the same as in 2012 or at most 5 km/h lower.

It is noteworthy that, with the exception of light vehicles on Category 2 and 3 roads, the optimum speeds on undivided roads are a most 70 km/h, the recommended Safe System speed limit for high speed roads on which head-on crashes can occur (i.e., roads without a central median or central wire-rope barrier). On divided roads like Category 1, the recommended Safe System speed limit is 100 km/h, however the optimum speed for trucks is 20 km/h lower.

Figures 1 and 2 illustrate the estimation of the optimum cruise speed for the light and heavy vehicles, respectively, on the Category 3 rural State Highways. The arrow indicates where the estimated optimum lies between two speeds.

Monetary impacts of different cruise speeds on Category 3 rural roads (NZ\$'000 per year): Cars and Light Commercial Vehicles only

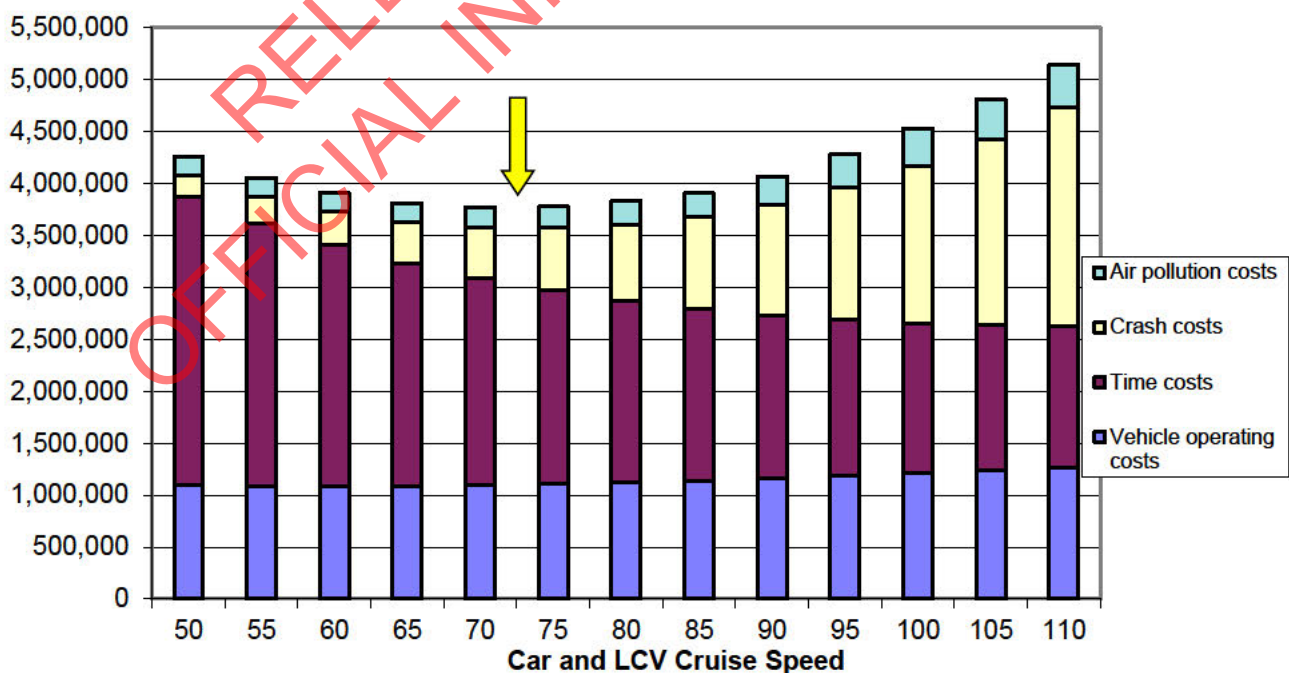


Figure 1. Optimum cruise speed of light vehicles on relatively straight National & Regional Strategic roads

Monetary impacts of different cruise speeds on Category 3 rural roads (NZ\$'000 per year): Truck costs only

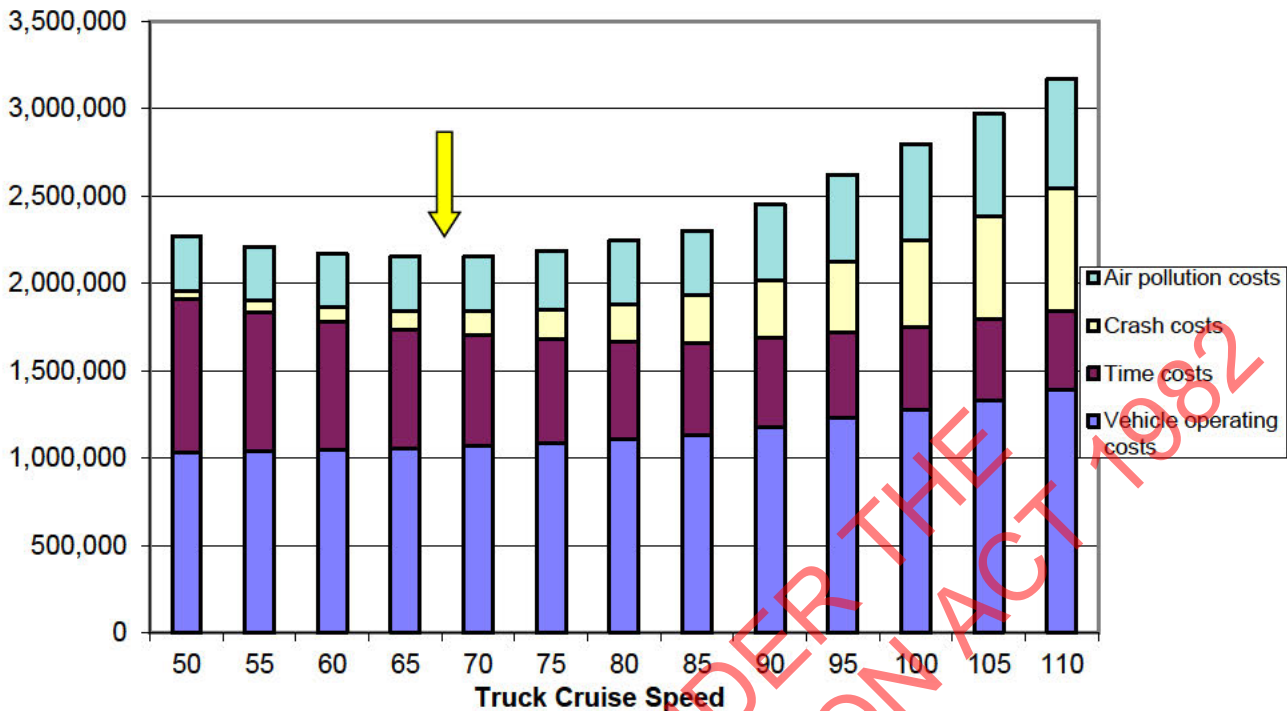


Figure 2. Optimum cruise speed of trucks on relatively straight National & Regional Strategic roads

Conclusions

The substantially higher values now placed by New Zealand society on preventing road trauma, off-set by somewhat higher values of saving travel time, have resulted in the optimum cruise speeds of light vehicles on rural highways being about 10 km/h lower than they were in 2012. The optimum speeds of trucks have generally not changed due to these higher values of road trauma and travel time, however they remain about 5 km/h lower than for light vehicles on undivided rural roads. On divided rural roads, the optimum speed was found to be 95-100 km/h for light vehicles (5-10 km/h lower) and 80 km/h for trucks (unchanged from 2012).

The finding that 70 km/h is generally the optimum speed for light vehicles on undivided rural roads may assist the social acceptability of this speed as the general rural speed limit in New Zealand. The analysis outlined here has fully considered the costs of additional travel time with such a speed limit, while taking into account the benefits of reduced air pollution emissions and vehicle operating costs as well as reduced road trauma.

References

Cameron, M. H. (2012). *Economic analysis of optimum speeds on rural state highways in New Zealand*. Waka Kotahi New Zealand Transport Agency, Wellington. Published 2022. (<https://www.nzta.govt.nz/assets/resources/economic-analysis-of-optimum-speeds-on-rural-state-highways-in-nz/Economic-analysis-of-optimum-speeds-on-rural-state-highways-in-nz.pdf>)

Cameron, M. H., and Elvik, R. (2010). Nilsson's Power Model connecting speed and road trauma: Applicability by road type and alternative models for urban roads. *Accident Analysis and Prevention*, Vol. 42, No. 6.

Denne, T., Kerr, G., Stroombergen, A., Glover, D., Winder, M., Gribben, B., & Tee, N. (2023). *Monetised benefits and costs manual (MBCM) parameter values: Results of a survey to derive values for road safety, travel time and reliability* (Waka Kotahi NZ Transport Agency research report TAR 18-04).

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Excerpt from attachment to email from Iain McAuley (NZTA) to Kain Glensor (MoT)

Speed Limits	Reverse speed limits changed where safe	#kms of roads with increased speed limits	Low	https://www.transport.govt.nz/assets/Uploads/Regulatory-Impact-Summary-Tackling-Unsafe-Speeds-FINAL.pdf	no	negative			High degree of uncertainty pending ministerial feedback, but current proposals would result in relatively few exceptions. Mean speeds will increase across the network. Road safety literature shows this is likely to
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	(and with exceptions)								produce an increase in DSIs. Safety infrastructure will help, but unlikely to be sufficient.
	Reverse speed limits when safety infrastructure installed	#km of roads with increased speed limits	Medium	Standard safety intervention toolkit (nzta.govt.nz)	no	neutral			This intervention will likely have an overall neutral impact. It could be positive if e.g. a median barrier is installed, but it could be negative if only rumble strips are used.
	Limit speed limit reductions to corridors with high safety concern	#km of roads with speed limit reductions	Medium	(analysis to come) Standard safety intervention toolkit (nzta.govt.nz)	yes	Medium-low			IILM models the old top 10% of the network, so could be modified to reflect new policy. However, the IILM cannot currently process reversing speed limits, so it may not be appropriate to include this one in isolation (unless we can find a technical fix).
	Reduce speed limits outside schools	# schools will have reduced speed limits	High		no	Low			This intervention has relatively low DSI benefits. The main benefits were increasing perceptions of safety on the journeys to/from school and reducing speed limits area-wide around schools. While there is still the intent to reduce speed limits outside all schools, this could be negated if speeds limits are reversed on roads around schools used by children.

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