



Submission to:

**New Zealand Parliament;
Transport and Infrastructure
Committee**

on:

**Land Transport (Clean
Vehicles) Amendment Bill**

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About VIA

The Imported Motor Vehicle Industry Association Incorporated (“VIA”) is the business association that represents the interests of the wider trade involved in importing, preparing, wholesaling, and retailing used vehicles imported from Japan, UK, and other jurisdictions.

Our members include importers, wholesalers, Japanese auction companies and exporters, shipping companies, inspection agencies, KSDPs¹, ports companies, compliance shops and service providers to the trade, as well as retailers.

We provide legal and technical advice to the trade, and liaise closely with the relevant government departments, including New Zealand Transport Agency, Ministry of Transport, NZ Customs Service, MAF, Ministry of Consumer Affairs, Commerce Commission, EECA, MfE etc.

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¹ KSDP - key service delivery partner, organisations that are contracted or appointed by the Transport Agency to delivery regulatory products or services and who have sufficient market share and/or are of sufficient size and standing within an industry segment to be able to represent and influence the customer expectation of that industry segment.

Contents

Executive Summary.....	3
Summary of Recommendations.....	4
Background	5
The verbiage in the scheme is inaccurate and misleading and confuses the narrative.	6
There will be a short-term shortage of zero-emission vehicles, driving up vehicle prices.....	6
Clean Car Standard “carbon units” reduce options for achieving the purpose of the Clean Car Programme	8
The Clean Car Programme will reinforce existing systemic anti-competitiveness.....	9
Failure to make the Clean Car Standard penalties transparent to consumers will reduce the potential efficacy of the Clean Car Programme.....	10
The weight-adjustment of the target incentivises inefficiency and reduces the efficacy of the entire initiative.....	11
Other issues tangentially related to the Clean Car Programme	11
There is a “massive” conflict between Safety and Efficiency	11
A rapid uptake of hybrids and electric vehicles will exacerbate the problem of managing end-of-life batteries	13
Appendix A – Brief outline of the Clean Car Fleet Management Scheme (CCFM)	14
Definitions.....	14
The Scheme.....	14
Potential Enhancements	14
Mitigate recognised flaws in the CCS.....	14
Embracing the circular economy	15
The risk of dismantling vehicles that are not currently in the fleet.....	15
Won’t this weaken the efficacy of the CCS?	15
What happens after a ban on ICE vehicles?.....	15
Appendix B: An argument for an alternative approach to safety that harmonises with the efforts to improve efficiency.....	16
For the occupant: bigger is better	16
For the community: less is more.....	16
The logical way forward.....	17

Executive Summary

VIA supports the Clean Car Programme in principle.

While VIA has several concerns regarding the initiative and our modelling has shown several likely risks due to the speed of implementation, we are committed to being part of the solution in reducing greenhouse gases. To address these concerns, VIA will continue to work closely with government to build mitigations and safeguards into the programme.

VIA recognises that the implementation of the Clean Car Programme will negatively impact business-as-usual for our industry, but further inaction will only compound the costs and challenges of what is an inevitable change.

The biggest challenges we have identified will be a near future lack of zero-emission vehicles between 2027 and 2035 and the lack of tools for managing the existing fleet.

While most motor vehicle manufacturers have committed to moving away from fossil fuels in the latter half of this decade, there is significant and growing demand for these vehicles due to a near unanimous global commitment to reduce greenhouse gases, with all nations specifying transport as an initial target.

Due to this, both of New Zealand's supply paradigms will have inherent delays and challenges. New car importers will be forced to compete for that limited new car supply with jurisdictions with domestic manufacturing and/or higher wages. Used car importers will not be able to take advantage of the increased volumes of zero-emission vehicles until they enter the second-hand market in their source jurisdiction.

The Clean Car Programme aggressively disincentivises the importation of greenhouse gas emitting vehicles. By the end of this decade, even hybrid vehicles will fail to meet the requirements. If a sufficient supply of zero-emission vehicles cannot be sourced, it will result in import penalties that will be passed on to consumers, leading to potentially significant increases in vehicle prices.

VIA also notes a lack of levers within the Clean Car Programme to manage the existing fleet. As vehicles prices rise due to the chain of reasons just explained, vehicles in the fleet will increase in value. This will lead to them staying in the fleet longer, reducing the conversion to less-emitting vehicles.

VIA is proposing a single solution that we feel will provide the government with the levers necessary to mitigate both of these risks. VIA recommends that the Clean Car Programme be extended to include a Clean Car Fleet Management Scheme.

The Clean Car Fleet Management Scheme will provide a set of tools that empowers the government to provide credits for removing greenhouse gas emitting vehicles from the existing fleet. This scheme will improve the Clean Car Programme, exemplified by empowering government to reduce the impact of Clean Car Standard penalties on consumers without reducing ambition or continued improvement of the fleet.

The Clean Car Fleet Management Scheme provides mechanisms to incentivise the scrappage of greenhouse gas emitting vehicles, a tool that will be useful now, but absolutely necessary once an abundant supply of zero-emissions vehicles becomes available.

VIA members have committed to supplying quality vehicles that meet the needs of New Zealanders as we transition into a carbon-neutral future. The following consultation will provide feedback on

the issues and risks we have identified as well as our recommendations on how it can be improved to meet New Zealand's unique needs.

Summary of Recommendations

- Recommendation 1: Government should proceed with implementing the Clean Car Programme.
- Recommendation 2: Government should set up and maintain official processes and structures to facilitate continued engagement with industry regarding the Clean Car Program and other efforts to decarbonise the transport system, especially focused on issues arising.
- Recommendation 3: Government should fix the verbiage used in this programme to make it more accurate reflect that it is an efficiency levy, NOT an emissions levy.
- Recommendation 4: Government should extend the proposed Clean Car Programme to include a fleet management scheme.
- Recommendation 5: Assign and lock-in the value of Clean Car Programme "carbon" units at the time they are created.
- Recommendation 6: Set the value of a Clean Car Programme "carbon" unit to \$1 NZD, assigning the appropriate number of units to importers' accounts at the time of unit creation.
- Recommendation 7: Government should classify vehicles that are functionally new as "new" when determining eligibility for Clean Car Programme subsidies and penalties based solely on vehicle characteristics, not importer characteristics.
- Recommendation 8: Government should, with the intent of creating and maintain a level playing field in a rapidly changing world, harmonise the definition of "new" cars across the various legislations, regulations, and policies based solely on vehicle characteristics at the point of sale, not the affiliations of the importer.
- Recommendation 9: Government should make both the Clean Car Standard and the Clean Car Discount visible on the window sticker and relevant sales documentation at point of sale and on online advertising.
- Recommendation 10: Government should consider removing or phasing out the weight-based adjustment to the Clean Car Programme target.
- Recommendation 11: Government should consider revising our definition of safety to better reflect the opportunities from emerging technology, the need for a systems approach to accounting for the negative externalities of the transport system, and a more inclusive model of harm.
- Recommendation 12: Government should move quickly and work with VIA to set up a Product Stewardship Scheme focused on batteries from all independently imported electric vehicles and hybrids, even if only an interim scheme.
- Recommendation 13: Government should consider combining the various Product Stewardship Schemes that apply to independently imported vehicles into a single scheme and/or support the formation of a single entity designed to integrate these various schemes and promote current and future Product Stewardship schemes related to independently imported vehicles.

Background

New Zealand's Clean Car Programme was originally announced to the industry several years ago. Initially, VIA held the position that the Clean Car Programme was not fit-for-purpose.

This position was based upon the fact that the policy, borrowed from the EU, was designed for a much different vehicle supply dynamic than New Zealand's. The policy is designed to influence manufacturers, a large percentage of whom have domestic EU manufacturing and were able to manufacture or supply vehicles for a set price.

The scheme is designed as a two-prong cost neutral subsidy on low-to-no emitting vehicles funded by penalties on higher emitting vehicle: one prong targeting suppliers, the other targeting consumers directly.

Manufacturers that reduce the emissions on the average vehicles they supply would benefit and the quantum of this benefit was easily calculated and directly applied since supplying the vehicles could be supplied at a known, flat price.

Where manufacturing was not domestic, the set price for the supply of a vehicle insured importers of low emitting vehicles were also able to benefit either directly or indirectly by these subsidies.

Unlike the supply dynamics of the EU, the majority of vehicles supplied into NZ are supplied second-hand from foreign markets. These vehicles are not supplied at a set price. Instead, they are usually purchased at auction through a competitive process, competitive even between NZ-based importers.

Due to the difference between supply dynamics, the majority of importers of vehicles into New Zealand would never benefit from the subsidy portion of the Programme. Instead, the subsidy will flow to suppliers in source markets. To clarify, the scheme would be working as intended, but instead of the subsidies going through the suppliers to manufacturers, allowing each to take their cut, the competitive nature of New Zealand's vehicle supply would ensure the prices in source markets increase by the amount of the subsidy, effectively flowing in its entirety into the source jurisdiction's second-hand market.

Just to reiterate, this would apply to the majority of cars supplied into New Zealand. The cause of our unique supply dynamic is obvious; New Zealand is geographically remote, has a relatively small market, has no domestic manufacturing, and is a low wage economy. Neither the Clean Car Programme nor the transition to a decarbonised economy is going to change these facts and therefore we can expect our current supply dynamics to continue well beyond 2050.

It was (and still is) our preference that New Zealand develop a bespoke solution that would better suit our unique supply dynamic and that would incentivise importers to source more efficient vehicles, as opposed to simply penalise as the Clean Car Programme will do.

In the absence of a better option, VIA has now decided to support the Clean Car Programme. We have taken this decision because we recognise the need to reduce greenhouse gases and the risks to New Zealand and to our industry of continuing to delay action.

We recognise that whilst our lack of incentives and the fact that we will benefit little directly or indirectly from the subsidies, are not ideal or desirable, this is not in itself a direct risk.

We also recognise that the subsidies funnelled to the source markets will inflate the prices of these vehicles, making New Zealand-based buyers more competitive against other foreign buyers.

VIA has taken the decision to focus on working with government to improve the Clean Car Programme instead of opposing it. VIA members are committed to providing the best vehicles we can source at a price New Zealanders can afford. We are ready to transition to zero-emission vehicles as soon as supply of relevant vehicles becomes available.

Recommendation 1: Government should proceed with implementing the Clean Car Programme.

Recommendation 2: Government should set up and maintain official processes and structures to facilitate continued engagement with industry regarding the Clean Car Program and other efforts to decarbonise the transport system, especially focused on issues arising.

The verbiage in the scheme is inaccurate and misleading and confuses the narrative.

The Clean Car Programme is *not* a carbon trading scheme, nor is it a scheme that charges penalties for *any* emissions at all. It is a weight-adjusted efficiency levy applied to fossil fuel powered vehicles. Much of the verbiage used in the discussion of this scheme, such as “carbon units” is inaccurate, misleading, and causes people to conflate this levy with other schemes that do charge for CO₂(e) emissions, such as the ETS. A more accurate term for these units could be “efficiency units”.

VIA has participated in discussions on the policy with government where the officials became confused due to the cognitive dissonance caused by the use of the confusing labels and misleading terms in their own policy. We have even noted this occurring in government discussion documents.

Our use of these terms and phrases in this submission should not be taken as an endorsement and we have done our best to keep our purpose and intent clear despite the obfuscation caused by the poorly assigned vernacular.

Recommendation 3: Government should fix the verbiage used in this programme to make it more accurate reflect that it is an efficiency levy, NOT an emissions levy.

There will be a short-term shortage of zero-emission vehicles, driving up vehicle prices

The largest risk that the Clean Car Programme creates is increased vehicle prices due to a lack of zero-emission vehicles.

The Clean Car Programme assumes the ability to shape the characteristics of the vehicles being supplied. Due to the size of the New Zealand market, all vehicles supplied into Zealand are designed to meet the requirements of another jurisdiction (usually Japan or Australia). This simple fact applies to all cars imported into New Zealand, used and new.

New Zealand has no domestic manufacturing and the Clean Car Programme in itself likely does not supply the quantum of subsidies necessary to entice foreign manufacturers to prioritise EVs for New Zealand. New Zealand importers will need to compete with the rest of the non-manufacturing world for the limited supply of zero-emissions vehicles manufactured for other jurisdictions that make it on to the open market.

VIA's modelling predicts that importers will not be able to source sufficient zero-emission vehicles to offset the penalties incurred by the end of the decade. These penalties will become significant even on the most efficient of hybrids leading to increased prices for consumers.

The global volume of zero emission vehicles manufactured is also a poor representation of what New Zealand's access. There are fewer significant right-hand drive (RHD) markets internationally and New Zealand will be dependent solely on the production of vehicles for those markets.

VIA members are already exploring creative solutions to source more zero-emission vehicles, including developing:

- contract manufactured zero-emission vehicles specifically for the New Zealand market,
- standardised conversion to electric vehicle of higher-emitting vehicles with proven safety and design features that we will be able to source cheaply due to overseas efforts to remove emitting vehicles from their fleets.

In both cases, we need governments commitment work with us in approving processes to facilitate ease of implementation, integration with current processes, and a commitment to public safety.

VIA members' research and development in this area is early and we cannot yet speak to the likelihood of success, but it does illustrate our willingness and desire as an industry to transition to zero-emission vehicles as soon as possible.

In the meantime, until a supply solution is found, we should not forget the purpose of the Clean Car Programme. We need to return to first principles and realise the goal is not more zero-emission vehicles, but a reduction in emissions at the fleet level. The initiatives to shape supply and demand are only one strategy to accomplish that goal.

For instance, while adding zero-emission vehicles improves the efficiency of the fleet, so would removing high emitting vehicles. If, as the Clean Car Programme asserts, improving the average efficiency of the fleet by importing a zero-emission vehicle is worth the amount we are subsidising, improving the average efficiency of the fleet by removing a high emitter should have a similar value.

The potential effect on the characteristics of the fleet, at least as it applies to efficiency and total emissions, would be similar in either scenario, so then should be the rewards. If importing an electric vehicle awards credits, so should removing a gross emitter.

Recommendation 4: Government should extend the proposed Clean Car Programme to include a fleet management scheme.

VIA recommends the government extend the Clean Car Programme to include VIA's proposed Clean Car Fleet Management scheme. This scheme would empower government to award illiquid credits that are functionally identical to Clean Car Standard credits for removing emitting vehicles from the fleet.

The value of the credit would be set by government based upon vehicle characteristics; a base value determined by the vehicle's efficiency (g CO₂/km). Extensions to the scheme could include multipliers on the value based upon the vehicles age and/or safety rating.

The credits would be functionally identical to those provided by the Clean Car Standard, including being tradable and able to offset Clean Car Standard penalties.

The credit value of personal vehicles could be listed on Rightcar.govt.nz and on the Waka Kotahi website when doing annual licensing, ensuring New Zealanders remained aware of the potential value of their vehicles.

The Clean Car Fleet Management scheme has many potential benefits, but most importantly it provides a "relief valve" for vehicle prices if zero-emission vehicle supply is not available as soon as hoped, while also still providing a tool for continuing to improve the characteristics of the fleet.

VIA is committed to doing everything reasonably possible to import the zero-emission vehicles New Zealand needs, but unfortunately, our modelling predicts a shortfall between the end of this decade and the early 2030's. After which, we will be able to take advantage of both the pledges the manufacturers have made to stop manufacturing fossil-fuel burning internal combustion vehicles, as well as the vehicles that were sold into the jurisdictions whose supply of zero-emission vehicles are now being prioritised.

The units stored in "carbon" accounts do not represent actual carbon or other greenhouse gas emissions, each "carbon" unit represents 1g CO₂/km

The improvement to the Clean Car Programme that VIA proposes, also makes end of life vehicles a core part of importers business model. This builds connections between the import and scrappage industry that will become increasingly important as we move to a circular economy and adopt product stewardship requirements.

Finally, the government will need a tool to incentivise the exiting of the remaining fossil fuel-powered vehicles after a sufficient supply of zero-emission vehicles is available. This scheme (with some modification) can do that.

Appendix A provides a brief outline of the proposed Clean Car Fleet Management scheme.

Clean Car Standard "carbon units" reduce options for achieving the purpose of the Clean Car Programme

Under the currently proposed legislation, importing a low efficiency vehicle incurs a penalty and importing a high efficiency vehicle earns a credit. These credits are illiquid and can only be used to offset penalties. Credit units can be traded or sold.

While the actual trade occurs on the government managed platform and between government managed "carbon" accounts, the details of the transaction are arranged between the relevant parties outside the government's platform.

As currently proposed, these credits are assigned a value that is expected to increase in 2025. It is unclear whether this value is assigned at the time of unit creation or when it is consumed by a penalty.

Recommendation 5: Assign and lock-in the value of Clean Car Programme "carbon" units at the time they are created.

"Carbon" units also hold different value if they are created through the importation of "new" versus used vehicles. The justification for this is to account for the fact that these different classes of vehicles tend to stay in the fleet for different amounts of time and are therefore expected to emit significantly different volumes of greenhouse emissions during their life in the New Zealand fleet.

Of particular interest to our industry is that the way "carbon" units are currently designed, there is no way to trade credits between new and used vehicles. This is not even a question about the ability to trade between the two sides of the industry. We need credits before the end of the decade to offset the penalties on the hybrids we expect to be able to source.

To acquire those credits, we will need to import any and all zero-emission vehicles that are suitable for the New Zealand market – that includes sourcing new vehicles when possible. If we cannot offset

penalties on used imports with credits acquired by importing new cars, whether sourced from foreign jurisdictions or contract manufactured, then we will not look at it as an option.

To accomplish both locking in of “carbon” unit values and allow the offsetting of penalties with credits acquired by importing new or used vehicles government should set the value of a “carbon” unit equal to \$1 NZD. This simple change greatly simplifies the tracking and trading of credits, enabling enhanced functionality and greater opportunities for industry to facilitate the transition to zero-emission vehicles.

Setting the value of a “carbon” unit to \$1 NZD would greatly simplify the requirements of the government’s backend system which will currently need to create, store, and track a multitude of credits, depending upon the year created, the value of credits in that year, and whether it was created by importing a new or used vehicle. This change would take all of those things into account and simply assign the correct number of “carbon” units to the importer’s account when the credit is attributed.

Since all of the limiting factors are already considered at the time of creation, this removes all functional and equivalency limitations from the spending and trading of credits – turning one unit into one simple unit that can be used by anyone within the system.

Recommendation 6: Set the value of a Clean Car Programme “carbon” unit to \$1 NZD, assigning the appropriate number of units to importers’ accounts at the time of unit creation.

This change would also simplify the implementation of credits from our proposed extension to the Clean Car Programme, the Clean Car Fleet Management scheme. It would not be impossible to implement that Clean Car Fleet Management scheme without this change, but it improves the design.

The Clean Car Programme will reinforce existing systemic anti-competitiveness

The global effort to reduce greenhouse emissions is leading to major changes in how vehicles are designed, developed, manufactured, supplied, purchased, owned, and disposed of. The industry is being disrupted by start-ups and the market is being rocked by new business models including entire new paradigms of ownership.

The Clean Car Programme provides different levels of penalties and subsidies based upon whether the vehicles are new or used. The rationale for this is the fact that the average used import into New Zealand is already almost 10 years old and half of its life has already been expended in a foreign jurisdiction. Due to this, after entering New Zealand the average vehicle will only emit half as much of its lifetime potential after importation and is therefore only charged about 50% of the penalty.

A problem arises because not every vehicle independently imported is the “average used import”.

Since the Clean Car Discount has come into effect, VIA members have been working to increase low emission imports and assist the government in meeting their zero-emission vehicle goals. VIA members have imported zero emission vehicles with less than 100 km on the odometer that have only been registered in a foreign jurisdiction as a demo vehicle or to meet sales quota. Under the current rules, that vehicle is defined as a used vehicle because it had been registered overseas. Since it was defined as “used”, it was only eligible for the “used” level of subsidy, and assumedly once the Clean Car Standard comes into effect, the vehicle would only be eligible for the “used” level of credits.

It is very clear that under the justification given in the discussion documentation for the Clean Car Programme, these vehicles should not be considered “used” vehicles. These vehicles will live their entire life in New Zealand, providing zero-emission transport to New Zealanders for the entire life of the vehicle. If a “new” car importer presented a car in exactly the same condition, it would be eligible for the full “new” level of Clean Car Programme incentives.

The independent importation industry that VIA represents has matured greatly over the last 30 years and has solidified its place as a legitimate part of the New Zealand vehicle supply chain. We now import the majority of the vehicles imported into New Zealand annually and we expect our market share to continue to grow as the manufacturers focus the supply of zero-emission vehicles on the major jurisdictions such as the US, EU, and China.

Continued failure to address this issue is tacit support for the systemic anti-competitiveness built into our existing regulations and legislation.

Recommendation 7: Government should classify vehicles that are functionally new as “new” when determining eligibility for Clean Car Programme subsidies and penalties based solely on vehicle characteristics, not importer characteristics.

Recommendation 8: Government should, with the intent of creating and maintain a level playing field in a rapidly changing world, harmonise the definition of “new” cars across the various legislations, regulations, and policies based solely on vehicle characteristics at the point of sale, not the affiliations of the importer.

Failure to make the Clean Car Standard penalties transparent to consumers will reduce the potential efficacy of the Clean Car Programme

The Clean Car Standard is designed to influence importers, the Clean Car Discount is designed to influence consumer demand. As such, the current goal is to only make the Clean Car Discount charges transparent to vehicle buyers.

VIA believes this is squandering a potent opportunity and counter to the goal of the entire programme.

To illustrate, buyers love a good deal, and they tend to buy the best car they can for the price they can afford. Imagine a buyer looking at two vehicles with the same sticker price. These vehicles were imported by a pay-as-you-go importer, meaning they will apply the penalty or credits to the respective vehicles. This first vehicle had a \$2000 Clean Car Standard penalty applied, the second had a \$2000 Clean Car Credit applied.

If the Clean Car Standard penalties were made transparent, in the eyes of the potential buyer there would be a \$4000 difference in the value of the two vehicles - even though the sticker prices are identical. This value would be weighed toward the one that received the credit, which is also the one that Clean Car Programme is designed to promote.

Recommendation 9: Government should make both the Clean Car Standard and the Clean Car Discount visible on the window sticker and relevant sales documentation at point of sale and on online advertising.

The weight-adjustment of the target incentivises inefficiency and reduces the efficacy of the entire initiative

The Clean Car Standard uses a weight-adjusted target. This weight-adjustment makes it easier to continue to supply more massive, less efficient vehicles counter to the goal of reducing emissions.

This weight-adjusted target also incentivises the wrong zero-emission vehicles. As we look to electrify all vehicles and appliances, we should be putting in safeguards to encourage improve efficiency. The weight-adjusted target incentivises the opposite.

To illustrate, under the currently proposed rules, a 3000kg 2-seat zero emission vehicle would get a bigger Clean Car Standard credit than a 1000kg 2-seat zero emission vehicle. The more massive vehicle has a greater incentive even though it would require three times as much energy to travel the same distance.

Beyond the absurdity of the incentive perversions, our modelling suggests that removing the weighted average will improve the efficacy of the Clean Car Programme while better supporting a transition using readily available hybrids until zero-emission vehicles become available.

The justification for the weight-adjustment, the need to promote improved efficiency across all types of vehicles, should not take precedence over the primary goal of the programme – to reduce emissions from the fleet. In terms of reducing emissions, any vehicle which emits less greenhouse gases per kilometre travelled should be preferred over one that emits more.

Removing the weight-adjustment will force vehicle buyers to consider the value of the lowest emitting vehicles in their price range and whether those vehicles will meet their actual needs. This is a fundamental requirement to create change in buyer behaviour and vehicle demand.

The stated goal of the Clean Car Programme is to influence supply and demand in a way that leads to continued reduction in emissions, not to encourage or even allow business as usual.

Recommendation 10: Government should consider removing or phasing out the weight-based adjustment to the Clean Car Programme target.

VIA would continue to support the Clean Car Program if it is strengthened in this manner.

Other issues tangentially related to the Clean Car Programme

The following points highlight other issues that will either be negatively affected by or negatively affect the implementation of the Clean Car Programme as proposed.

There is a “massive” conflict between Safety and Efficiency

The New Zealand government is using an outdated archaic model of safety that has been the primary motivator in an arms race for ever more massive vehicles. This model is market-focused and is largely perpetuated by manufacturers marketing to our innate insecurities and desire to be safe, even at the cost of others safety.

A few years ago, transport safety was all about “systems approach”, buzz words aside, the proposals and discussions were anything but. A systems approach builds upon the recognition that everything is interrelated and connected and therefore the system should be looked at as a unitary whole.

Unfortunately, what fell out of those discussions was the need for bigger and better cars, to the detriment of everything and everyone else not in one of the new bigger cars. The lack of a systems approach is evident in that fact that cars are rated in isolation and in many cases are given ratings

that are completely irrelevant when compared to vehicles that differ in mass. Yet, the advice is still given to the public to choose those higher rated vehicles, without considering the probability of crashing into a car of identical mass.

A 1-star heavy SUV will crush a 5-star subcompact, yet we pretend like the 5-star subcompact is the safer car. This is demonstrably untrue and is misleading the public if we rate vehicles on their ability to protect their occupants. Unfortunately, since the highest selling cars in New Zealand are heavy Utes and SUVs, the average mass of the fleet is increasing, decreasing the effective safety of lighter vehicles, no matter what their star rating is.

This is the crux of the issue, the only vehicle characteristic that is a first order factor in determining the risk of a fatality in a multicar crash is the difference in vehicle mass. This means, more massive vehicles do better protect the occupants of the heavier vehicle, they also increase the likelihood of a fatality in a crash with a less massive vehicle. They better protect their occupants while increasing the risk of everyone else.

A systems approach to safety would aim to reduce harm from the transport system as a whole, not in individual units within the system, especially when the individual approach to safety drives up the mass of the fleet, continually increasing the disparity between the most and least massive vehicles.

Our current vehicle rating system is based almost entirely upon how well it will protect its occupants in a crash. While some consideration is given to the aggressivity, or the change it will harm others, it is a much smaller part of the equation.

The effort to improve fleet efficiency and reduce emissions is relevant to consider in a discussion on safety for two primary reasons – both based upon a vehicles mass, only inversely so. More massive vehicles require proportionally more energy, obviously counter-productive to the goal of improving efficiency and vehicle emissions cause their own harm, harm that is not currently included in the vehicle safety rating.

In our current approach to solving problems, our model of safety incentivises more massive vehicles while the immutable facts about efficiency demand less massive vehicles to reduce consumption. These opposing motivations are preventing us from accomplishing either.

A systems approach to vehicle rating would focus on the potential harm caused by the vehicle. With the vehicles causing less harm having the highest rating. While this seems counterintuitive, reconsider the fact that the primary factor in the chance of a fatality in a multicar crash is the difference in mass between the vehicle; reducing the average mass of the fleet would reduce the likelihood of a crash between two vehicles of significantly different mass. The lower the average mass of the fleet, the lower the chance of a fatality.

Decreasing the average mass of the fleet also decreases the energy requirements of the system.

A systems approach would harmonise the effect on mass on our initiatives and goals, allowing us to set two reinforcing goals as opposed to two counterproductive goals. In fact, it would allow us to simply the two goals into one, reduce the average mass of the fleet.

Moving to a systems approach to safety as described above would allow our safety rating to harmonise meaningfully with the goals of reducing emissions and improving efficiency.

Recommendation 11: Government should consider revising our definition of safety to better reflect the opportunities from emerging technology, the need for a systems approach to

accounting for the negative externalities of the transport system, and a more inclusive model of harm.

It is also worth noting two technological trends that further support this recommendation. One, manufacturers are looking for ways to increase the range on their electric vehicles. The obvious solution that we should expect is less massive vehicles. The second point is the probability that future vehicles will be equipped with autonomous safety features that will reduce the likelihood of crashes.

Further discussion of this issue can be found in Appendix B.

A rapid uptake of hybrids and electric vehicles will exacerbate the problem of managing end-of-life batteries

The Clean Car Programme will increase the importation and demand for hybrids and electric vehicles, both of which have large batteries. There has been a significant amount of discussion and work around a Product Stewardship Scheme for large batteries but so far there has been little action.

There is a looming challenge related to legacy batteries, batteries that have been imported prior to the implementation of a Product Stewardship Scheme.

To illustrate the importance, VIA fully expects that a large portion of our members imports in the next few years will be hybrid; all of which will have big batteries that need to be part of a Product Stewardship Scheme. We expect this proportion to grow quickly, likely well exceeding 50% in the next few years. Independent importers supply over 100k vehicles annually, so that is a lot of legacy batteries.

Failure to act quickly will leave the New Zealand public responsible for covering the cost to clean-up of hundreds of thousands of batteries in the next 15 years.

Given government support, VIA would consider setting up and running an interim Product Stewardship Scheme focused on batteries for used vehicles. When and if the Primary Stewardship Organisation (PSO) is formed, we could either feed into it, continuing to manage the industry we represent, or we could simply hand over management. In either solution, we would have accomplished our goal of mitigating the quickly growing risk of legacy batteries.

Recommendation 12: Government should move quickly and work with VIA to set up a Product Stewardship Scheme focused on batteries from all independently imported electric vehicles and hybrids, even if only an interim scheme.

Recommendation 13: Government should consider combining the various Product Stewardship Schemes that apply to independently imported vehicles into a single scheme and/or support the formation of a single entity designed to integrate these various schemes and promote current and future Product Stewardship schemes related to independently imported vehicles.

Appendix A – Brief outline of the Clean Car Fleet Management Scheme (CCFM)

Industry and government have recognised that controlling supply is only half the solution to achieving New Zealand’s transport related emissions goals. A scheme designed to pull undesirable vehicles from the fleet will both increase the uptake of more efficient vehicles (as they will be provided under the influence of the Clean Car Programme (CCP)) and provide value in the removal of older vehicles that can be used to mitigate the upfront costs of zero-emission vehicles.

Definitions

Motor vehicle dismantler – Company that dismantles vehicles. Subject to registration and government audit. Failure by either the rebirth of a vehicle they dismantled or

Dismantle – Scrappage or other approved permanent removal from the New Zealand fleet.

The Scheme

1. Motor vehicle dismantlers can register with the Clean Car Standard’s (CCS) register.
2. Motor vehicle dismantlers can receive CCFM credits from the government by providing evidence of permanently decommissioning vehicles. The size of the credit would be based upon the vehicle emissions ($\$x * g \text{ CO}_2 / \text{ km}$, where x is the value the CCFM scheme places on a single g of CO₂, which could be independent of the CCS price). Zero emission vehicles receive no credit.
3. Motor vehicle dismantlers can trade CCFM credits within the industry in the same way that importers can trade CCS credits with each other.
4. CCFM credits are identical to CCS credits for all intents and purposes (except value). CCFM credits can be used to offset CCS penalties.
5. Consumers can see the CCFM “trade-in” value of their vehicles on rightcar.govt.nz and during their annual online registration process.

Potential Enhancements

1. Multiplier types
 - a. Age multiplier
 - b. Safety rating multiplier
2. How multipliers could work – multipliers are applied to the emission rating of the vehicle prior to calculating the refund amount.
 - a. For instance (safety), assuming 3-star safety values are the base desired, and stars are given a 2.5% multiplier each, then a 5-star car would give a 5% less credit than an equally emitting 3-star vehicle. A 1-star vehicle on the other hand would be scrapable for 10% more.
 - b. Regarding age, a good baseline would likely be 5 or 6 years, with a multiplier of 0.5% per year. Scrapping a vehicle less than 6 years old would yield a smaller credit, and i.e., scrapping a 20-year-old vehicle would provide a 7.5% greater credit.
3. Government funds (if any) should go to enhancing our national recycling and material reclaiming capabilities through support of research as well as product and business development.

Mitigate recognised flaws in the CCS

The CCS is being implemented based upon the premise that EVs will be available to offset the costs of importing vehicles. For New Zealand in particular, EVs in the volume necessary to offset these penalties are not expected to be available until after 2035. From 2027, the CCS penalties will penalise most vehicles, including hybrids. These costs will be borne by consumers.

The CCFM scheme will complement the CCS by encouraging road users to trade existing older, less safe, and potentially higher emitting, for newer, safer, less emitting vehicles.

It is also worth noting, that most vehicles near their end-of-life are in the hands of people with lower incomes. The Clean Car Fleet Management scheme will potentially allow them to get more for the “trade-in” of their vehicles (depending upon the base value of the CCFM credits), which would help mitigate the higher initial price of purchasing a zero-emission vehicle.

Embracing the circular economy

It is being recognised that the economy of the future will need to be less wasteful. To accomplish this, manufacturers (or in the New Zealand context, importers) will need to take responsibility for their goods at the end-of-life. This will encourage manufacturers to find ways to maximise the life of their goods through initial design with consideration given to the intent to be rebuilt, reused, and or recycled.

Allowing consumers and importers both to benefit while building the pathways for importers to take responsibility for “their industry’s” goods at end-of-life is the best way to begin cementing this idea in the minds of both groups.

The risk of dismantling vehicles that are not currently in the fleet

With this point, we must clarify that unregistered and/or not warranted does not mean it is not on the road, nor does it mean someone is not using that vehicle as their sole lifeline to get to work and drive their kids to school.

Thankfully, this is a self-correcting problem as cars can only be scrapped once. The supply of old, unregistered vehicles will dwindle over time, addressing a yet unidentified issue.

VIA would recommend we do not preclude those driving vehicles unregistered from taking advantage of the scheme as we want them to use the scheme to get into a new, safer, and less-emitting vehicle.

One additional risk, however, is people importing old vehicles from foreign jurisdictions to take advantage of this scheme. This can be avoided by requiring vehicles to have been registered in NZ the past.

Won't this weaken the efficacy of the CCS?

This could potentially weaken the direct efficacy of the import standard (although, it is also possible that NZ consumers could simply have opted to simply pay more for the same vehicles during the same period, at least partially negating this possibility).

VIA would suggest the government examine its purpose and intent. The goal of the CCS is to reduce emissions. KPIs are most useful when aligned with the overall strategy, not an arbitrary selected subset of data. In other words, it is possible this initiative would weaken the effects of the import standard, but it contains the levers necessary to both improve the safety of the fleet and increase the rate at which fleet emissions reduce overall.

What happens after a ban on ICE vehicles?

After ICE vehicles can no longer be imported, there is no longer a need for credits to offset CCS penalties. VIA recommends the legislation enabling the CCFM scheme include the ability for government to buy CCFM credits if deemed desirable. This can be used to enable to CCFM to continue to incentivise the exiting of unsafe or emitting vehicles from the existing fleet even after all new imports are zero emission

Appendix B: An argument for an alternative approach to safety that harmonises with the efforts to improve efficiency

The term "safety" has two generally recognised definitions. The first is the state of being "safe": the condition of being protected from all harm or other non-desirable outcomes. The second definition is the control of recognized hazards, to achieve an acceptable level of risk.

For the occupant: bigger is better

The vehicle industry, and its regulators, tend to think of safety in terms of the first definition. Are road users being protected from harm? They aim to guarantee a minimum level of protection largely by requiring safety features in vehicles.

Unfortunately, this approach creates as many problems as it solves. The "Occupant Safety Primacy" model, where an occupant's safety takes the highest priority above all else, by definition downplays all the external safety factors involved in vehicle use. Even worse, the way it is implemented obscures its effectiveness – or lack thereof.

Besides driver behaviour, the most important factor that determines the severity of a crash and chance of injury is the difference in mass between the vehicles involved^{i,ii,iii}. As you would expect, this is in the heavier vehicle's favour.

In certain circumstances, safety features can mitigate this risk, and this is where the first definition of safety comes in. While this might seem straightforward, this approach by itself not only neglects many other aspects of safety but has the unintended consequence of creating an arms race that increases the potential harm of the system as a whole.

As the "safest" vehicles on the road are also the heaviest, the easiest way to ensure that each new model's safety exceeds the previous year's [model safety] has been to add mass. This is exactly what we see in the catalogue of vehicles available in New Zealand: the average mass across the available models has increased by 50 kg per year, for over a decade. The flow-on effect of this is that each new release of heavier vehicles into the market degrades the relative safety of all vehicles already in the fleet.

For the community: less is more

The second definition of safety would have us taking a more "macro", systems approach to safety, promoting the idea of lowering the risk of harm overall, rather than to an individual.

It also allows us to include harm that is entirely ignored by the current definition. Most vehicles produce emissions; these emissions are measurable and cause harm to those who come into contact with them. In fact, it is estimated that this harm has already cost New Zealand more than \$1 billion^{iv} in healthcare costs.

Greenhouse gases are leading to severe weather events and climactic changes, which also have societal costs. The latest research estimates that cost at between \$50^v-\$300^{vi} per ton of CO₂-e (CO₂ equivalent), with New Zealand's current car fleet alone accounting for over 8.5 million tons^{vii}. No matter whose research you believe, it is still a large social cost – ranging from \$500 million to \$2.5 billion.

By comparison, according to ACC, the cost of covering all injuries on the road in 2015 was just under \$400 million.

Interestingly, vehicle mass is also the primary factor in predicting the harm in this version of safety; just inversely. The lower the mass of a vehicle, the less harm it will do to anything it collides with,

and the less harm it will do to the environment in general. The lower the mass, the less energy it takes to move the vehicle, leading to lower emissions

The logical way forward

There have been efforts to reconcile the two approaches; perhaps exemplified by an "aggressivity" component. Vehicle aggressivity is a measure of the harm that would be done in a collision. Attempts to include aggressivity are usually limited to harm to pedestrians.

The problem with trying to reconcile these two views of safety is that doing so requires us to set aside the most important factor in both, vehicle mass. In fact, mass is such a large part of the equation that, assuming the presence of identical second order influences such as safety features, mass could be likely be used as a proxy for the two systems, only inversely so.

Perhaps the strongest argument that can be made in favour of the second system is an illustration of the logical consequences of the two systems.

In the first, vehicles will continue to increase in mass. The increasingly heavy vehicles will at best slowly increase in efficiency as engine technology improves and more intelligent automated driving features are introduced. As previously mentioned, as the average mass of the fleet continues to rise, the safety of vehicles already in the fleet depreciates.

In the second system, consumers are encouraged to buy vehicles that are ever lower in mass. These lighter vehicles do less harm in accidents and are potentially much more efficient than the current fleet. Automated driving features have the same potential for increasing safety and efficiency in lighter vehicles. Plus, as the average mass of the fleet begins to decline, it would actually have the effect of appreciating the safety of vehicles already in the fleet.

The results will be driven by what we encourage and what we penalise. Under the current system, mixed signals are being received. We want people to drive safe vehicles (by the first definition), so we are looking to incentivise massive vehicles. Yet, we also want people to drive more efficient vehicles, so we are penalising emissions. With one hand we are encouraging more massive vehicles, with the other we are penalising that mass.

It is also important to acknowledge that not all crashes are multivehicle crashes. Vehicle mass has very little effect on survivability in single-vehicle crashes, meaning neither more or less massive vehicles have an advantage nor disadvantage. There is nothing in this proposal that precludes continued requirements for safety devices within individual vehicles, such as seatbelts, airbags, ESC, or the automated features of the future.

We have backed ourselves into a corner trying to justify and reconcile the use of our current definition of safety. This has forced us to rely upon obtuse justifications and rationalisations that are completely divorced from the needs of society, such as only rating vehicles within "market segments", to avoid the obvious absurdity of promoting increasingly massive vehicles. It is dubious that continuing to obfuscate harm, obscuring reality, and self-delusion is the best long-term solution.

ⁱ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3217563/>

ⁱⁱ <https://www.osti.gov/servlets/purl/834261>

ⁱⁱⁱ <https://www.nber.org/papers/w17170>

^{iv} <https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/air-quality-climate/air-pollution/air-pollution-faqs/>

^v http://www.hapinz.org.nz/HAPINZ%20Update_Vol%201%20Summary%20Report.pdf

^{vi} <https://news.stanford.edu/2015/01/12/emissions-social-costs-011215/>

^{vii} <https://www.greaterauckland.org.nz/2013/02/28/whats-the-deal-with-transport-emissions/>