

Submission from the AQA on the discussion paper - Transport Emissions: Pathways to Net Zero by 2050 June 2021

Introduction

The Aggregate and Quarry Association (AQA) acknowledges that our transport system needs to shift to a low/zero carbon pathway as soon as possible to meet our emissions reductions commitments and targets.

We agree that decarbonising our transport system will be challenging and that difficult choices and trade-offs within transport and across sectors must be made by central and local government to prioritise investment, and other action, to move different sectors to low-carbon pathways.

New Zealand needs to play its part in global commitments to meet the objectives of the 2015 Paris Agreement and to reduce carbon dioxide emissions. In reducing our emissions, it is essential that policies do not lead directly to constraints on the supply of vital materials essential for the social, economic, and cultural wellbeing of communities.

New Zealand's aggregates profile

Currently an average of around nine tonnes (one rigid truckload) of stone, gravel and sand per New Zealander is required each year to meet New Zealand's ongoing infrastructure demand. The Government's 10-year Minerals and Petroleum Strategy released in November 2019 included a clear statement that:

"Projections indicate that the population of New Zealand could grow as high as between 5.3 and 7.9 million by 2068. To meet the needs of this growing population we will require more housing, more energy, and expanded infrastructure. The minerals and petroleum sector has a critical role to play in building this future.

We need to make sure we have the aggregate (crushed rock and stone) required, or alternative replacement material, to build the foundations of our houses and roads."

Central and local government will need to invest an unprecedented amount of money into infrastructure, such as schools, hospitals, roads and transport, to meet this population growth. New Zealand relies heavily on locally sourced aggregate resources for infrastructure repair following disasters for road, cycleway and rail transport corridors, major projects and for housing development.

In Auckland alone, population is projected to reach 2.4 million by 2050. This represents a population growth rate that is higher than the national average. To accommodate this growth, Auckland's built environment will change significantly. This could mean 313,000 new homes along with new infrastructure, commercial buildings and community facilities. This number of homes alone will require an additional 78 million tonnes of aggregate, or 2.6 million tonnes per year from now until 2050.

Climate change and rising sea levels are going to put added pressure on rock supply for sea walls, riverbank protection and restoration. Based on the advice of the Climate Change Commission, 13 wind farms, each the size of the country's largest, will need to be built in the next 15 years to power the country's new electric cars and boilers. The construction of these wind farms alone will require an additional 1 million tonnes of aggregate and sand.

New Zealand needs a secure supply of quarry materials to provide affordable housing and infrastructure now and for future generations.

To do this, it is critical that planning is streamlined, quarry resources are protected so they can supply vital construction materials and quarry land is returned as an asset to the community once extraction is complete.

Quarry products are almost exclusively carted on heavy trucks which are typically fuelled by diesel. Haul distances are short and the location of quarries on urban fringes limits the transport options for aggregates and sand.

We make the following submission in relation to the [discussion paper; Transport Emissions: Pathway to net Zero by 2050](#).

Consultation Question 1: the principles in Hīkina te Kohupara

We generally support the principles used in Hīkina te Kohupara to shape the advice, particularly Principle 4 in relation to a co-ordinated approach to transport and land use planning that have a strong influence on transport emissions.

Quarry materials are not universally available and can only be sourced from where they are located; without planning to provide for adequate access to resources at workable locations, there is the real risk of losing access to such proximate resources, greatly increasing the costs of building and infrastructure development and maintenance.

Currently, the cost of a tonne of aggregate doubles when it has to travel 30 kilometres from a quarry, with additional costs for each extra kilometre thereafter.

By ensuring quarries are close to their markets, opportunities exist for emissions to be reduced by improving the efficiency of supply chains and improving the fuel efficiency, and carbon intensity of freight modes and fuel.

Consultation Question 2: the government's role in reducing transport emissions

Government procurement policies, including leveraging their purchase power, to support low emissions products and practices could help reduce emissions. It is important here to decrease the need for carbon-intensive transportation and improve energy efficiency in the long-term by ensuring quarries are close to their markets, thus significantly reducing transport costs, transport congestion and carbon emissions.

Too often specifications for major projects target high quality aggregates regardless of the need for such "high quality" products given the use and life expectancy of the road

or building. Such specifications do not take account of sources close to the project which could be suitable while significantly reducing transport related carbon emissions.

The Government, in consultation with the aggregates sector, needs to confirm the available sources of aggregate and sand throughout the country, including aggregate quality, accessibility, and proximity to markets so that those sources identified as critical for the country's future growth, are protected and appropriate provision is made for their development to meet future demand for aggregates.

We consider it imperative that local authorities are directed to protect key resource areas and enable their development, to both protect existing quarries from encroachment of non-compatible land uses such as housing, reduce reverse sensitivity potential and to enable the expansion of these resources and development of new greenfield resources.

Consultation Question 4: priority of government actions

Transitioning New Zealand to a low emissions economy requires a coherent and coordinated approach to climate change across government agencies, and across levels of government. It is essential that working together addresses the allocation of risk and funding to ensure incentives for behavioural change are appropriate at the national and regional levels.

The Government needs to create a more discretionary regulatory approach for certain activities, including quarries, that are necessary to facilitate a response to the effects of climate change.

Coherent policy is also important to ensure that households, business, and communities receive clear and consistent signals about the transition to low emissions, and the nature and speed of change required.

The proposed National Policy Statement for Indigenous Biodiversity requiring territorial authorities to "avoid" any subdivision, use and development within an SNA containing the four main effects is inconsistent with the Government's Resource Strategy, and other current initiatives around urban development, use of highly productive land, infrastructure spending, and climate change.

Rather than taking an integrated approach to resource management, it appears that officials across government departments are acting in their separate silos creating unnecessary duplication and imposition of additional costs and restrictions, all with similar stated goals but with inevitable unintended consequences. We have seen this recently with introduction of the NES Freshwater Regulations, particularly concerning earthworks around wetlands.

Consultation Question 10: the freight supply chain

Existing freight networks and services could be used more efficiently, however if we continue to embrace technology including heavier electric vehicles and modern heavy vehicle configurations, we need to continually upgrade the road network to compliment this technology.

More efficient use of networks in relation to supply of aggregates and sand could mean more flexible operating hours in areas to reduce traffic congestion at peak times and spread the load on roads. An example here is the restocking of resale yards, concrete and asphalt plants in urban areas at night so that trucks are off major arterial roads during the morning peak times. While this may involve 24-hour operations for loading, this can be done while mitigating the operation's impacts on the environment, reducing emissions, and ensuring community wellbeing is maintained.

Consultation Question 11: freight modes and fuels

The Climate Change Commission identified that heavy trucks are the most challenging vehicles to electrify as they operate close to legal size and weight limits, so heavy batteries could reduce the payload the truck can carry. Modelling also suggests that commercially available quantities of biofuels for heavy and off-road vehicles is unlikely to be available before 2035 and therefore low carbon liquid fuels are unlikely to be an option for our sector in the short to medium term.

Like food and perishable goods, aggregate moves over short distances, and very few quarries or delivery sites have access to rail or coastal shipping. Aggregates need to be delivered quickly and reliably as customers do not have areas to stockpile material. Therefore, aggregate delivery cannot easily shift travel type.

While the discussion document identifies that these deliveries are most likely to be carried out by electric trucks in the future, at this point too much is unknown about the kinds of future energy that will power heavy vehicles.

General comments

We agree that in the short-term, the best opportunity for the Government to reduce emission from heavy trucks is to introduce a fuel efficiency standard for trucks and a biofuel mandate. As with light vehicles, these standards will need to ramp up over time. There is currently a limited amount of biofuel available in New Zealand, so we believe there is merit in the Government supporting a domestic biofuel industry.

We do not hold a view on the relative merits of the four potential pathways identified in Hīkina te Kohupara, as all will require many levers and policies to be achieved.

We agree that the government should pursue urban development and land use changes that support emissions reductions from transport as soon as possible. Our cities and towns will only realise the full benefits of changes to urban development and land-use planning over the long-term. An additional reason our cities are under pressure is that adequate provision has not been made in planning documents to recognise existing and potential aggregate and sand deposits or provide for their extraction.

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Comments regarding Hīkina te Kohupara

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Firstly, it is great to see that work, including this report, is finally getting underway to determine how New Zealand is going to reduce its transport sector emissions. There is much to agree with here and I have only a few comments and suggestions.

Overall comments

1. I believe that the biggest challenge with transitioning our transportation sector from one based on fossil fuels to one with low or no GHG emissions is going to be building and maintaining a social mandate for the shift. This transition is:
 - Very large, complex, and is to be undertaken in a relatively short timeframe
 - Going to impact everyone, requiring them to make changes to the way they live, how they get from place to place, what vehicles they drive, and coming with a higher cost
 - Being made for a long-term global benefit and with no strong and direct linkage between an individual's activity and the impact of not reducing emissions. On top of this, whatever NZ does will have little direct effect on global emissions.
 - Likely not to be a priority for many New Zealanders versus other, often more urgent, concerns such as paying the rent or having a family holiday

While this is certainly recognised in Hikana, I think considerably more work is still required around how to build and maintain public buy-in to the necessary changes - especially for transitioning the light vehicle fleet.

2. I believe that "biggest bang for the buck" needs to be a guiding principle in deciding which pathways are pursued to reduce transport sector emissions. We here in New Zealand simply do not have the wealth (or population) to do otherwise. While this study has identified many of the factors and issues involved, I would like to see more robust unbiased quantitative information gathered on the different options (definitely for your downselected options) to include metrics such as: \$ to the New Zealand economy/tonne CO₂-e avoided; scale of CO₂-e reduction possible²; and some informed assessment of what proportion of this available reduction is realistically achievable by 2050 before any political decision is made on a forward plan. Such a common framework would allow the pros and cons of the various options to be compared when they have such different balances of ongoing vs upfront costs, have varying impacts in different parts of the transport fuel value chain and different impacts on Government vs consumers vs industries. Obviously, a similar type of metric for \$ cost to Government/tonne CO₂-e could also be evaluated.

¹ Dr Ian Suckling, now retired, was until January 2019 was a Research Leader at Scion, New Zealand's forestry-focussed Crown Research Institute, with responsibility for the Institute's research on both liquid and solid biofuels. He also represented New Zealand in IEA Bioenergy's Task 39, "Commercialising liquid biofuels", giving him a good understanding and international perspective on the role of policy and technical developments in biofuel deployment.

² Particularly around the avoid and shift interventions.

3. The underlying issue here is that we are wanting to replace a very mature and well-established fossil fuel + ICE-based transport system with one powered by low-emission alternatives, and that all these alternatives (particularly currently) have higher costs for fuels and/or vehicles, and may require new distribution infrastructure. Will the target readers of this document understand this?
4. The over-arching goal here is net-zero emissions in NZ by 2050. Options for low-carbon transport should therefore be compared on the basis of their total emissions in New Zealand. This study focusses only on in-use transport emissions and does not consider emissions or energy from fuel production and distribution in New Zealand. I believe that options for low-carbon transport must be compared on the basis of their total emissions in New Zealand - irrespective of where or how they are produced, and even though they may report to different buckets such as energy or industrial processes. Persevering with a current focus only on in-use emissions could easily lead to some bad outcomes. For example, hydrogen produced from natural gas (without CCS) would fit your definition of a “zero emissions fuel” but would actually lead to little or no emissions reduction [and maybe actually increase emissions] because of the CO₂ emitted during its production.

I believe robust underlying principles, such as seeking lowest total emissions in NZ, are vital to maintaining public confidence and credibility in the transition to low emissions, particularly as interventions really start to bite.

5. Greater attention needs to be given to managing the technical uncertainties in this transitions. All three low-carbon fuels considered here (electricity, biofuels and hydrogen) require significant technical developments to occur to reach the required levels of penetration. It should be recognised that it is difficult to predict which technical advances (such as in EV battery technology to reduce cost and increase range) will actually occur, and even more difficult to predict how fast these developments will occur.
 - Will the developments required to deliver a policy outcome actually occur³, or might a better alternative emerge?
 - Investors might hold off from making the required investments in low-carbon fuels/infrastructure until the technical risks are reduced to acceptable levels.
 - There is a risk of building redundant infrastructure.
 - Future costs are difficult to predict.

One important way to address this risk is to focus the main policy interventions on incentivising the outcome (reducing transport carbon emissions), rather than incentivising certain solutions (EVs or biofuels)⁴. The Californian low carbon fuel standard is an example of this approach, as is our ETS.

Q1. Do you support the principles in Hīkina te Kohupara? Are there any other considerations that should be reflected in the principles?

It is not clear to me exactly what these principles will be used for. As they stand, all make good sense. Some rewording of the headline to principle 7 may be warranted to better reflect the points made in the explanation that follows.

³ An example of where this has not happened is the on-going failure to deliver mandated levels of cellulosic ethanol in the US due to technical difficulties in developing commercially-viable processes.

⁴ Particularly important in the heavy vehicle fleet, where, as identified in your Green Freight document, the best fuel option is currently unclear.

If these principles are to be used to assess the different options/interventions against (something I think would be very useful to start developing at this stage in the process), then the list will need some augmenting. In particular I would see adding:

- As discussed above, a principle around “biggest bang for the buck”.
- Something around resilience/adaptability. Given the long timeframe here, the importance of technical advances to achieving the intended outcomes and NZ’s dependence on vehicles from overseas, it will be vital that the pathways we choose can be adapted to deliver the desired emissions reduction, in spite of an uncertain future. It should be recognised that it is difficult to predict which technical advances (such as in EV battery technology to reduce cost and increase range) will actually occur, and even more difficult to predict how fast these will occur.
- And a question: Transport biofuel deployment overseas has been driven not only by countries wanting to reducing emissions, but also by the opportunities for rural economic development and by increased energy security (domestic production replacing imports). Should the latter two factors also be considered in New Zealand?

Q2. Is the government’s role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?

A diverse range of powerful vested interests – and also most of the population - will be affected at different times throughout the transition to a low-carbon fuels. To maintain the credibility of the transition, it will be vital that the Government have a rational, broadly agreed and clearly-enunciated set of principles upon which the transition is based, coupled with rational well-designed set of rules. The credibility and required timing for the transition could easily be undermined by inappropriate responses to “special situations”, or rules being exploited to deliver unintended outcomes. Maybe this is something so obvious to you, that you feel this does not need to be stated?

There is, of course, also an important role for the Government in providing the trained workforce needed to build and operate the chosen options – and to build the supporting infrastructure. This could have a major impact on our ability to meet the required timelines.

Q3. What more should Government do to encourage and support transport innovation that supports emissions reductions?

I think the Government has a broader role around developing and supporting relevant expertise in these areas in places such as universities or CRIs. While most of the technical innovation will occur overseas, there is still a need for New Zealand expertise in some of these areas to understand and adapt these technologies for potential New Zealand implementation. Such expertise is rarely available in New Zealand companies, and while at Scion I was involved in a number of industry projects where this was our role.

Q6. Pricing is sometimes viewed as being controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

The underlying issue hindering this transition is that we are wanting to replace a very mature and well-established fossil fuel + ICE-based transport system with a higher-cost low-emission

alternative⁵. Increasing the cost of fossil fuels via additional taxation would, particularly over the longer term (and especially for the heavy vehicle fleet), be a powerful mechanism to address the current higher cost of switching to low emission fuels, as well as incentivising the switch from cars to public/active modes, and more fuel-efficient ICE-powered cars.

I would therefore support an additional tax on fossil fuels (yes, in addition to the ETS) based on the carbon emissions from that fuel. The levels would need to be set at level sufficient to actually influence consumer behaviour and reduce the barriers to switching to sustainable alternatives. As noted, revenues raised could be used to fund other interventions to facilitate the transition. Such a tax would directly align to the intended outcome, be solution-agnostic, and also incentivise off-road users of liquid fossil fuels to switch to sustainable alternatives. I believe it would also be simpler and much more effective than many of the other financial interventions suggested (e.g. vehicle licencing based on emissions), albeit more challenging for politicians.

I can also see there might still be a need for a distance-based charge for transport infrastructure maintenance and interventions to ensure a just transition.

Q7. Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition.

Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?

Based on the principle of “biggest bang for the buck” I suggest serious consideration be given to an eventual light vehicle fleet where most of the fleet is EVs, but that biofuels or hydrogen are used instead as low-carbon fuels in remote locations where the cost of electricity distribution is too high (e.g. some farms), or where there is no viable EV alternative⁶. While this could substantially reduce costs, quite how a policy could be designed to deliver such an outcome isn’t clear to me.

If a biofuel mandate is to be introduced, it will be important that the Government ensure engines within vehicles entering both the light and heavy fleet are compatible with proposed upper mandated levels of biofuels.

I believe that in New Zealand, where we do not manufacture vehicles, we have a moral obligation to consider impacts of the emissions we induce outside New Zealand. Doing this can lead to quite different outcomes. For example, I recently considered replacing our 2nd vehicle with an EV. Our current vehicle is a 2011 Toyota Corolla averaging 6,000 km/yr. If we consider in-use emissions (or emissions produced in NZ), then CO₂-e emissions would rank in the order EV < new more fuel-efficient ICE < existing vehicle. However, if one takes into account emissions during vehicle manufacture and disposal, which are all induced as one drives a new vehicle off the lot, then the CO₂-e emissions switch right round and lie in the order existing vehicle < new more fuel-efficient ICE < EV. Different situations may well have different outcomes, but in our case keeping the existing car is the best option⁷. For this reason, I would not support a vehicle scrappage scheme.

Q8. Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?

⁵ Much is made about EVs costing less than petrol cars to run. This is certainly true at present. However, is this going to remain the case after all the investments in the ~30% expansion in electricity production, new and upgraded electricity distribution infrastructure and additional dry year insurance capacity are taken into account?

⁶ The rollout of high speed internet, where a mix of fibre and wireless have been implemented in different situations, is an example of such a pragmatic approach.

⁷ I assume we own the car for 10 years.

Yes, but the focus should be put onto those having the biggest impact on reducing emissions for the lowest cost.

Q11. Decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?

Only a couple of brief comments here:

- New Zealand is such a small part of the global aviation and shipping markets that we are going to need to follow global lead when decarbonising these sectors. Airlines and shipping lines are going to want to maintain the flexibility to use their ships or planes wherever needed in the world, so a best-for-NZ solution is unlikely to work. This would also apply to domestic jet flights because such planes may also be used for international destinations.
- It is going to be important to consider options to replace fossil diesel, aviation and marine fuels with low-carbon alternatives in domestic transport in close alignment with other uses for these fuels such as in international aviation, international shipping, and off-road uses of diesel.
- Because of the technical risks, and the potential for delays in transitioning to sustainable alternatives, I would be very wary of making blanket promises around banning the import or use of ICE vehicles by a certain date. Viable alternatives other than biofuels will have to be available before this can be done.

Given the four potential pathways identified in Hīkina te Kohupara, each of which require many levers and policies to be achieved, which pathway to you think Aotearoa should follow to reduce transport emissions?

These are but 4 amongst many possible pathways. Importantly, what this modelling does show is that initiatives in all 3 themes could make a significant difference and therefore that interventions/actions in all three themes warrant further investigation. Before the above question can be answered I think more information is required, including the costs of the different options, realistic estimates of what could be achieved and their resilience to future uncertainties.

In the Matter of *Hīkina te Kohupara – Kia mauri ora ai te iwi* - *Transport Emissions: Pathways to Net Zero by 2050*

Submission by
Waimakariri District Council

25 June 2021

Person for Contact: Geoff Meadows (Policy Manager)



In the Matter of *Hīkina te Kohupara – Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050*

**Submission by
Waimakariri District Council**

25 June 2021

Person for Contact: Geoff Meadows (Policy Manager)



1. Introduction

The Waimakariri District Council welcomes the opportunity to submit on *Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050*.

This Council provides the following responses to each of the consultation questions, using the relevant chapter headings in the consultation document.

2. Responses to Questions 1-13

1: Introduction

Q 1: *do you support the principles in Hikina te Kohupara? Are there any other considerations that should be reflected in the principles?*

Yes, but more attention is we think required to address emissions from the existing fleet.

The just-released (June 9) Climate Change Commission advice to the Government is focused on the cars that come into the country - about 250,000 to 300,000 vehicle per annum (roughly five per cent of the fleet), as is its more recent announcements again in relation to incentivising EV uptake. Of concern are the 5.5 million vehicles currently on our roads. Replacing 'like with like' (e.g. an electric vehicle for an internal combustion engine (ICE vehicle) will not allow us to meet targets. There needs to be a particular focus on how we maintain and transition the existing (and aging) fleet (e.g. undertaking wide-scale and regular emissions testing in conjunction with Warrant of Fitness) to progressively eliminate (via scrappage) older and high-emitting vehicles from the fleet.

This would allow the country to more effectively meet its transport targets. That said there are real challenges in effecting this transition across much of rural Canterbury and with its dispersed populations.

We also think particular emphasis needs to be placed on Principle 7 that ultimately, whatever technology change and uptake occurs, this depends on people and the right mix of education and other means to best inform our urban and rural populations.

3: The Government's role and levers for reducing transport emissions

Q 2: *is the government's role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?*

Yes this largely clear. However, more should be done to free up the constraints within the National Land Transport Fund and allow more funding to be truly allocated to upscale innovative public passenger transport services and more efficient freight services, recognising that in a large and dispersed region such as Canterbury, private vehicles will always be a key part of the transport system.

On page 25, there is reference to increased investment from local government. Like many local authorities, this council is under considerable financial pressure to reduce or keep rates at a sustainable level. As much as this council would like to consider a wider range of options for decarbonising the transport network – and make a meaningful contribution to reducing emissions in greater Christchurch – increased resourcing to do so is required from alternatives to current (primarily rates-supported) funding sources to allow this to happen.

Chapter 4: The role of innovation in the transport system

Q 3: *what more should Government do to encourage and support transport innovation that supports emissions reductions?*

Government needs to be an active enabler of electrification of the private vehicle fleet, noting that private vehicles will always be part of the transport system in Canterbury due to its dispersed nature.

The document states (pg. 48) that '*electric bikes are growing in popularity and have potential to improve efficiency, sustainability and wellbeing within Aotearoa's urban transport systems*'. However, this is not reflected in the Climate Change Commission's advice (9 June) to Government. Surprisingly a multitude of benefits have as a result been overlooked, including reduced carbon use and improved health outcomes.

The evidence from both suppliers, users and (business) supporters of electric bikes (E-bikes) in greater Christchurch strongly suggests this mode of transport is an important and growing force in the efforts to get commuters out of ICE vehicles and into more active transport modes.

The Green Paper goes on to say (pg. 48) '*the key benefit of E-bikes is that they broaden the pool of people who would cycle if there was safe and connected infrastructure to do so ... creating networks of safe, separated cycleways is likely to be the best way to harness the potential of E-bikes in Aotearoa*'.

Our Council's own recently undertaken staff travel survey (where approximately half our staff provided responses) reinforces this statement. The survey provided a number of key theme responses around the desire for better / increased access to cycling (as well as public transport (PT) and car-pooling). Our analysis shows that many staff have said they would cycle if there were better work facilities and cycleway infrastructure provided to get to work.

Chapter 6: Theme 1 – Changing the way we travel

Q 4: *Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?*

We support integrated transport and urban planning and provision of all infrastructure. Having quality compact and mixed-use development in more dense urban areas is important. However we note that Canterbury is very dispersed and given advances in remote working and transport emissions reductions, there is no reason that technology cannot enable a modern workforce, lifestyle choice and a zero carbon future.

Despite all of the decarbonisation initiatives, there will still need to be important corridor links (including the overdue SH1 Woodend corridor/bypass) that are important to support important freight, tourist and commuter routes to support planned and managed growth.

Q 5: *Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?*

Anecdotally, it is common to often hear people say that 'public transport is not for them'. They will offer a range of excuses as to why they will not use PT such as 'the bus takes too long' or 'bus doesn't go across town to where I want to go to'.

To enhance and promote the benefits of PT, Government agencies need to work more closely with regional and district councils to have for example a promotion campaign showing the benefits of PT, giving out Metro cards at shopping malls and other spaces or events where large public numbers congregate, explaining the greater Christchurch journey planner (and App), the need to reduce our very high emissions and some stories (and pictures) of satisfied users.

There is a need to pitch (education) to the wider public the reality of how good the growing network can become in greater Christchurch (including express buses). The Government needs to set incentives at the right level to get commuters out of their cars and onto PT and other modes. This means increasing the reach and regularity of the network, progressively lowering fares, and building better infrastructure that enable buses to avoid congestion.

Advances in ridesharing and enabling technology that allows people to have choices should be supported. We should encourage adoption of semi-autonomous and autonomous low emission vehicles that will support movement about a dispersed area like Canterbury that is difficult to service.

Q 6: Pricing is sometimes viewed as being controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

Park pricing for parking lots could be considered in inner-city Christchurch. It has been well documented that there is simply too much valuable land given over to, and given over long term, to (inner city) car parks.

Such land, land that is clearly being 'land banked', inhibits progressive urban and civic design development and could be subject to park pricing (pg. 62). We support that councils be given the ability to develop and implement parking pricing strategies.

This Council supports investigating the role of road pricing measures for other purposes. But it is cautious support. Pricing as an enabler to allow for the cost of providing new infrastructure is one thing but if it used as a punitive measure, it can exacerbate the gap between those who have and those who don't and could lead to unintended social and economic outcomes

Chapter 7: Theme 2 – Improving our passenger vehicles

Q 7: Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition. Are there other possible actions (p 72) that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?

The actions listed on pg. 72 cover well the key aspects of decarbonising the light vehicle fleet. This council supports measures to decarbonise the existing fleet (p. 69) such as scrappage in harness with other policies such as implementing a potential rolling age ban for used vehicles to combat emissions from ICEs.

We note that the fleet will roll over naturally over time and that the social and economic impacts of accelerating the move moving to a carbon neutral fleet need to carefully considered, especially in population-dispersed districts like Waimakariri. If the cost of electric vehicles comes down as rapidly as some predict this may happen due to market forces rather than requiring government intervention, but we are mindful of accompanying social and economic impacts of transition.

While the steady removal of aging and polluting vehicles from the country's fleet will bring wide-ranging sustainability benefits, we consider there needs to be the allowance made for retaining 'vintage' class vehicles, vehicles with a defined heritage or cultural value. In the UK, vintage vehicles are given special status in that they will be guaranteed future fuel allocation, e.g. for rallies and exhibitions. The term 'vintage' also includes classic vehicles (typically over 20 years of age) and those vehicles over 30 years of age (Vintage Car Club eligibility age) which form part of New Zealand's motoring history.

Q 8: do you support these possible actions (pp 75-76) to decarbonise the public transport fleet? Do you think we should consider any other actions?

Yes, we support the listed measures to decarbonise the PT fleet. Electrified passenger rail may be an option that is many years off from becoming a reality in greater Christchurch,

This council considers creating a mandate for local government to procure only electric buses by 2025 to be an important action. In so doing there needs to be recognition of cost, and if the cost of PT goes up disproportionately due to forced decarbonisation this may discourage the use of PT and be counter-productive.

Q 9: *do you support the possible actions (p 79) to reduce domestic aviation emissions? Do you think there are other actions we should consider?*

Evidence demonstrates that global GHG emissions from air travel are set to rise three-fold from where they are now if effective mitigation measures are not taken. Enabling and encouraging the aviation industry to move to a lower emissions future will be important.

Chapter 8: Theme 3 – Supporting a more efficient freight system

Q 10: *the freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised? (p 86)*

This council will consider commenting separately on the National Freight Strategy when this is released for consultation. We note the importance of freight corridors from the farm gate to the market and key routes such as the Woodend bypass in providing uncongested freight routes from the regions to Christchurch, Lyttleton Port, and the Christchurch Airport.

Q 11: *decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions (pp 95-96) for freight modes and fuels?*

On pg. 75, the document states 'Most of the metro passenger rail networks in Auckland, Wellington and Christchurch are fully electric'. If that were true for Christchurch, then this would mean great steps that don't need to be undertaken.

This council supports the investigation into mass rapid transit routes in greater Christchurch (CBD to as far as Rangiora and Rolleston) but would like to see a comparative full life cycle analysis undertaken against existing modes to show the viability (or otherwise) of electric passenger rail in greater Christchurch.

Chapter 9: Supporting a Just Transition

Q 12: *a Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?*

The main impacts have been identified. This council particularly supports broader interventions being considered to reduce transport disadvantages and transport poverty.

The council will also soon begin considerations around planned reforms to the Resource Management Act (and requirements within the National Policy Statement on Urban Development – NPS-UD) to support quality compact and mixed use urban development.

The NPS-UD is contradictory to our goals in that it allows out-of-sequence development, thereby undermining efforts to achieve mass rapid transit / PT-friendly intensification along transport corridors and the ability to make the most efficient use of existing infrastructure.

In our semi-rural, dispersed environment, out-of-sequence urban development also runs counter to requirements to delete parking requirements from district plans, as our rural areas are poorly served (if at all) by PT.

Chapter 10: Four potential pathways – What could it take to meet a zero carbon by 2050 target for transport?

Q 13: *given the four potential pathways identified in Hikina te Kohupara, each of which require many levers and policies to be achieved, which pathway to you think Aotearoa should follow to reduce transport emissions?*

Pathway 4 meets the 2035 target set out by the CCC. From an infrastructure point of view, Pathway 4 is also likely the cheapest.

There are three other pathways so there will clearly be elements taken from them in the policy changes that will eventually arise. It is important to note the dispersed nature of Canterbury. Pathways 2 and 3 seek to achieve zero carbon while allowing for people to maintain independent transport choices. This is supportive of a just transition.

As noted above, our District's rural communities are poorly served by PT. On pg. 51, the document notes that shared mobility options are required for smaller towns and rural areas and that the Government needs a better understanding of 'when and how it should act'.

While it is agreed that Pathways 2, 3 and 4 take the country in the right direction to reduce emissions, it needs to be noted that that much of Aotearoa is regional and the economy is heavily dependent on vehicular travel between regions for logistics and tourism.

This makes it imperative that Government agencies work with local communities to understand, find and eventually implement shared mobility and other viable options for dispersed communities like those in Waimakariri District.

These include investigation of innovative solutions for farming communities. Farming remains vital to the District's economy. There are currently few if any 'fit for purpose' alternatives to existing 4WD, utility vehicle, tractor and other farm vehicle options required for farm work, vehicles that are affordable and have e.g. towing capacity.

Making the necessary changes our towns and cities will not only reduce our emissions but also improve a host of other outcomes, such as liveability, well-being, health and small business viability.

Chapter 11: What opportunities should the Government progress over the first three emissions budget periods?

Q 14: do you have any views on the policies that we propose should be considered for the first emissions budget?

We have no particular comments to make in response to this question.

The Waimakariri District Council thanks the Ministry for the opportunity to comment on this Green Paper

25 June 2021

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Christchurch City Council submission on *Hikina te Kohupara – Transport Emissions: Pathways to net zero by 2050*

Introduction

1. Christchurch City Council (the Council) thanks the Ministry of Transport for the opportunity to provide comment on *Hikina te Kohupara – Kia mauri ora ai te iwi*, the Green Paper on Transport Emissions: Pathways to Net Zero by 2050.
2. Please note that Christchurch City Council staff, not the elected Council, are making this submission.
3. Due to the short timeframe given to respond to the Green Paper, our ability to fully engage with the Christchurch City Elected Members has been limited. We request that future processes allow more time for councils to respond.
4. The Council notes that there will be further opportunity to provide input on initiatives to reduce transport emissions as part of consultation on the Government's draft Emissions Reduction Plan, in the second half of 2021. We look forward to seeing progress at this time.

Submission – general comments

5. The Green Paper covers all the relevant and well documented issues and potential initiatives. It facilitates the necessary discussion. Overall, however, we would like to see stronger language that highlights the urgency of the challenge and the need to respond to limit emissions. There is an unprecedented challenge facing us, and the document must reflect the urgency for change. As such, we would like to see the document become more focused and include concrete priority actions or recommendations.
6. The document discusses well-known and accepted tools, policies, and actions. However, it does not set out what the more effective actions are, the evidence of effectiveness, or what is required to achieve them. We understand what needs to be done to reduce transport emissions; now we need to determine the best approach and how it can be achieved. This includes ensuring that the various national and local government policies and decisions are aligned, that we have the right policy tools in place, and that there is mandate and funding to carry out the actions we know are necessary.

7. Further work is needed to explore the apparent tensions in national direction and policies. The Council recognises that there are challenges in achieving multiple objectives; greater understanding of how these policies will integrate is needed. For example, how actions to increase EV uptake and housing supply can also support actions to achieve an enhanced urban form and intensification (which will reduce congestion and the occurrence of deaths and injuries on our roads, and encourage mode shift).
8. The Council is supportive of the 'avoid, shift, improve' framework, acknowledging that many of the land use changes required to avoid the need for the current levels of travel have a very long lead time. Increasing access to sustainable travel choices, reducing the need to travel by car, and changing the understanding and behaviour of our communities should therefore be the focus in the short term.
9. The Council considers that Theme 1 (Changing the way we travel, 'shift') is fundamental to reducing emissions in the short term. This would see many shorter trips replaced with active modes where practical, and longer trips with public transport. The Council strongly encourages the discussion to more clearly consider how the recommended actions within the themes impact on each other. For example, accelerating the uptake of EVs, which is a focus in Theme 2 (Improving our passenger vehicles) may have impacts on the mode shift towards active or public transport, and achieving a better urban form. This is because it could make more travel by car easier, challenging both the desire to reduce private vehicle use and efforts to change behaviours and shift modes.¹
10. Embodied carbon is not factored into carbon accounting, and while it is acknowledged as being considered elsewhere, there should be a stronger link drawn between the impacts of embodied carbon on different pathways. For example, one fossil fuel car share journey could be better than three people driving their own EV, taking into account embodied carbon and other impacts of single occupancy vehicles.
11. Following the impacts of COVID19, the potential of working from home to significantly reduce commuting travel has been more widely acknowledged. More analysis is needed on the overall greenhouse gas emission savings from working from home, taking into consideration additional home power usage and access to other daily activities, in a non-centralised location.
12. It would be useful if any future documents could provide additional context on the emissions source. For example:
 - How much VKT/PKT/TonneKM is enabled by each mode in Figure 3
 - Emissions in the context of the population of the urban areas (they generate more than half of the emissions, but what proportion of the population do they represent?)
 - Which regions and urban areas have lower emissions per capita and why?
13. The current inequities inherent in the transport system should be stressed from the beginning of the document. A just transition is a worthy and challenging goal. Charging for damaging activities (single occupancy, fossil fuel vehicles), and subsidising activities with positive effects (denser living to enable great concentration of production and consumption) will make a significant difference. Any taxation changes should aim to follow this pattern.

¹ <https://sensibletransport.org.au/project/transport-and-climate-change/>

Principles

Q1. Do you support the principles? Are there any other considerations that should be reflected in the principles?

14. The Council supports the principles outlined in the document. Principle 5 regarding a just transition recognises that many are disadvantaged by the current transport system. Encouraging behavioural change will be key to addressing this issue. We cannot continue to encourage the amount of car travel that we have historically enabled. It is unsustainable and creates winners and losers, especially as it locks people into needing to drive long distances to access jobs and opportunities, creating 'energy poverty'.
15. The document acknowledges that 'Decades of private vehicle oriented transport planning and funding have encouraged car use over alternatives'. It would be worth further highlighting this point as increased emissions from transport are a direct result of the investments we have made to enable people to travel further and in more cars. We need to acknowledge this in order to properly address the issue now.
16. As outlined in Principle 6, our actions within the next five years will be crucial to achieving our emissions targets. We must act now, and the document could do more to highlight this urgency. The first two emissions budgets will make or break our attempt to meet our emissions targets.

Government's role

Q2. Is the government's role in reducing transport emissions clear? Are there any other levers the government could use to reduce transport emissions?

17. Local government needs more funding in order to be able to act to achieve national and local emissions targets, and we ask central government to consider possible ways this could be achieved.
18. We strongly agree that there is a need for greater collaboration and leadership across the government sector. It is unclear how the policies that are currently in development at a national level, such as the national 30-year Infrastructure Strategy, the review of the Public Transport Operating Model, and the Climate Change Commission's work, align. There is also crossover with recent policies such as the National Policy Statement on Urban Development that needs to be clarified.
19. Cross-agency collaboration occurs at the local government level but needs national level leadership to support the consistent implementation of policies such as pricing, reducing car use, and intensification. The Government needs to provide strong support for local government decisions on land use and transport/infrastructure integration, for example by prohibiting urban development outside of designated growth corridors, and addressing housing pressures first and foremost through increased density.
20. Tighter regulations on emissions standards are also needed, for example an earlier ban on fossil fuel imports in line with Europe as a signal to customers and the sector.

Innovation

Q3. What more should Government do to encourage and support transport innovation that supports emissions reductions?

21. We have the technology available today to decarbonise our transport system, although there are some barriers to using this technology. More emphasis is needed on enabling existing solutions to decarbonise the transport sector.
22. Reduced travel costs through improved technology could result in more travel and affect equality, depending on affordability of and access to the technology. Focusing on reducing the need to travel and achieving mode shift has the opportunity to provide more equitable access, alongside electrification of the fleet.
23. We consider there would be merit in the government investigating green hydrogen to fuel heavy vehicles, freight, shipping, aviation and similar. We support the uptake of small/micro battery electric three and four wheeled on-road vehicles through implementing timely, practical and safety focused regulations. We also support the implementation of smart road pricing system technology that can identify vehicle type, and kilometres by time and geographical area.

Theme 1 – Changing the way we travel

Q4. Do you think we have listed the most important actions that the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?

24. Urban form will go a long way to reducing emissions, but it will take time. The more immediate priorities should be achieving results through mode shift (investing significantly to improve the alternatives to private vehicle use) and electrification of the fleet. Promoting the uptake of private use of EVs may impact the mode shift that is required towards public and active modes. We need to reduce the number of fossil fuel vehicles on the road and the number of trips made in single occupancy vehicles.
25. Other government direction, such as the National Policy Statement on Urban Development, requires local authorities to be responsive to unanticipated or out-of-sequence urban land release. There is a fundamental tension between achieving compact urban development and allowing urban expansion – in order to achieve the first, the second must be limited and controlled. Without a limit or control on urban expansion, urban development won't be compact, which will have a significant negative impact on emissions.
26. The document seems to acknowledge this tension without providing solutions. Page 37 states: *the co-benefits of quality compact, mixed use urban development can be significant, and provide a compelling case beyond the GHG emission reduction component.* However, it then states on page 38 that, *planning rules that limit or control urban expansion into some areas also affect land prices, with spill on effects for housing costs, so these impacts also need to be carefully considered. One of the main drivers behind the Government's Urban Growth Agenda is to improve housing affordability in a way that also assists emissions reductions, improves access, and enables quality-built environments while avoiding unnecessary sprawl.* We would welcome more support to resolve this tension.

27. We support the suggested key action to increase integration of land use and transport planning through spatial plans (as envisioned by proposed Strategic Planning Act). However, in addition to conventional transport modelling, such spatial planning should require transport GHG emission impact assessments for proposed urban developments.
28. The report suggests that Councils' obligations to consult the community can frustrate street changes (e.g. reallocation of road space or removal of parking) and states that, *Central government can strongly influence local street layouts through rules, regulations, standards, guidelines, and incentives. It could therefore more strongly enable, support, and require local government to make some street changes to support active travel, public transport, and placemaking.* We would welcome central government influence to support the Council to initiate such changes, particularly where they would address the effects of induced car travel from reduced congestion.

Q5. Are there other travel options that should be considered to encourage people to use alternative modes of transport?

29. A range of options exist. The challenge is to dis-incentivise single occupancy vehicles, and ensure that the alternatives offered are not one size to fit all. Incentives for other emissions-free forms of transport could be considered; this could also contribute to achieving the government objectives for reducing emissions, mode shift and greater wellbeing.
30. The document mentions that Wellington has a car sharing scheme. We suggest it also mentions the Christchurch 100% battery electric car sharing scheme (Zilch). This is for use by businesses and residents (and the Council).

Q6. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

31. The key to pricing is to ensure that alternative modes are available and are more attractive, otherwise pricing alone will likely be ineffective. Money raised from motor vehicle use and parking pricing must be channelled towards creating a more balanced transport network.
32. The Council strongly supports central government involvement in behavioural change and education initiatives, including in research, analysis and funding. Waka Kotahi previously began leading a national Travel Demand Management business case, and a significant amount of research was undertaken before the programme was terminated. We recommend that this initiative, or similar, is reinstated.
33. We agree that parking management can influence demand for parking and encourage people to shift to more sustainable transport modes. We support the key actions for parking management. In particular we consider that the option to give local councils the authority to implement workplace/private property/commuter parking levies should be explored.
34. We support the NPS- UD's direction to implement car parking regulations in land use planning. Further direction on the expected contents of the comprehensive parking management plans that councils are 'encouraged' to implement to address the effects of increased on-street car parking caused by the removal of on-site parking, would be useful.

Theme 2 – Improving our passenger vehicle fleet

Q7. Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?

35. We reiterate that the behavioural change work of Theme 1 has a variety of co-benefits, which should continue to be an important focus. We support the Government phasing out ICE vehicles, including plug-in hybrid electric vehicle, imports by 2030. This is because there are a significant number of issues with PHEVs that have been documented in international research.²
36. Accordingly, we support the new Clean Car Discount, but recommend that the Government delivers policy and action that clearly concentrates on having discount incentives for zero exhaust emission vehicles, i.e. battery electric vehicles, and not for plug-in hybrid electric vehicles. As part of implementing EV schemes there are a number of practicalities that should be considered. For example, the application of an energy efficiency rating system and battery electric range testing standards for purchasers; and number plate recognition.
37. We support incentives such as changes to the Fringe Benefit Tax, depreciation and tax grants to stimulate the uptake of zero exhaust emission vehicles (e.g. battery electric vehicles). Government should be investing in electric vehicle charging infrastructure that has a standardised and regulated easy to access and payment system. When payment for using the charger is required, payment should only be based on kWhs used and not by time. This should be regulated.
38. Investigation into a biofuel mandate also needs to include particulate and other air pollution emissions from the combustion of biofuel. Greenhouse gas emissions from the production and transportation etc. of biofuels should also be taken into consideration.

Q8. Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?

39. The government has announced it would provide \$50 million over four years to help councils to achieve emissions targets. It will need to assess what additional funding councils need to meet the target of decarbonising the public transport bus fleet by 2035 and the requirement that only zero exhaust emission buses be purchased by 2025. Government should also investigate a range of options to bring down the capital cost of zero exhaust emission buses.
40. We support the initiatives outlined in the Public Transport Operation Model review aimed at establishing the 2025 zero emission bus mandate. We support the extension of the current Road User Charges exemption for electric buses. This should be expanded to include all zero-emission public transport vehicles, for example including green hydrogen powered. We note that Environment Canterbury has already made significant commitments to transition its diesel bus fleet.

² www.transportenvironment.org/press/plug-hybrids-new-emissions-scandal-tests-show-higher-pollution-claimed
<https://theicct.org/publications/phev-real-world-usage-sept2020>
www.motoringresearch.com/car-news/the-problem-with-plug-in-hybrids/
www.emissionsanalytics.com/news?year=2021

41. Government could also investigate the potential to require all short-haul regional aviation to have zero exhaust emissions in New Zealand by a certain year.

Theme 3 – Supporting a more efficient freight system

Q10. The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised?

42. The Council would support strategically-located charging depots on freight routes, for battery electric long haul trucks. We also support green hydrogen refuelling stations if long haul hydrogen trucks are practical and cost effective.
43. We consider that a zero exhaust emission focused feebate-type system for freight trucks could be effective in reducing emissions, and that a clean truck discount system should be implemented by 2025.
44. Competition in the freight industry does not catalyse or encourage innovation. Frameworks should be set up in a way that incentivise those that invest in smarter and more sustainable logistics, with a focus on a level playing field. If just in time delivery is expensive to achieve sustainably, then that should be the case for all players.

Pathways

Q.13 Given the four potential pathways identified in Hikina te Kohupara, each of which require many levers and policies to be achieved, which pathway to you think Aotearoa should follow to reduce transport emissions?

45. Pathway 4 provides the strongest (and the only realistic) response to achieving net zero by 2050, and is in line with the Climate Change Commission's 2035 target. However, it does not meet the most recent modelling completed by the Intergovernmental Panel on Climate Change. The latest report states that global net anthropogenic CO₂ emissions must decline by 45% on 2010 levels by 2030, reaching net zero around 2050, to avoid no or limited overshoot of 1.5 degrees Celsius.
46. The government will also need to consider the latest Climate Change Commission advice (just released) to ensure any proposed pathways and policies for transport meet the Emissions Budgets. It will need to swap out 2035 phase out of ICE vehicles to 2030, to provide clear direction to importers and consumers.
47. Pathway 4 should put more emphasis on other levers to dis-incentivise driving and improve alternatives. All traffic should be channelled onto arterials with fixed capacity and priority public transport lanes, so that the choice for travel is first to walk or cycle, then public transport, and driving only after the first two options have been discounted.
48. The report bases its pathways on the simple assumption that the overall structure of New Zealand's economy will remain relatively similar up to 2050, but rightly highlights on page 122 that, *If people consume less in the future, and/or if Aotearoa shifts more towards a service-based high-value economy, with less emphasis on producing and transporting high-volumes of commodities, our carbon footprint could be smaller.* This is understated both throughout the report and within the identified pathways. The identified pathways should explore, or include

as an additional pathway, the notion of consuming less as a key method for reducing transport emissions.

Q14. Do you have any views on the policies that we propose should be considered for the first emissions budget?

49. There needs to be more acknowledgment that longer and shorter-term approaches are required in tandem. Transforming urban form and encouraging public and active transport costs a lot and takes a long time. More emphasis on the 'avoid' policies is needed. For Budget period 1: 2022-2025 we would like to see further commitments from the government on some of these principles, to send a strong, clear message that the government is serious about its emissions targets.
50. The strengthened guidance and design standards are all supported, however some of these tools have been in play for a while. The real, main barrier to progression for the Council is the competing demands of local government funding and delivery, and the impact of community consultation requirements.

Conclusion

51. While Christchurch City Council is prioritising transport investments supporting mode shift, it requires stronger policy, legislative and budgetary settings from central government to make deep and rapid cuts to the region's transport emissions. This includes changes to regulatory and financial settings to accelerate mode shift, policies to fast-track the transition to low emissions vehicles, and land transport pricing and funding reform.
52. Thank you for the opportunity to provide this submission. For any clarification on points within this submission please contact Rae-Anne Kurucz, Team Leader Strategic Transport (rae-anne.kurucz@ccc.govt.nz).

Yours faithfully



Jane Davis
General Manager, Infrastructure, Planning and Regulatory Service
Christchurch City Council

From: [Walker, Robyn](#)
To: [Transport Emissions](#)
Cc: [NZ Corporate Taxpayers Group](#); [David Carrigan](#); [Paul Fulton \(Paul.Fulton@ird.govt.nz\)](#); [Claire McLellan](#)
Subject: Corporate Taxpayers Group - submission to Te Manatū Waka
Date: Friday, 25 June 2021 2:42:45 pm
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[CTG - Submission on Transport Emissions Pathways to Net Zero by 2050 Green Paper.pdf](#)

Hi

We are writing on behalf of the Corporate Taxpayers Group (the Group) to provide the Group's submission on Te Manatū Waka's green paper: *Hīkina te Kohupara – Kia mauri ora ai te iwi: Transport Emissions: Pathways to Net Zero by 2050*

As the Group is primarily concerned with tax the submission is brief and relates only to how the tax system can be used to complement and support the pathways to a net zero emission transport sector (the submission also provides a brief overview about the Group).

If you have any questions or would like to contact the Group to discuss the submission please let us know.

Kind regards

Robyn

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25 June 2021

Transport Emissions
Ministry of Transport
PO Box 3175
WELLINGTON 6140

Dear Transport Emissions team

HĪKINA TE KOHUPARA – KIA MAURI ORA AI TE IWI: TRANSPORT EMISSIONS: PATHWAYS TO NET ZERO BY 2050

Introduction

1. The Corporate Taxpayers Group ("the Group") welcomes the opportunity to submit on the Ministry of Transport's ("the Ministry") green paper *Hikina te Kohupara – Kia mauri ora ai te iwi: Transport Emissions: Pathways to Net Zero by 2050* ("the paper"). The paper lists the tax system as a sector that can be used to complement and support the pathways to a net zero emission transport sector (page 24). Reflecting the Group's expertise and objectives in tax policy, the Group's submission will focus on the role the tax system may play in the transport emissions reduction effort.

About the Group

2. The Group represents 46 of New Zealand's largest businesses and contributes to the development of tax policy and administration, with a particular focus on business taxes. The Group is an active participant in the tax policy process and believes (given the breadth and depth of experience and knowledge of the Group's members and advisors) that it can provide an excellent sounding board on tax policy-related issues, and a private sector perspective on the opportunities to reduce emissions in the transport sector.
3. The Group assesses tax reform from four perspectives:
 - **Contribution**: does the reform make a positive contribution to the tax system and therefore New Zealand?
 - **Competitiveness**: how does the reform improve the competitiveness of the tax system internationally, and how does the reform lead to increased productivity or innovation?
 - **Compliance costs**: does the reform reduce compliance costs, or does the tax in question warrant the compliance costs imposed?
 - **Certainty**: are the rules clearly drafted and easy to understand and comply with?

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We note the views in this document are a reflection of the views of the Corporate Taxpayers Group and do not necessarily reflect the views of individual members.



Summary of submissions

4. The Group has three key submissions:
 - a. First, the Group cautions against over-reliance on tax incentives and/or disincentives as means of driving the behavioural change necessary to support the Government’s transport emissions reduction objectives. A number of proposed pathways in the paper include the use of tax to shift behaviour. The main purpose of the tax system is to raise the revenue Government needs in a way that is as efficient and easy to comply with for the economy as a whole. Using the tax system to incentivise or to discourage certain types of behaviour, other than in carefully targeted circumstances, may undermine that main purpose and can lead to risks to the tax base and inequities as between taxpayers. The tax system is a blunt instrument to deal with the significant behavioural response required to manage climate change. There is economic literature supporting a national carbon tax but New Zealand has adopted the ETS alternative to that. Many other required behavioural changes needed tend to be local, firm or industry specific, making a national tax not the preferred instrument.
 - b. Second, the Group submits that reforms to change travel behaviour should address existing disincentives in the tax system. Examples include the removing disincentives for employers to encourage and support employee uptake of alternative transport options by making provision of these benefits exempt from fringe benefit tax (“FBT”) and ensuring that rules allowing provision of non-taxable allowances to recognise employees’ working from home costs are clear and simple to apply. See paragraphs [5] to [10] for further detail.
 - c. Third, the Group supports further investigation of potential tax incentives including FBT to increase the uptake of low emission vehicles as proposed in the paper. Specifically, the Group submits that reforms to improve our passenger vehicle fleet, particularly to increase the uptake of electric vehicles, should remove the current disincentive to the provision of electric vehicles to employees. This arises due to the way FBT on employer-provided motor vehicles is calculated. See paragraphs [11] to [15] for further detail.

Our detailed submission

Theme 1 – changing the way we travel

5. Pathways proposed under this theme include providing better travel options through infrastructure and support for alternative transport / public transport and investigation of opportunities to incentivise behavioural change. From a tax perspective, the Group considers existing structures should be considered to ensure they are not a disincentive to certain behaviours.
6. An example of this is the application of FBT. Employers may wish to encourage employees to get to work using public transport or taking some other form of reduced-emissions transport (for example scooter, bike or ebike). Likewise, an employer may want to reduce short-trips in cars during the working day by having a fleet of scooters or bikes available for staff to use for both business trips and private use. Currently, if an employer uses a form of non-cash subsidy, they will be subject to FBT.
7. FBT seeks to capture non-cash benefits provided to employees to ensure benefits that are essentially remuneration for services are subject to tax. However, the underlying purpose of a fringe benefit can often be something other than merely remuneration for services e.g. a benefit



connected to wellness initiatives / staff health and safety. This could be a useful tool to encourage uptake of public transport or reduced-emissions transport, but the imposition of FBT can create a cost barrier for employers. In order to enable the private sector to incentivise behavioural change in relation to work travel, public transport and reduced-emissions related benefits could be exempt from FBT or be subject to a reduced amount of FBT. This was recommended by the Tax Working Group (see recommendation 18)¹ and has the potential to influence the behaviour of the large majority of the working population who commute to work.

8. The paper proposes encouraging working from home alongside other interventions, such as road and parking pricing, to reduce travel demand. One consequence of working from home is that certain premises costs that would otherwise be met by the employer are incurred by the employee. Examples of such costs are additional energy costs, internet and telephone costs, depreciation on some furniture and fittings, and in some cases stationery and similar consumables. Employees are generally prohibited from taking a deduction for expenses they incur in deriving their employment income (Income Tax Act 2007, section DA 2(4)). It is, however, possible for employers, within certain parameters, to reimburse employees for certain employment-related expenditure in the form of non-taxable allowances. This increases the desirability of working from home as an option for employees and has the potential to increase uptake in this option.
9. To this end it is important that the rules and Inland Revenue guidance on non-taxable working from home allowances be clear and simple, and able to be applied by employers without excessive compliance costs. If it is too difficult for employers to provide non-taxable allowances to recognise employees' working from home costs, the tax system will become a barrier to facilitate employees working from home. The current published Inland Revenue view in relation to working from home costs is included in Determination *EE002A – Payments to employees for working from home costs* (which has been extended to apply to 30 September 2021²). This position should be further consulted on and considered in relation to the Future of Work, with a view to introducing a permanent solution.³
10. An alternative approach of allowing a limited claim against employees employment income for working from home related expenses could encourage working from home for employees who do not receive any benefit from their employer to enable working from home (taxable or non-taxable), but are able to work from home at their own expense. This would require structuring to ensure implementation fits with the employment limitation noted above, and private or domestic limitation (Income Tax Act 2007, section DA 2(2)). The level of claim available could be limited to one-off work from home set up costs to ensure the level of deductions claimed can be managed by Inland Revenue. Given the recent shift to working from home this area should be further consulted on to identify opportunities where already changing behaviour can contribute to emissions reductions goals.

Theme 2 – improving our passenger vehicles

11. Under this theme, pathways to decarbonising the light vehicle fleet include a clear phase out of light internal combustion engine ("ICE") vehicles and incentivising the uptake of electric vehicles ("EVs"). As noted in the Group's first submission point (see paragraph [4] above) the Group cautions against excessive reliance on tax incentives and/or on speciality taxes as means of driving the behavioural

¹ <https://taxworkinggroup.govt.nz/sites/default/files/2019-03/twg-final-report-voli-feb19-v1.pdf> - Refer page 17

² We understand that this determination may be further extended to 31 March 2023.

³ [Variation to Determination EE002A - Payments to employees for working from home costs \(ird.govt.nz\)](#)



change necessary to support the Government's transport emissions reduction objectives for the reasons given.

12. But even within the confines of that cautious approach, the Group believes that tax reform is necessary to address the (relative) over-taxation of EVs compared to ICE vehicles under the FBT rules. This is because the FBT payable by employers on the provision of a motor vehicle for employees' private use is determined under a formula based generally on the cost of the vehicle. The formula makes assumptions relating to the cost of ICE vehicles and its running costs. Because EVs have a higher upfront cost relative to running costs, this formula results in employer-provided EVs being subject to greater FBT than is appropriate. The Group supports further investigation of potential tax incentives including FBT, Depreciation, GST, Tax Grants and Road User Charges to encourage demand for low emission vehicles as proposed in the paper.
13. The Group considers that further consideration should also be given to clarifying ancillary issues related to EVs and FBT. This includes the tax treatment of employees being able to charge personal EVs at the employers premises (this should fall into the on-premises exemption); fringe benefit values should be reduced to reflect that employees can contribute to the cost of the vehicle by charging them at home; the business-tools exemption should apply if an employer installs an EV charging station at an employees home.
14. Use of the tax system in this area should focus on enabling businesses to choose options that contribute to decarbonisation goals. For example, the current FBT exclusion for employer provided work-related vehicles generally only applies to a ute, van or truck not principally designed to carry passengers. This creates a barrier for businesses to invest in EVs or hybrid vehicles as work-related vehicles, as the FBT cost on alternative vehicles that do not fit the definition of a work-related vehicle outweigh any benefit. The FBT exemption could focus on how the vehicle is used e.g. a work vehicle with a private use restriction is exempt from FBT regardless of the type of vehicle.
15. If not addressed, the existing tax policy settings will continue to act to encourage ICE vehicles over EVs, the opposite of what is proposed in the paper. As a minimum, this anomaly should be addressed as soon as possible. The Group has previously submitted on this point to the Climate Change Commission, Inland Revenue and to the Tax Working Group. We would be happy to share a copy of those previous submissions with the Ministry.



For your information, the members of the Corporate Taxpayers Group are:

- | | | | |
|----|--|----|---|
| 1 | AIA New Zealand Limited | 24 | Meridian Energy Limited |
| 2 | Air New Zealand Limited | 25 | Methanex New Zealand Limited |
| 3 | Airways Corporation of New Zealand | 26 | New Zealand Steel Limited |
| 4 | AMP Life Limited | 27 | New Zealand Superannuation Fund |
| 5 | ANZ Bank New Zealand Limited | 28 | Oji Fibre Solutions (NZ) Limited |
| 6 | ASB Bank Limited | 29 | OMV New Zealand Limited |
| 7 | Auckland International Airport Limited | 30 | Pacific Aluminium (New Zealand) Limited |
| 8 | Bank of New Zealand | 31 | Powerco Limited |
| 9 | Chorus Limited | 32 | SkyCity Entertainment Group Limited |
| 10 | Contact Energy Limited | 33 | Sky Network Television Limited |
| 11 | Downer New Zealand Limited | 34 | Spark New Zealand Limited |
| 12 | First Gas Limited | 35 | Summerset Group Holdings Limited |
| 13 | Fisher & Paykel Appliances Limited | 36 | Suncorp New Zealand |
| 14 | Fisher & Paykel Healthcare Limited | 37 | T & G Global Limited |
| 15 | Fletcher Building Limited | 38 | TAB New Zealand |
| 16 | Fonterra Cooperative Group Limited | 39 | The Todd Corporation Limited |
| 17 | Genesis Energy Limited | 40 | Vodafone New Zealand Limited |
| 18 | Heartland Bank | 41 | Watercare Services Limited |
| 19 | IAG New Zealand Limited | 42 | Westpac New Zealand Limited |
| 20 | Infratil Limited | 43 | WSP |
| 21 | Kiwibank Limited | 44 | Xero Limited |
| 22 | Lion Pty Limited | 45 | Z Energy Limited |
| 23 | Mercury NZ Limited | 46 | ZESPRI International Limited |

We note the views in this document are a reflection of the views of the Corporate Taxpayers Group and do not necessarily reflect the views of individual members.

Yours sincerely



John Payne
For the Corporate Taxpayers Group

cc David Carrigan, Deputy Commissioner Policy and Strategy, Inland Revenue

Submission

Hīkina te Kohupara – Pathways to Net Zero by 2050

Introduction

Fonterra welcomes the opportunity to provide feedback to the Ministry of Transport on the Hīkina te Kohupara – Pathways to Net Zero by 2050 discussion document. We acknowledge that decarbonisation of transport is a large green growth opportunity for New Zealand, and trust that the commentary we put forward is a constructive contribution about how we collectively ensure our transport system appropriately supports New Zealand's decarbonisation challenge.

Fonterra is a co-operative owned by around 10,000 New Zealand farming families. In partnership with the New Zealand Government, our country has a modern and world-leading dairy industry where our products are desired in markets both here and around the globe.

In order to get inputs to our facilities and our products to consumers, we are significant users of the road, rail, port, domestic and global shipping networks. Our Co-operative is heavily reliant on an efficient, reliable and cost-effective transport network that supports the competitiveness, reliability and sustainability of New Zealand's products to our customers and consumers in global markets.

Our fleet of milk tankers travel around 95 million kilometres every year collecting over 17 billion litres of milk from farms and delivering it to manufacturing sites. We invest and seek practical ways to reduce the carbon footprint of our fleet through activities and investment such as driver training focused on fuel efficiency, optimising the routes the tankers travel, and moving our fleet to lower emissions-producing vehicles. We are also actively exploring electric, biofuel, hydrogen and hybrid technology solutions for our milk collection fleet, as well as alternative fuel solutions of the future.

Rail also plays an important part in our transport strategy and is a vital asset in New Zealand's decarbonisation journey. Every year we move 2.3 million tonnes of product via rail to ports across Northland, Waikato, Auckland, Bay of Plenty, Taranaki, Canterbury, Otago and Southland regions. We have invested in rail infrastructure, building it into many of our manufacturing sites and distribution centres.

As the largest user of KiwiRail's freight services, we are strongly invested in the need to maintain and improve New Zealand's rail network. We acknowledge the Government's commitment to rail which has included investment in additional infrastructure and rolling stock upgrades to support growth opportunities and regional initiatives.

In our experience, rail is typically more reliable than other modes of transport as it is less susceptible to delays.

Moving product via rail also brings environmental benefits. Our business is responsible for 20 per cent of New Zealand's gross greenhouse gas emissions, with our supply chain activities contributing 1 per cent of the total emissions produced by Fonterra. Shifting freight off roads and onto rail is an important aspect of our strategy that reduces carbon emissions and road maintenance costs, eases congestion and makes roads safer for all users. Domestic shipping, which we also support, has even lower emissions.

Fonterra's climate goal is to achieve net-zero emissions by 2050 and, as a stepping-stone, we will achieve a 30 percent absolute reduction of our FY15 emission levels by 2030.

As our business evolves to meet changing customer requirements in a competitive global marketplace, we need reliable, cost-effective and sustainable transport options. Rail must be cost competitive to ensure cost isn't a barrier to choosing the best option for New Zealand's environment, customers and consumers.

Our commentary reflects our commitments to assist in meeting New Zealand's overall emissions reduction targets by contributing to the development of pathways and long-term robust plans that assist and guide the reduction of carbon emissions. As the country moves at speed to phase out emissions across the transport system, it is essential that the plan considers the key relationships transport has with other sectors, such as the country's trade and export objectives; energy and urban development planning; and considers the impact of change on industry and communities alike, including how our rural communities are included in this work programme.

Our transport strategy

Fonterra's transport strategy is made up of three key pillars:

1. **Health and Safety:** Providing a safe and healthy work environment for our people, contractors and visitors where everyone can return home from work safely, every day.
2. **Partnerships:** Working with others to create a responsive and agile supply chain that sets us apart from our competitors in the global market.
3. **Sustainability:** Creating a more efficient supply chain to achieve our climate goal of net-zero emissions by 2050 and, as a stepping-stone, a 30 per cent absolute reduction of our FY18 emission levels by 2030.

Overview of our supply chain

- At our busiest time of the year, our tanker drivers collect milk from a farm every nine seconds, and milk is delivered to a manufacturing site every 24 seconds
- We have 481 tankers in our fleet, each driving around 200,000km each year
- We store product in 75 distribution centres, with more than 725,000 pallets (each circa 1 tonne) at our busiest time of the year
- We export from 59 export pack plants
- Every 3 minutes a shipping container is packed with finished product
- We export out of 5 ports with over 500 voyages per year
- 195,000 TEU of product are exported to more than 200 ports in 120 countries
- 2.5 million tonnes of product is exported every year

Actions undertaken to reduce our transport emissions

- Implementing a new policy that all Fonterra Co-op light vehicles that can be electric should be electric on replacement. This means that around a third of our light vehicle fleet will be electric in the next 3 years.
- Developing plans to install EV charging infrastructure in regional hubs to service our staff and the local communities in which we operate.
- Continuing to invest and develop ways to reduce the carbon footprint of our heavy fleet through driver training; a focus on fuel efficiency; optimising tanker routing; and moving to higher productivity vehicles (HPMV) and moving to Euro 6 emission standard vehicles.
- Working collaboratively with our sector partners like KiwiRail to help create efficiencies in the supply chain and facilitate infrastructure investment that benefits the productivity of New Zealand.

We welcome the opportunity to work with the Government and relevant agencies in the development of both the National Emission Reduction Plan and the 10-15 year time horizon action plan for how New Zealand will continue to reduce its transport emissions. If there is any further information that the Ministry would like from Fonterra regarding this submission, please do not hesitate to contact us.

Response to questions

Hikina te Kohupara – Pathways to Net Zero by 2050 comments table

Question	Response
<p>1. Do you support the principles in Hikina te Kohupara? Are there any other considerations that should be reflected in the principles?</p>	<p>Fonterra supports the principles in Hikina te Kohupara to help guide the transition to a zero-carbon transport system, specifically:</p> <ul style="list-style-type: none"> — We agree that the transport sector will play a leading role in meeting New Zealand's 2050 net zero carbon target through meaningful actions to reduce emissions, rather than through offsetting emissions. — We support a strategic approach to reducing transport emissions, including co-ordinated action by both Government and industry across the transport system to avoid and reduce emissions. — We strongly support science and innovation and agree that new technologies will play an important role in reducing transport emissions. — We support a Just Transition and agree that we need to manage the impacts and maximise the opportunities brought about by the changes to the transport system.
<p>2. Is the government's role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?</p>	<p>We acknowledge that there are multiple levers within the transport sector that the Government can use to reduce transport emissions but see greater collaboration between the Government and industry as critical to achieving the necessary emissions reductions, in a coordinated way over time. The development of pathways and long-term robust plans that assist and guide the reduction of these emissions will be critical to help inform which levers are most appropriate and effective for the Government and industry to implement.</p> <p>The efficiency, reliability and cost-effectiveness of the supply chain is critical to New Zealand and its emission reduction budgets; as well as the continued ability for exporters like Fonterra to get our products to consumers both here in New Zealand and across the world.</p> <p>We see the biggest barriers to reducing transport emissions from large freight users such as ourselves being the road and rail connection, a lack of competitive and stable pricing to support rail infrastructure investments, and an underutilisation of coastal shipping.</p> <p>Road and rail connection</p> <p>Access to the rail network continues to be a limiting factor for the movement of milk (liquid product) between our sites. As an example, we have investigated moving milk from Northland to Waikato via rail, approximately 1 million litres per day at our busiest time of the year, however the key issues are:</p> <ul style="list-style-type: none"> — We cannot transit through Auckland via rail in a reasonable time frame as it is not a through point for freight; — There is no load point in Northland as the rail sidings have long been deconstructed, leaving no opportunity for new volume to be added anywhere other than the main terminus; and

— We would be placing additional volume on an already busy South Auckland line.

In the South Island our options are also limited due to the physical location of our manufacturing sites – for example, our Edendale site is an uphill shunt and road bridging is required for our Clandeboye site. Timeliness of service is also a key issue due to the geographical spread of the Upper South Island to the Central South Island.

Below are four projects which will support the more effective and efficient use of transport networks and will enable primary sector exporters to get their products to port and then to global consumers faster.

Maungaturoto container terminal site

In the North Island, the upgrading of the old siding at Maungaturoto would allow the transfer of containers and freight off the road and on to rail.

Our business moves 17,000 tons of freight from our Maungaturoto site in Northland every year. This development would also enable the transfer of freight via rail onto North Port. We are currently working with KiwiRail to establish the investment cost to reinstate the siding and facilitate container movement.

Third main line

We welcome the commitment by the Government to progress the building of the third main line from Westfield to Wiri. Given the substantial benefits the line will bring to the movement of products to market, we would appreciate any clarity that can be provided on the expected timeframes for delivery.

Clandeboye rail spur

In the South Island, building a rail spur into our Clandeboye site would enable 400,000 tons of freight which is produced at this site to be moved via rail rather than by road. We see this as a potential joint project between Fonterra and KiwiRail and have expressed our interest to KiwiRail.

Future of the milk train

In the North Island, KiwiRail runs a milk train from our Pahiatua and Longburn manufacturing sites over to our Whareroa manufacturing site. Given the age of the asset, we are actively working with KiwiRail on what the future of the milk train may look like. One option would be an investment in milk tankers capable of being transported by rail.

Our partnership with KiwiRail

We see KiwiRail as an integral partner in our supply chain by helping us shift large volumes of product efficiently. A key barrier to road and rail connection has been a lack of competitive and stable pricing to support rail infrastructure investments.

As a State-Owned Enterprise with a commercial imperative, KiwiRail's current profit related purpose can lead to outcomes misaligned with the Government's intent.

As KiwiRail's largest customer, we are concerned this may lead to the following impacts:

- Recovery of public investment from current customers reduces rail's ability to compete for volume
- Customers are driven to choose between business growth and reduced emissions and congestion
- Lack of price stability constrains customer commitments to, and investment in rail infrastructure
- Continued asset underutilization (i.e. limited two way running) as prices increase and rail is not competitive

Rail must be cost competitive to ensure cost isn't a barrier to choosing the best option for New Zealand's environment, its customers and its consumers.

As we advocated for in our submission on the Land Transport (Rail) Legislation Act, we would like to see more emphasis on the delivery of a competitive transport service offering, delivered through comprehensive modernisation and cost improvement programmes.

Proposed governance model

We propose the Government consider a governance model that sets a clear purpose for KiwiRail to deliver a cost-competitive service to citizens and industry and focuses management on delivering against this objective.

Under this model, the Ministry of Transport would set a target difference in price between road and rail, so as to incentivise use of rail, where possible, to maximise social good. In addition to achieving this differential, KiwiRail management would have a set of operating metrics against which management would be evaluated. These operating metrics would focus on asset efficiency, network reliability and collaboration with other modes.

Examples of metrics could include: stability in targeted road-rail pricing spread; increased rail utilisation; percentage of rail movements with paying cargo flowing both ways (no empty rail movements); increase in intermodal service offerings; and reduction in empty container movements.

Currently, KiwiRail's model calls for each laneway to be commercially viable, which puts pressure on KiwiRail to price above non-rail alternatives or cease service on unprofitable laneways, without full consideration of wider social and economic benefits to New Zealand. As a result, customers perceive rail prices and services as potentially unstable which discourages long-term commitments to using rail.

Price stable agreements

We are willing to enter into long-term contracts with competitive and stable pricing to support rail infrastructure investments.

Pricing constructs should be long-term for all customers thereby providing both certainty around pricing to customers and certainty around returns in infrastructure investments to the Government. The use of long-term, price-stable agreements would remove commercial tension between customers and KiwiRail and would allow both parties to focus on seeking efficiencies through collaboration.

It will be critical for KiwiRail to provide cost-competitive solutions compared to road in order to secure the volumes needed to make rail a sustainable transport option in New Zealand. We have a number of rail contracts that are up for re-negotiation with KiwiRail in the coming year.

These contracts represent a substantive financial risk to our business as we currently shift approximately 700,000 tonnes of freight via rail under these arrangements. If we had to move this freight via road due to uncompetitive rates from KiwiRail, an additional 35,000 truck movements would travel through regional New Zealand. We would also encourage collaboration between KiwiRail and commercial users in the development of inter-modal logistics solutions to ensure increased asset utilisation.

Coastal shipping

We see an opportunity to work more collaboratively with others to help create efficiencies in the global supply chain and facilitate infrastructure investment that increase productivity. We strongly support the recommendation made in the document and by the Climate Change Commission that emissions from freight can be reduced by switching some freight movements from road to rail, and a greater use of coastal shipping. This includes the creation of efficient freight corridors into and out of key logistics centres, by forming transport hubs that better connect road, rail and coastal shipping.

The economic and sustainability benefits that coastal shipping provides businesses can be seen in the recent launch of the new coastal ocean freight service, Maersk Sirius Star. New Zealand's largest supply chain collaboration, Kotahi, has worked with Maersk to launch this new service which will boost container availability and improve transit times for New Zealand exporters.

The new service brings additional benefits and provides further resilience and another option to distribute containers throughout New Zealand, particularly from North to South Island, which is helpful given the level of supply chain disruptions New Zealand is currently facing.

3. What more should Government do to encourage and support transport innovation that supports emissions reductions?

Fonterra strongly supports greater collaboration with Government around the development of new technology initiatives to reduce emissions from transport related activities.

Specifically, we see an opportunity for greater information sharing on alternatives to diesel power options to reduce carbon emissions from our milk collection fleet; further partnering with Government and industry partners on a rural EV demonstration project; and greater Government support for the establishment of a biofuel blending initiative.

Electrification

Electrify medium and heavy trucks

Fonterra continues to invest and develop ways to reduce the carbon footprint of our tanker fleet. We are doing this through driver training, a focus on fuel efficiency, optimising tanker routing, moving to higher productivity vehicles (HPMV) and moving to Euro 6 emission standard vehicles.

We currently have 182 HPMV tankers in our current fleet, with 35 meeting Euro 6 emissions standards. It is important to note the use of higher productivity vehicles is limited due to bridge loading limits on parts of the rural roading network, and on-farm tanker tracks with limited dimensions.

We are also completing the installation of monitoring systems in our farmers' milk vats this year. The aim of this technology is to support our farmers' production of high-quality milk and make the Co-operative's milk

collection more efficient. These monitoring systems will help improve collection efficiency as it will provide more precise information about the volume available for collection. Due to this smart use of data, our tanker fleet was reduced by three vehicles this year, and our fleet will reduce by a further three to four tankers next dairy season.

We are currently in the process of bringing alternative fuel vehicles into our fleet for research and development and look forward to sharing more details with the Government and relevant agencies shortly.

Regional charging hubs

We have manufacturing sites spread across New Zealand meaning our staff travel both to work and between sites. We plan to install EV charging infrastructure in regional hubs to service our fleet, staff and visitors, focused on high-use and close distance sites first.

We have been working in partnership with ECCA to create four EV transport hubs in the South Island. This will see the installation of 26 EV slow chargers at four key manufacturing sites to assist more than 2,000 staff commuters, visitors and company vehicles to switch to EVs. Two will be funded by Fonterra and two will be co-funded with EECA. It is estimated that this will reduce emissions associated with our site fleet cars by 52 tonnes of CO2-e per annum by switching from ICE/hybrids to EV's.

As we collectively work to address the barriers towards light electric vehicle uptake, we would like to work with the Government and industry partners on a rural EV demonstration project over the first budget period. This demonstration would help to identify the additional support needed to facilitate EV uptake in rural communities, where there is little uptake because of the lack of appropriate vehicles.

Developing a biofuel market

Biodiesel trial

In 2014 we partnered with Z Energy to help introduce 5 percent biodiesel to New Zealand as part of our commitment to reduce emissions across our operations. As a foundation customer, we agreed to pay a premium for the biodiesel which covered the cost of production. We also agreed to use the volume of biofuel produced for the region. 156 tankers in the Waikato and Bay of Plenty ran on the eco-friendly fuel, producing 4 per cent less emissions each year.

Since the initiative was discontinued by Z Energy earlier this year, we have had to move our 156 tankers back to standard diesel as there is currently no other source of biodiesel available at the volumes required for our fleet. The initiative was a positive interim step to reduce our carbon emissions and it proved that almost any diesel engine can run a level of biofuel without adaptation. Fonterra believes this and similar initiatives should be centrally supported to help New Zealand achieve its ambitious emissions reductions targets.

We support the development of a biofuel strategy and welcome the opportunity to work with the Government and relevant agencies on the extension of the biofuel mandate to all transport modes.

Hydrogen technology

	<p>We are constantly investigating alternatives to diesel power to reduce carbon emissions from our milk collection fleet and are about to undertake a trial with hydrogen injection on a select number of our tankers. This technology is a portable device that creates its own hydrogen and supplies it on demand to the engine. We anticipate that this device could produce fuel savings of up to 14 per cent per tanker.</p> <p>We are also currently exploring biofuel, hydrogen and hybrid technology solutions for our fleet, as well as alternative fuel solutions of the future. The technical feasibility and economics of any new technology must be weighed against the long distances covered by our tankers and variable road conditions. Additionally, our manufacturing sites are largely based in rural locations, so building and maintaining infrastructure for an alternative re-fuelling technology could be costly.</p> <p>We would be happy to share our findings with the Government and relevant agencies as this work develops.</p>
<p>4. Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?</p>	<p>Fonterra supports the development of an Integrated National Transport Network to help reduce transport emissions but strongly encourages that greater consideration is given to how rural communities are included in this work programme. While the recommendations within the discussion document focus heavily on urban development, alternative modes of transport like cycling or public transport are not viable options for many of our rural communities.</p> <p>We acknowledge the work already undertaken by the Government and private sector to grow New Zealand's EV charging network and would like to work with the Government and industry partners on a rural EV demonstration project over the first budget period to help address the barriers towards light electric vehicle uptake. This demonstration would help to identify the additional support needed to facilitate EV uptake in rural communities, where there is little uptake because of the lack of appropriate vehicles.</p>
<p>5. Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?</p>	<p>As New Zealand's largest employer, we encourage our staff to incorporate health and wellbeing in their daily lives, wherever they may be. As noted above, alternative modes of transport like cycling are simply not an option for many rural areas where most of our manufacturing sites are located. We do, however, actively encourage our staff to carpool.</p> <p>In major centres like Auckland we also encourage our staff to carpool or take alternative transport options. We believe that providing our people with end-of-trip facilities is part of that commitment but acknowledge that not all businesses will be in a position to do so. For example, in the basement of our Auckland Fanshawe Street office is a 75m² dedicated space for staff who cycle. The facilities cater for up to 100 cycles hanging vertically and include a secure, video-monitored bike cage, 108 steel lockers, and separate changing rooms.</p> <p>Reducing travel demand</p> <p>Encouraging flexible working is a key part of our Diversity and Inclusion strategy and aims to support the balance between an employee's hours spent at work and at home. While there are many roles where flexibility is limited, it is part of our policy framework.</p> <p>By supporting our people to work from different locations, or at different times, we can attract and retain a wider pool of capabilities. We also acknowledge that flexible working may reduce an employee's carbon footprint through a reduction in commuting to the office.</p>

<p>6. Pricing is sometimes viewed as being controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?</p>	<p>This question is not applicable to Fonterra.</p>
<p>7. Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition. Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?</p>	<p>We agree that improving our fleet and moving towards electric vehicles as well as the use of sustainable alternative fuels will be important for New Zealand's transition to a zero-carbon transport system.</p> <p>In addition to freight decarbonisation pathways that may be considered under a long-term national supply chain strategy (see question 10), we note that the decarbonisation of medium and heavy trucks will likely require either electrification and/or hydrogen refuelling stations located throughout New Zealand.</p> <p>These stations will require considerable planning and capital upgrades to surrounding infrastructure and could increase demand on the national electricity grid. A fair and equitable solution that does not penalise existing users will need to be found to fund any required capital upgrades and help achieve decarbonisation pathways set out in the Climate Change Commission's Final Advice.</p> <p>Please refer to question 3 for further information on our position regarding the electrification of medium to heavy trucks, and the development of a biofuel market.</p>
<p>8. Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?</p>	<p>This question is not applicable to Fonterra.</p>
<p>9. Do you support the possible actions to reduce domestic aviation emissions? Do you think there are other actions we should consider?</p>	<p>This question is not applicable to Fonterra.</p>
<p>10. The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the</p>	<p>Fonterra supports the development of an evidence-based long-term national supply chain strategy in New Zealand, as part of a wider New Zealand Infrastructure Strategy.</p> <p>The efficiency, reliability and cost-effectiveness of the freight supply chain is critical to New Zealand and its emission reduction budgets. The nature of New Zealand's large agricultural sector means significant quantities of inputs, ingredients and finished products are transported around the country and exported from our</p>

possible actions in Aotearoa and which should be prioritised?

ports and will continue to be in the coming decades. As New Zealand transitions to a zero-carbon economy, it will be important to ensure future freight transport is both as carbon-efficient and as cost-effective as possible.

This could be achieved in part by a long-term national strategy that optimises freight transport for efficiency and sustainability across road, rail and coastal shipping and enjoys broad support from users of New Zealand's freight transport network today. Close consultation with the sectors producing and transporting freight around New Zealand will be essential to the development of a practicable national freight supply chain strategy.

We strongly support the recommendation that emissions from freight can be reduced by switching some freight movements from road to rail, and a greater use of coastal shipping. This includes the creation of efficient freight corridors into and out of key logistics centres, by forming transport hubs that better connect road, rail and coastal shipping.

In our experience, moving product via rail or coastal shipping rather than road brings significant environmental benefits. Increasingly shifting freight off roads and onto rail, where possible, is an important aspect of our strategy to reduce our environmental footprint, though we expect that with continued research and development road transport will become low-zero carbon with alternative fuels. Greater coordination and alignment between significant freight movers, such as primary producers and KiwiRail, is needed to implement the Government's agenda. This includes the desire that short term pricing decisions by KiwiRail do not lead to freight being moved off railway lines and back onto roads. A national supply chain strategy could help achieve this, for instance, by considering an alternative governance structure for KiwiRail that sets a clear purpose for KiwiRail to deliver a cost-competitive service to citizens and industry and focuses management on delivering against this objective.

An evidence-based national supply chain strategy could also consider the role biofuels could play in New Zealand's road freight transport system. In 2014, Fonterra partnered with Z Energy to help introduce 5 percent biofuel to New Zealand and before the initiative was discontinued in 2020, we found it to be a positive interim step in reducing carbon emissions from our fleet of milk tankers. A national supply chain strategy would be an appropriate place to consider the role biofuels could play in making New Zealand's road freight transport more efficient.

Additionally, we would be very supportive of greater cross-business collaboration that aims to build sustainability into their operations. For example, the managers of our tanker depots across the country have been tasked with seeing if we can reduce our fuel usage through more economical driving techniques.

In Te Awamutu we have 36 tankers and 128 drivers collectively traveling about 6.5 million km per season, or roughly between 300km-500km per day. At this site collectively the drivers have saved 16,615 litres of fuel and 46 tonnes of CO₂ emissions in the past year. This result has also had a direct financial impact, saving almost \$20,000.

Our drivers use the Volvo and Scania truck on-board technology that understands their driving style and provides real-time data showing how they've performed on each trip, so they can continually hone their fuel efficiency on the road.

	<p>Over the past year, our tanker drivers across the country have collectively saved 93,566 litres of fuel and 254 tonnes of CO₂ emissions.</p>
<p>11. Decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?</p>	<p>Fonterra agrees that decarbonising our freight modes and fuels will be essential to achieve a zero-carbon transport system. We support the increased use of low carbon fuels across the supply chain; the development of an investment strategy; and clear targets to increase the share of rail and coastal shipping. Further information on our position can be found in our response to questions 2 and 3.</p> <p>We note that the document references the work being undertaken by the Ministry of Primary Industries (MPI) on Aotearoa wood fibre futures. As Fonterra requires large volumes of wood biomass as our preferred lowest abatement cost decarbonisation pathway for our manufacturing sites, as well as the potential applications of the technology for liquid biofuels, we would like to partner with the Government and relevant agencies on the sector transformation plan to help establish a bioeconomy for wood biomass.</p>
<p>12. A Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?</p>	<p>We agree that in order to achieve a Just Transition to a low emissions economy, communities, businesses and the wider sector must be given as much policy certainty as possible. This is critical to ensuring there is adequate time to make the necessary changes, including any capital and operational investment required.</p> <p>We note that this will be particularly important for many rural communities where there are currently limited electric vehicle replacement options with longer-range and towing capability (vans and utes), as well as accompanying charging infrastructure.</p> <p>Collaborative working between industries and Government will be essential to ensuring the transport sector can adapt and overcome challenges associated with the transition, and we look forward to working with the Government and relevant agencies on both the National Supply Chain Strategy and the development of the National Emissions Reduction Plan.</p>
<p>13. Given the four potential pathways identified in Hīkina te Kohupara, each of which require many levers and policies to be achieved, which pathway to you think Aotearoa should follow to reduce transport emissions?</p>	<p>We acknowledge the series of pathways outlined in the discussion document, as well as the inputs to the underlying modelling. However, there is simply not enough information provided in the different pathway scenarios for Fonterra to put forward meaningful commentary or our preference on one pathway over another at this point in time.</p> <p>We would like to continue to work with the Government and relevant agencies on the pathways when the modelling is at a more advanced stage.</p>
<p>14. Do you have any views on the policies that we propose should be considered for the first emissions budget?</p>	<p>We acknowledge that many areas of work identified in the discussion document for inclusion in the first emissions budget are already underway, but as outlined in our responses above, we would like to work with the Government and relevant agencies on progressing the areas below as a matter of priority.</p> <p><u>Decarbonising the light vehicle fleet</u></p> <ul style="list-style-type: none"> — As we collectively work to address the barriers towards light electric vehicle uptake, we would like to work with the Government and industry partners on a rural EV demonstration project over the first budget period. This demonstration would help to identify the additional support needed to facilitate EV uptake in rural communities, where there is little uptake because of the lack of appropriate vehicles.

Improving the efficiency of our overall freight supply chain

- We support the development of a National Supply Chain Strategy to help identify opportunities to improve the overall efficiency of the freight supply chain, and opportunities for supporting mode shift, to avoid and reduce freight emissions.

Decarbonising freight modes

- We believe there is an opportunity for a large-scale biofuel trial or similar initiatives that should be centrally supported.
- We will continue to work collaboratively with our sector partners like KiwiRail to help create efficiencies in the supply chain and facilitate infrastructure investments that benefit the productivity of New Zealand. However, greater coordination and alignment between significant freight movers, such as primary producers and KiwiRail, is needed to implement the Government's agenda. This includes the desire that short term pricing decisions by KiwiRail do not lead to freight being moved off railway lines and back onto roads.

ENDS

By email

22 June 2021

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Tēnā koutou

Submission on Hīkina te Kohupara – Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050

Greater Wellington Regional Council (GWRC) appreciates the challenge that lies ahead and thanks the Ministry of Transport (the Ministry) for the opportunity to make a submission on Hīkina te Kohupara – Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050.

GWRC **agrees** the transport sector is a major contributor to emissions and respects the work the Ministry is doing to enable the transport sector to play its part in meeting Aotearoa New Zealand's zero emissions target. GWRC **notes** that it has taken us 60 to 70 years of fairly single-mode focussed investment to get to where we are today. A significant shift in policies and institutional arrangements, in addition to the planned investment, is required to accelerate the change that is needed.

GWRC **supports** a zero emission target to break the cycle of car dependence, and to allow sectors needing a longer transition to utilise carbon-offsetting. For these reasons, GWRC **supports** a focus on Hīkina te Kohupara's Theme 1 "Changing the way we travel", as well as an increased focus on the freight sector under Theme 3 "Supporting a more efficient freight system".

GWRC does not believe that Theme 2 "Improving our passenger vehicles" by itself will meet the targets on time due to the long lead times required in investment, nor necessarily encourage the overall shifts in behaviour in the sector. Theme 2 needs to be supported with a parallel initiative aimed squarely at Mode Shift (Theme 1).

GWRC **strongly supports** a Just Transition and would like to see the analysis of social impacts of implementing the pathways, and also the social impacts of maintaining the current trajectory.

GWRC has further comment on each of the Themes:

Theme 1: Changing the way we travel

- GWRC **supports** better urban form and transit-oriented spatial planning, as recognised in the draft Wellington Regional Growth Framework.
- Reliable, safe, convenient alternatives need to be in place *before* disincentives are applied.

- An ongoing national behaviour change campaign at the level seen for Waka Kotahi's continuous road safety promotion is needed to inform and support decision-makers, and to generate public buy-in.
- GWRC supports the use of road pricing tools such as congestion charging and parking policies to manage travel demand.
- Significant investment in public transport is needed to accommodate the predicted increase in demand.
- GWRC supports the expansion of rail for inter-regional passenger service building off the current Capital Connection, Te Huia and Connector (Wellington-Auckland) rail passenger initiatives.
- A quality separated and connected network of lanes/paths for active modes is overdue, particularly with the rise in eBikes and eScooters in recent years.
- The draft Wellington Regional Land Transport Plan 2021 has seen a considerable move towards public transport and active modes, in contrast to previous road and car-centred activity distribution. However, if for the next ten years over three quarters of the National Land Transport Fund (NLTF) is already allocated, a review of the NLTF's scope and priorities as well as additional funding will be required.
- GWRC recommends the development of national and regional targets for mode share shift through Regional Land Transport Plans. For example, the Greater Wellington Regional Land Transport Plan (RLTP) includes a target of: "40 percent increase in active travel and public transport mode share by 2030".
- As part of setting national and regional targets for mode shift, there needs to be a willingness by government and councils to reduce public transport fares. We need to be looking at a FAR rate that is more than 60% for public transport provision. Greater Wellington is up for this challenge – but we can't do this alone. We need the government at our side.
- GWRC has developed a scenario for transition of mode share between motor vehicle occupants, rail passengers, bus passengers, pedestrians and cyclists based on inbound trips across the Wellington central city cordon area in the morning peak between 7am and 9am - see Figure 1. This scenario meets the target in the RLTP of a 40% mode shift to active travel and public transport by 2030.
 - Possible measures that will be taken in this scenario include: intensification around the central city fringe, resulting in more active mode trips generated by higher density housing and low car ownership levels; mass rapid transit such as light rail with integrated bus network improvements, to achieve a step change in public transport; and demand management such as congestion charging to change behaviours.
 - Supporting measures would include: compact urban form and placemaking, investments in frequent and reliable public transport, safe and accessible walking and cycling networks and micro-mobility, trials of innovative reallocation of space on streets to deliver mode shift quickly, shared mobility options such as car sharing, lower speed limits, universal design principles, and discouragement of single-occupant vehicle trips through parking management.

- o Mode share changes by 2030 would be: walking trips to the central city would increase by 60%, cycling trips would increase by 130%; public transport journey to work trips to the central city would increase by 45% and car trips would reduce by 60%.

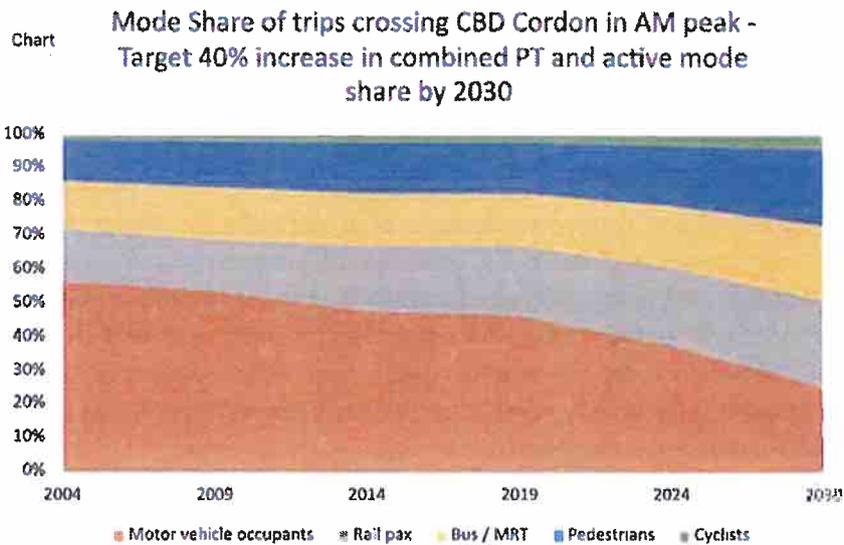


Figure 1: Mode share of trips crossing Wellington CBD cordon in morning peak to achieve 40% increase in PT and active mode share by 2030

Theme 2: Improving our passenger vehicles

- GWRC has **concerns** around a mass shift to private electric vehicles (EV). This shift represents an alteration in the status quo rather than transformational change ie more roads and maintenance, loss of green space, less available investment in public transport and active modes.
- GWRC also notes that a considerable shift in renewable energy volumes and reliability is required to support a mass shift to EVs. There is conflicting evidence about the current levels of renewable energy volumes. We note that in the first three months of this year, the same amount of coal was used to generate electricity as in all of 2016 and 2017 combined.
- GWRC **notes** that it has committed to accelerate decarbonisation of the Metlink fleet, including running all core services on electric buses by 2030, and **recommends** moving more people with less vehicles as a priority.

Theme 3: Supporting a more efficient freight system

- GWRC **supports** shifting freight to rail and sea. GWRC sees this not only freeing up existing road space and contributing to Road to Zero outcomes, but also reducing significant wear and tear of infrastructure and subsequent maintenance costs.

'We have less than 15 years to halve greenhouse gas emissions', Hon Michael Wood, Minister of Transport. Now is the time to act to ensure the inevitable transition can be well structured and managed, social and economic benefits balanced, and future developments integrated and co-ordinated.

Yours sincerely



Roger Blakeley

Chair

GWRC Transport Committee



Thomas Nash

Chair

GWRC Climate Committee

24 June 2021

Submission on Hīkina te Kohupara – Kia mauri ora ai te iwi. Transport Emissions: Pathways to Net Zero by 2050

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Overall

This is an excellent piece of strategic policy work. We commend the Ministry of Transport for the work they have done to support this document. This work has recognised the accumulated body of evidence about transport, climate, wellbeing and equity and successfully articulated a vision of a low carbon transport system that could improve the lives and wellbeing of New Zealanders.

We note that Pathway 4 is the only path that achieves the Climate Commission's 2035 target, and even this is not consistent with the CCRA, which requires zero carbon by 2050. We do not believe it is ethical or legal for the Ministry of Transport to adopt a pathway that is not consistent with the Climate Commission targets so we support pathway 4 as the baseline strategic approach to reduce emissions. However, given that pathway 4 appears not to achieve zero carbon by 2050, we strongly argue that pathways are needed that go further. The document makes a comment about what is “realistic” in relation to Pathway 1, implying that political realism is important. As health professionals, we know that the only “realistic” pathway is one that leads to a safe liveable climate for future generations.

We support the overall approach of assuming slower take up on electric cars than the Climate Commission and a bigger emphasis on the avoid and shift parts of the framework. This approach is more likely to result in health co-benefits (further detail below) and result in a more equitable/fairer transport system. Moreover there are likely to be less environmental impacts more broadly with this approach, with fewer cars to transition to electric and less carbon intensive infrastructure to support a large car fleet. We have made specific suggestions below about how to embed this approach into future work.

General comments

We commend the statement on page 9 that Te Tiriti o Waitangi will underpin policy development to reduce emissions. However, the document is selective about “principles” (whakawhanaungatanga and kaitiakitanga). While we support these principles, they need to be placed into the context of meeting MoT’s full obligations to the Articles of te Tiriti. The Ministry of

Health's He Korowai Oranga is a helpful model for appropriate Ministry commitment. Moreover we do not see clear evidence that Te Tiriti is embedded in the detail of the document. Finally, the solution proposed of establishing marae-based technical advisory groups with regional Iwi does not seem to be consistent with genuine power sharing or sufficient to provide input at multiple levels in the policy development process. We recommend a process be established between the MoT and Iwi to determine what partnership looks like in this work as it moves forward.

We recommend greater consideration of impacts on existing inequalities and inequities in transport. This should include assessment of differential impacts of policies by gender, age, ethnicity, income, deprivation, and for people with disabilities. The current transport system fails to meet the needs of many population groups, and we believe that decarbonising transport offers an opportunity to reduce existing inequities. Further, while rural travel is recognised to contribute half of the country's transport GHGe, potential solutions are only touched on. This is one area where Iwi, hapū and rural whānau are already demonstrating leadership, including vehicle sharing and community-owned public transport.

A gender lens needs to be embedded into policy work. Many of the policy solutions proposed do not fit with the way that women travel. For example, MAaS, e-scooters and carpooling are unlikely to be compatible with caring responsibilities and personal safety issues that disproportionately fall on women. Not considering gender explicitly is likely to significantly impact on the ability to achieve emission reductions targets.

There needs to be better use of evidence to support policy development. Many of the policies being discussed have now been subject to systematic reviews and meta analyses of their effectiveness and impacts. However these are not used in the report. This is a significant oversight as they provide the highest quality information to inform the policy selection, design and modelling. We suggest the Ministry start a programme of systematic assessment of evidence on emission reduction strategies, drawing on formal approaches to the synthesis of evidence, such as those used in health sciences.

The policies suggested by the document, if implemented, would result in a transformation of the transport system. The institutions that plan, fund and implement transport infrastructure and services will require a similar level of transformation to achieve change at the pace and scale required. Training of transport professionals needs to also change to support and enable this agenda. The Ministry of Transport needs to engage with tertiary education providers, professional organisations and existing employers (eg Councils) to ensure they are providing training in the skills and tools needed by transportation professionals for the next 30 years. This includes both foundation training, and continuing professional education.

Specific comments

The principles (p10-11) are generally good. The recognition of the government's role in shaping the future rather than forecasting and accepting technological trends is particularly important.

We suggest that an extra principle should be included: that the transport policies to support a move to a low carbon transport system should also maximise health and wellbeing. This is for two reasons, firstly the current transport system is a significant source of poor health and health inequity which is largely preventable by better transport system design. Secondly, the ill health created by the transport system creates GHGe in the healthcare sector. The healthcare sector is highly carbon intensive and probably represents around 4-5% of national emissions (Pichler et al, 2019). While a certain amount can be done in the healthcare sector to reduce the carbon intensity of healthcare activity, the most effective way to reduce healthcare emissions is to reduce demand for healthcare (MacNeill et al, 2021). This is the responsibility of sectors such as transport which create demand for healthcare through their policy settings.

Related, p21 and the **Collaboration** section needs to recognise the potential social leadership of the health sector as an “anchor” employer in our cities. Hospitals and other health services are substantial travel generators. On the other hand, the health sector recognises its ethical obligations to reduce its climate pollution and other health harms associated with burning fossil fuels, as part of its general obligation to *first do no harm*. This is seen in the leadership already being taken by many DHBs to reduce their GHGe. Health professionals remain among the most trusted professions, and are therefore powerful social influencers. The health sector is therefore a major potential partner in transforming the transport system.

The **Investment** section (p25) needs significant strengthening. The necessary reductions will not be achieved without a moratorium on major new road building. Currently we have an NLTF which is hardwired to produce roads to benefit the revenue generators (car drivers and road freight companies). To achieve change, the funding model will need to change, with the current revenue feeding into Treasury like other taxes, and then reallocated as Vote Transport, towards meeting the Ministry's strategic objectives.

Analytics and modelling (p26). It's positive to see the shifts towards modelling a wider range of outcomes. There is dynamic complexity involved in the transport system and its links to wellbeing and equity. Systems thinking and modelling are needed to capture these, including the potentially very helpful reinforcing feedbacks that will be set off by the kinds of policies and investments signalled in this draft strategy. These have been well described qualitatively, but not yet fully incorporated into simulation modelling. Different kinds of modelling will also be needed that help with understanding what's needed by a range of actors, including communities and local government politicians, to build the necessary public and political will. (see for example: Macmillan et al 2014; Macmillan and Mackie 2016; Macmillan and Woodcock 2017; Macmillan et al 2020)

The Ministry needs to take a more strategic view of **Innovation** (p28). In particular, it needs to establish a process to assess how any specific innovation contributes to the priorities of the transport system. The history of the transport system involves accommodating innovation rather than taking a critical view on whether it contributes to aims and priorities of the system and then supporting or discouraging the specific innovation accordingly. While there is much discussion

of ensuring policy is flexible and responsive to innovation, this needs to be tempered by a more critical view of where innovation leads.

P47 Benefits of walking and cycling - This section could be strengthened. In particular it should be made clear that active trips do not just 'support' public transport, they are essential to it. We cannot increase public transport use if it is unsafe to walk or cycle to transit stops. In addition, the mode shift benefits of having a 'package' of transport alternatives (public transport and walking and cycling together) should be emphasised. Public transport, and buses in particular, has lower transport satisfaction, and is less flexible, but is useful for longer journeys, and for people who are unable to use active modes. Walking and cycling have high flexibility and high transport satisfaction, but are not as useful for longer trips, and not accessible to everyone. Provided together as a combined 'package' they can provide a similar or enhanced utility to car trips. Presented or provided separately they have much more limited utility as mode shift tools.

The lack of inclusion of emissions from transport infrastructure and other lifecycle impacts in this work is a limitation. All emissions need to be considered in decision-making for policies and projects. A lack of integrated approach is likely to lead to perverse decisions. For example, the heavier weight of electric cars relative to comparable petrol cars suggests that a shift to electric cars would increase emissions from road maintenance.

We agree that the space taken up by transport infrastructure needs to be addressed to reduce emissions, and that current space allocation does not support walking and cycling. We recommend that the range of options for reallocating road space extend beyond allocating space for different transport modes. For example, space could be allocated for housing or green space - research shows that urban trees sequester carbon at similar rates to natural vegetation (Schwendenmann and Mitchell, 2014) and can help to reduce flood risk (Armson, 2013). One benefit of reallocating road space to modes with much greater spatial efficiency is that it reduces the overall space required for transport, thereby freeing up space for other uses.

The assumptions around the effects of specific policies on emissions were unclear in the document. We welcome greater transparency around the assumptions underpinning estimates of the effects of policies to enable critique and discussion around the relative merits of different policy options. This should include information on the evidence base underpinning these assumptions, and any uncertainties in the direction or magnitude of impacts.

P67 We challenge the narrative that Aotearoa has an 'increasing preference' for SUVs and utes. Current purchases reflect availability and pricing of different vehicle types and the enormous advertising budgets of the motor vehicle industry. As revealed by participation, Aotearoa has a high preference for cycling - with almost a third of young people and a tenth of adults participating in cycling in the past week (Sport New Zealand, 2019). We agree that marketing of larger light vehicles must be reviewed: the themes that prevail of dominance, size and surplus power fit neither Vision Zero nor national climate targets. We agree also that it is important to ensure cleaner vehicles are the safest choice, noting that safety applies both to vehicle occupants and to other road users. Large, armoured vehicles, whatever the fuel they run on,

may be safe havens for those inside, but the risk of injury is increased for others, pedestrians and cyclists in particular.

P70 There are some statements about health impacts of EVs reducing air and noise pollution that are not settled science. Moreover there is no acknowledgement of the potential increased health risks from electric cars. These risks include increased risk of death or injury for pedestrians and cyclists due to the increased weight of electric cars and the lack of any increase in physical activity (Jones, 2019). These should be corrected as they give a false impression of the health benefits of electric cars. Moreover there needs to be a more formal process of assessing the health impacts of this work going forward. We suggest tools like health Impact Assessment could be useful for the Ministry of Transport to adopt.

P 72 extra ideas that should be considered include:

- Advertising and marketing bans on ICE vehicles
- Scrappage policies tied to public transport and ebike subsidies
- Subsidies for e-bikes, and in particular e-cargo bikes, for both personal and commercial use.
- Limits on allowable vehicle size and vehicle emissions in inner city zones

There is, in general, inadequate consideration of e-bikes as an important form of transport innovation, given these are low-emission vehicles well-suited to a healthy, sustainable transport future. It is great to see the inclusion of a summary of the findings from the University of Auckland study on the potential of e-biking. However missing from this summary is the conclusion that e-bikes are an important innovation not just because they make cycling easier, but because they make it easier to make more 'car-like' trips on a bike (ie. longer trips, trip chaining, carrying more stuff). It is important to acknowledge and highlight the car-substitution potential of e-biking trips.

We support a just transition. The discussion on inequities (p101) misses a major component of transport inequities. The adverse health impacts of the transport system (eg injury, air pollution related mortality, community severance, social exclusion) are inequitably distributed. This needs to be included and a programme of routine measurement established (at the moment there is only ad-hoc measurement of many of these - see Appendix 1 table as an example). Lack of consideration of these impacts in a transition is likely to lead to a worsening of these inequities, and a failure to value the ability of some policies to address them

P102 The Super Gold Card concession represents a major existing intergenerational inequity in the transport system. Our own research with young people who have experienced periods not in education, employment and training (NEET) - a group dominated by rangatahi Māori and Pasifika youth - has shown the critical role that public transport already plays in enabling access for these young people, but also that the current system is both inadequate to their needs and too expensive. A major recommendation from this work is to make public transport free for under 24 year-olds, to ensure all young people can have their rights met to access education, training and first jobs. (Hawley et al 2020; Cities for Youth 2019)

P. 103 We agree on the importance of creating quality compact mixed use urban developments, and suggest this point needs to be strengthened. The link between transport and land use is so strong. If rapid change needs to happen on the transport side, it is difficult to see how this will be achieved without matching (ie equally rapid) changes in the way human settlements operate.

The detailed policies in Table 6 expose several specific opportunities for realistic and fruitful action more decisively and earlier. These include:

- Phasing out the import of new ICE vehicles well before 2030, starting with the most damaging ones
- Leveraging the very rapid wins for mode shift that would come via immediate blanket reductions in speed limits in urban areas to 30km per hour
- Implementing an early moratorium on new road building, including new road projects indicated but not yet begun under the current GPS
- More intensively incentivising the uptake of e-bikes, including through large scale subsidies and share schemes
- The immediate implementation of free public transport fares for young people up to age 24

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Equity in benefits and harms of transport: Māori and non-Māori in Aotearoa/NZ

Inequities for Māori compared to non-Māori	
Benefits to people	
Access to healthcare	<p>In 2018/19 ratio for Māori to non-Māori of lack of transport being a barrier to:</p> <ul style="list-style-type: none"> ● Visiting a GP 3.18 (95%CI 2.50 - 4.04) ● Visiting after-hours health care 1.85 (95%CI 1.55 - 2.21)(Ministry of Health, 2019)
Access to employment/economic benefits	Not measured or reported
Access to family/friends	Not measured or reported
Access to culture	Not measured or reported
Transport-related physical activity	Data available but not reported (transport-related physical activity data collected in Ministry of Transport Household Travel Survey and Sport NZ Active NZ survey)

Inequities for Māori compared to non-Māori	
Mobility independence	Not measured or reported
Access to greenspace and aesthetics	Not measured or reported
Harms to people	
Injury	<ul style="list-style-type: none"> ● Between 2000-2014, nationally Māori men were twice as likely to die from road traffic injury compared to pākehā men. Similarly, while women overall had a lower mortality rate than men, Māori women still had twice the rate of road traffic deaths compared to pākehā women. (Centre for Public Health Research, 2018) ● In the Auckland region also showed that Māori had one to two third higher rate of non-fatal road traffic injury compared to pākehā (this varied by age group). (Hosking et al, 2013)

	Inequities for Māori compared to non-Māori
<p>Air pollution exposure and associated health outcomes</p> <p>(Note this information is being updated currently)</p>	<ul style="list-style-type: none"> ● In 2006 (the most recent information) Māori were disproportionately more likely to experience premature mortality as a result of air pollution exposure (all air pollution) than non-Māori.(Kuschel at al, 2012) ● Māori likely have a stronger association between all types of air pollution and poor health outcomes than non-Māori.(Hales at al, 2010) ● There is no reporting on whether Māori have higher exposure to transport-related air pollution compared to non-Māori. ● There is no reporting on whether Māori have more adverse health outcomes from transport-related air pollution compared to non-Māori.
Transport costs	Data available but not reported (transport expenditure data collected in Household economic survey).
Community severance	Not measured or reported
Transport-related noise exposure	Waka Kotahi currently undertaking a national project assessing noise exposure from transport. Unclear if it will look at exposure by any sociodemographic variables such as ethnicity (although should be possible)

	Inequities for Māori compared to non-Māori
Social exclusion	Not measured or reported
Transport related stress	Not measured or reported
Other	Interactions with the transport system are known to be a pathway to the criminal justice system for young Māori men. (Raerino et al, 2013) The magnitude of this is not quantified nor how it compares with non-Māori.
Harms to the environment	
Tailpipe carbon emissions	Data available but not reported (data collected in Ministry of Transport Household Travel Survey, could also potentially be examined through IDI)
Life cycle carbon emissions thought car ownership level	Households with at least one Māori occupant were twice as likely to have no access to a car (10% vs 5%) and more likely to have a lower number of cars in the household. (Statistics New Zealand, 2013)

Table put together by Caroline Shaw. Domains included in this table based on those identified by Glazener et al, 2021 with some modifications.

Memorandum | Pukapuka

University of Canterbury Students' Association



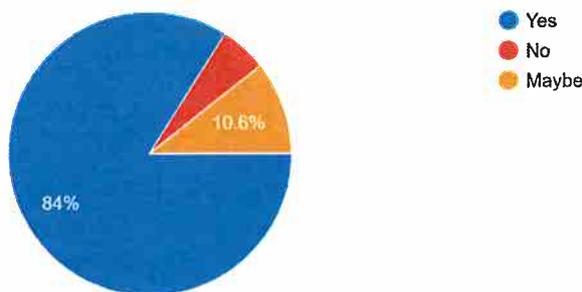
To Ki	Transport Emissions, Ministry of Transport
From Nā	Kim Fowler, UCSA President
Date Rā	24 June 2021
Subject Kaupapa	Considering Tertiary Student Discount under Hīkina te Kohupara

I am writing on behalf of the University of Canterbury Students' Association (UCSA) to submit feedback on Hīkina te Kohupara. We would like to propose that the government reduce fares to provide either free or heavily discounted public transport. One way of doing this may be to change the funding assistance rate for tertiary student public transport. We believe that reducing fares for students could have a significant impact via shifting travel to bussing, a lower impact mode. It could help achieve a more just transition towards less emissions, as many students experience significant hardship. Furthermore, it could help build habits for students, cementing them to be life-long public transport users.

For most students at UC who have the choice between driving or bussing (the main form of public transport in Christchurch), it's cheaper to drive to university than it is to bus. In UC's 2020 travel survey, it was found that 39.6% of students drove themselves to UC and only 9% used the bus. In a recent survey we undertook of UC students, we found that implementing free buses would be the best incentive to change the behaviour of students towards public transport use, with 84% of students who drive saying free buses would encourage them to use the bus. Comparatively, a discount would encourage 58% of students.

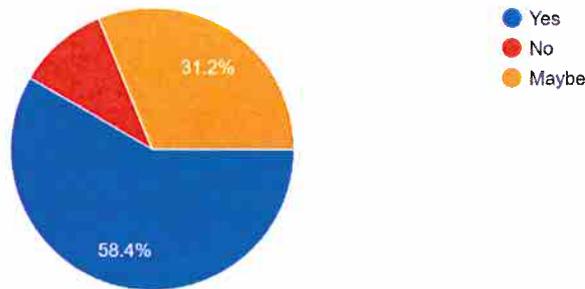
If using the bus was free, would you use the bus more over driving (if you drive)?

631 responses



If the bus fare was discounted, would you use the bus more over driving (if you drive)?

634 responses



Another question we asked was if transport was a significant cost in people's budget. 45% responded that costs associated with a car were significant, 21% responded that public transport costs were significant. 27% walked or biked so costs were low, and others reported that their car wasn't too expensive, or that the costs was moderate.

Is transport (ie petrol, public transport, costs associated with a bike) a significant cost in your weekly budget?

704 responses



In our long form answers, transport being an equity issue for certain students was highlighted. We know students experience hardship at significant rates, and therefore are likely to choose whichever option is cheapest for travel. This came through in the answers, with many students highlighting that they cared about climate change but were in a situation where the most climate-friendly mode of travel was inaccessible.

"As a student who works part time on only a little over the minimum wage and has a 3 hour shift, bus costs play quite a big part in my transport decisions. The bus fee does not need to be repeated within 2 hours but given my shift is 2 hours I need to pay the fee twice, so that ends up taking out more than \$5 of my pay for that day alone, which really adds up over time. This has meant that even though I would honestly prefer to bus, I try and borrow a friend's car to drive there and back (when a car is available) to save money, and bus otherwise. If the bus was free I would definitely bus all the time, and this would make quite a big impact to my financial decisions."

"I drive my car to UC everyday, and the costs are huge. I'm not just paying for fuel, I'm paying for warrants, UC car parks, and car maintenance. Discounted or even free bus fares would save me so much money. Plus I am always for bus transportation due to the lower economic impact there would be if students chose to take the bus over their cars. To just think about how the UC car parks are pretty full almost everyday, and how much that affects our environment and as students we really want to protect our future and the future of our environment. I think bus fares should be lowered because UC students make up a majority of Christchurch's drivers, especially in and around Ilam. If fares were lowered people would be more likely to not drive to Uni and may even start biking due to less busy roads in and around Ilam."

"My flatmate used to use the bus to get to Ara but has recently switched to driving as her weekly parking pass is cheaper than the bus. She would prefer to take the bus for environmental reasons but the savings are adding up with time."

"I'm currently taking GEOG222, which is all about public transport and it's not surprising that the Christchurch bus services are so underused by students when you compare the prices to other NZ cities. Many students in my class have talked about how price makes taking the bus less desirable, and that they could deal with the extra time it requires if the bus services were more affordable"

Another impact highlighted was that for students whose only option was to take the bus, they felt they were financially disadvantaged compared with their peers.

"I'm a broke student, I only have \$50 for my necessities after rent. \$20 of that goes on my bus pass for the week which is ridiculous as I only just live out of walking distance and suffer from chronic pain so public transportation is kinda my only option. I really can't afford it, but I can't afford not to go to school either. Something needs to change..."

"I used to use the busses a lot in high school but since becoming an "adult" it has become unaffordable. As well as this I have a chronic health condition which means that sometimes I take medication which means I cannot drive and it is difficult for me to bike. This makes it challenging for me to get to Uni or the supermarket or anywhere really because the busses are expensive now that I am no longer a child. On the metro bus website it talks about student prices but then I found out it was for high school students. This frustrated me because they pay the child fare anyway whereas tertiary students are adults but with limited money. There is also no community services discount or if there is it's hard to get information about. It is frustrating to not be able to get around the city. I simply cannot afford to use the busses as a regular mode of transport. It is cheaper to drive"

Therefore, we consider that simply encouraging students to use public transport is not enough, as this won't achieve an equitable transition to more public transport use. Despite students caring about climate change, price is their main motivator when choosing how to travel and therefore prices need to be reduced.

Reducing fares for public transport and encouraging more students to use the bus may help build lifelong habits of public transport use. Especially considering students may be less likely to buy a car as soon as they leave home if public transport is more accessible.

We would like to note the recent proposed initiative to give Community Services card holders reduced fares on public transport. We support this, as many students are eligible for a Community Services card. However, some students neglect to register for the card, so we would still advocate independently for reduced transport fares.

Therefore, we are advocating for reduced fares as both a climate and equity issue. We thank you for considering this proposal and look forward to your response.

Submission by



to the

Ministry of Transport

on the

**Green Paper:
Hikina te Kohupara – Kia mauri ora ai te iwi - Transport
Emissions: Pathways to Net Zero by 2050**

25 June 2021

BusinessNZ
PO Box 1925
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GREEN PAPER: TRANSPORT EMISSIONS – PATHWAYS TO NET ZERO BY 2050

SUBMISSION BY BUSINESSNZ ENERGY COUNCIL¹

INTRODUCTION

1. The BusinessNZ Energy Council (the 'BEC') is pleased to have the opportunity to provide a submission to the Ministry of Transport (referred to as 'the Ministry') on its Green Paper: Hīkina te Kohupara – Kia mauri ora ai te iwi – Transport Emissions: Pathways to Net Zero by 2050, published in May 2021 (referred to as 'the paper').
2. The BEC is a group of New Zealand energy sector organisations taking a leading role in creating a sustainable, affordable, and secure energy future for all New Zealanders. BEC is a division of BusinessNZ, New Zealand's largest business advocacy body and a member committee of the World Energy Council (WEC).
3. BEC members are a cross-section of energy businesses, government, and research organisations. Together we seek to shape the energy agenda for New Zealand.
4. With transport responsible for almost half New Zealand's total domestic CO₂ emissions, we do not underestimate the challenges ahead and welcome the Ministry's paper on how to accelerate transport emission reductions.
5. This submission provides some general, as well as some detailed, comments on the Ministry's consultation questions.
6. Given the diversity of our membership, some members will have specific issues which they may wish to comment on in more detail. Therefore, we have encouraged individual members to make their own submissions raising issues specific to their areas of expertise.

GENERAL COMMENTS

7. **Role of Business in achieving a 'net' zero emissions future:** We support the objective of transitioning New Zealand to a 'net' zero emissions future. We do not see emissions reduction targets as solely government targets, but rather as the basis for a partnership between government and all society's actors who, in order to achieve those targets, will need to commit capital, take risks and change how they behave.
8. **Flexibility and stability can be friends:** There is no 'one-size-fits-all' policy solution for the transport system as it cuts across the entire economy and effective change may require multiple, unique means of transition. Nevertheless, stable market

¹ Background information on BusinessNZ Energy Council (BEC) is attached as Appendix One.

frameworks create a good place for business to invest. Unfortunately, growing uncertainty, combined with rapidly evolving technology in the drive to decarbonise, create not just opportunities but also risks, with implications across the whole transport value chain. Now more than ever, long-term policy coherence, yet allowing for flexibility on our way to carbon zero, will be crucial for an inclusive, cleaner, and resilient transport system.

9. **A transport trilemma framework might be useful:** The energy trilemma² enables us to take a holistic approach to improving energy-system-related policy. The multidimensional framework that considers sustainability, equity, and security simultaneously, helps decision-makers navigate towards a more balanced energy transition. A similar framework could be implemented for our transport system to give effect to the Government Policy Statement on Land Transport 2021/22-2030/31, strategic priority 4: *"Transforming to a low carbon transport system that supports emissions reductions aligned with national commitments, while improving safety and inclusive access"*. This kind of framework is more direct and better focused on outcomes than the themes approach used in the paper.
10. **A market-led approach:** Furthermore, we think the ETS should be allowed to do its job and other interventions should follow only where there is a clearly articulated positive net benefit. Any additional policies should focus on outcomes and promote efficiency. Those should not involve specific regulation that disincentivises innovation or picks winners but instead allowing market participants to choose the least cost option(s) that best meet their unique circumstances.

CONSULTATION QUESTION 1 & 2: PRINCIPLES AND THE ROLE OF GOVERNMENT

11. **Systems-level approach:** We support the Ministry's Principle 4 *"Co-ordinated action is required across the transport system to avoid and reduce emissions"*.³ Siloed thinking risks unintended consequences and poorly allocated resources, made worse by not explicitly focusing on costs and benefits. The principles should acknowledge this. Interconnectivity between the energy and transport markets is already emerging, and throughout the economy the carbon price is binding decision-making together.
12. We agree with the Ministry's view that *"there is a very close relationship between transport and energy. The shift to cleaner fuels in the transport system will have significant implications for the energy sector. In particular, the shift towards electric vehicles will significantly increase the demand for electricity (which needs to come from renewable energy sources), as well as the capacity for electricity storage. Increasing demand for biofuels will also affect the energy sector. If hydrogen is used*

² [New Zealand remains in top 10 for energy balance - BusinessNZ Energy Council \(bec.org.nz\)](https://www.bec.org.nz/news/new-zealand-remains-in-top-10-for-energy-balance)

³ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](https://www.transport.govt.nz/hikina-te-kohupara-kia-mauri-ora-ai-te-iwi), Page 10

*for transport, this will also impact the electricity system (if electricity from renewable sources is used to produce the hydrogen)."*⁴

13. **Collaboration between government and the private sector:** Many of the actions New Zealand must take to achieve emissions budget levels will be made by the private sector. Businesses will have to change their behaviour, make new investments with different criteria, and take the commercial risk that will arise from the quest to meet the emissions budgets.
14. A vision for New Zealand should represent an informed, sequenced, and holistic approach, developed jointly by the relevant government agencies, the private sector and the relevant communities. The most value to New Zealand will be gained by using this model to move boldly and smartly together to engage effectively with many diverse stakeholders during the energy and transport system transition.
15. **Market-led approach:** There are several clean fuel options and emerging vehicle technologies that could address current environmental concerns. We agree with Ministry's Principle 3 "*We need to take a strategic approach to reducing transport emissions*".
16. We believe that a strategic approach to decarbonising the transport sector is important, however, we must be wary of 'betting the house' on any one technology. The Government should be careful about picking winners. Robust trialling, piloting, and clear policy frameworks will level the playing field for technology development and adoption and help increase our options in the face of uncertainty. As mentioned earlier in this submission, we think the ETS should be allowed to do its job and other interventions should follow only where there is a clearly articulated positive net benefit.
17. **The role of Government:** The Government should focus on creating an outcome-based regulatory environment that enables the private sector to innovate and forge a market-led path to 2050. It is vital that we allow for flexibility on how to decarbonise the New Zealand economy. The Government should not be too prescriptive.
18. We agree with the Ministry's view that "*Analytics and modelling plays a key role in understanding the expected effects of different measures on emissions outcomes, and the interactions between different transport and other non-transport measures.*"⁵
19. The prospect of increasing complexity suggests caution in designing policy frameworks. More transparency is required. To address this increased complexity, for some time now, the BEC has collaborated with businesses, academia, and government

⁴ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](https://transport.govt.nz), Page 21-22

⁵ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](https://transport.govt.nz), Page 26

on a continuous basis to further develop and improve the New Zealand Energy Scenarios – [TIMES-NZ 2.0](#).

20. The purpose of this ongoing project is to provide the public and private sectors with a robust but explorative analysis to get a better idea of how our future energy supply and use might look and test the range of trade-offs and choices we might make along the way.
21. While most modelling defines a destination, indicating what needs to change to get there, our scenarios explore the 'what-if stories' rather than the 'what-musts'. TIMES is an economic model that is built around comparing fuels and technologies to achieve the lowest cost option. It does not consider taxes, charges, or levies such as the Road User Charges (RUC) in the Total Cost of Ownership. The model does however include a carbon price.
22. Throughout the project we have been grateful for the input of organisations across the sector, including input from the Ministry. This continuous collaboration is important to us.

CONSULTATION QUESTION 3: ENCOURAGING EMISSION REDUCTIONS IN TRANSPORT

23. In general, we strongly caution the Ministry against being too prescriptive on the decarbonisation options for different transport uses. We would like the tone of the Ministry's advice to be technologically neutral and to focus much more on a transport sector that is able to adapt to change in the face of uncertainty.
24. We would like the Ministry to focus on opportunities and increasing options, and to give more clarity to how trade-offs can be made between these various options for transport decarbonisation, and the cost implications of such decisions. Typically, marginal abatement costs (MACs) are used to determine least-cost abatement options. The following will provide the Ministry with some suggestions for further improvement.

The role of flexible working arrangements

25. The role of flexible working arrangements and working from home to reduce transport emissions could be further explored by the Ministry. In its final advice the Climate Change Commission (CCC) encourages higher rates of working from home and flexible work arrangements to reduce travel demand and associated emissions (see CCC recommendation 17 and 24).
26. We agree with the Ministry that the *"The use of data, information and communication technologies holds another key opportunity for substituting physical travel in cities with digital communication and virtualisation. This means less commuting and more flexible working arrangements such as working from home or community 'satellite*

*offices'. Data, analytics and digital innovation also have a significant role in transitioning the transport system to low emissions.*⁶

27. The application of ICT is already having a significant impact on logistics i.e., the efficiency of freight movements. Optimised deliveries are one example, another is the use of online shopping. These trends will continue with improving virtualisation likely to increase confidence in retail purchases; developments in the first and last km using more flexible transport modes (e.g., drones) overcoming congestion and speeding up fulfilment; the Internet of Things enabling intelligent consignments to optimise their own routes making use of transport infrastructure much better optimised to that task etc. Even 3D printing and flexible manufacturing are helping to reduce the transport component in products. This is an area that would benefit from more analysis of its potential for New Zealand on the timeframes being considered.
28. However, while the Ministry refers to flexible working arrangements as an outcome of improved transport systems, we suggest that more work could be done on how flexible working arrangements can contribute to emissions reduction (as a driver rather than an outcome). Encouraging remote working would be a good, least cost option for achieving net zero emissions, particularly for employees in larger cities.
29. Encouraging the uptake of remote work might also be a lever to avoid or defer congestion charging. Some of our members, for example Contact Energy⁷ and Flux Federation⁸ have recently showcased the positive impact of flexible working arrangements not just on reducing emissions but also on reducing hours of travel with consequently a positive impact on productivity. Both show commute related emissions reduction between 70-75%.
30. Although we support in principle the advice on encouraging working from home arrangements, such decisions need to consider the social and wellbeing impacts of reduced social interaction. Policies may be required to facilitate the development of localised co-working spaces to mitigate the loss of social interaction, and to help build a sense of community and social connectedness. We also need to think of long-term impact on commercial leasing with more people working from home. For employers, there are also health and safety implications since it is employers' responsibility to ensure their employees have a safe working environment.

⁶ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](#), Page 31

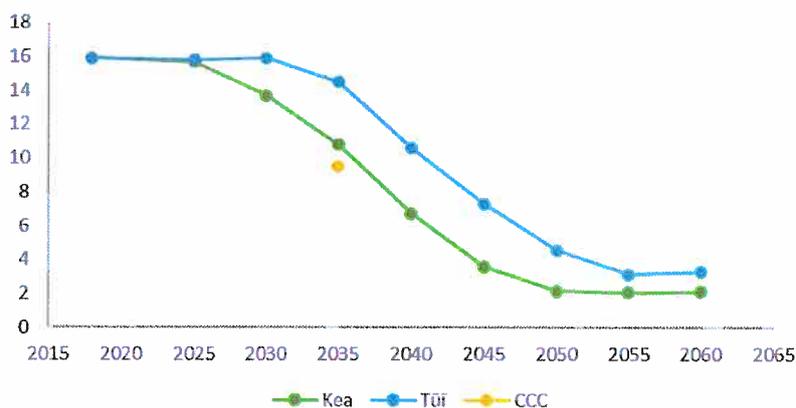
⁷ Contact Energy's Transformation Ways of Working (TWOW)

⁸ [How we saved money and cut carbon emissions by going remote-first \(fluxfederation.com\)](#)

Pace of EV uptake and decarbonisation of our transport system

31. The TIMES-NZ model shows transport emissions falling dramatically in line with the fall in fossil-fuelled road transport by 2050. In Kea and Tūi, the residual emissions are from marine and aviation transport. The final advice of the CCC suggests that transport emissions must fall around 40% by 2035 to keep us on track. By comparison, in our model, Kea transport emissions fall 33% by 2035 and 11% in Tūi – see Figure 1.

Figure 1: Transport Emissions (Mt CO₂-e)



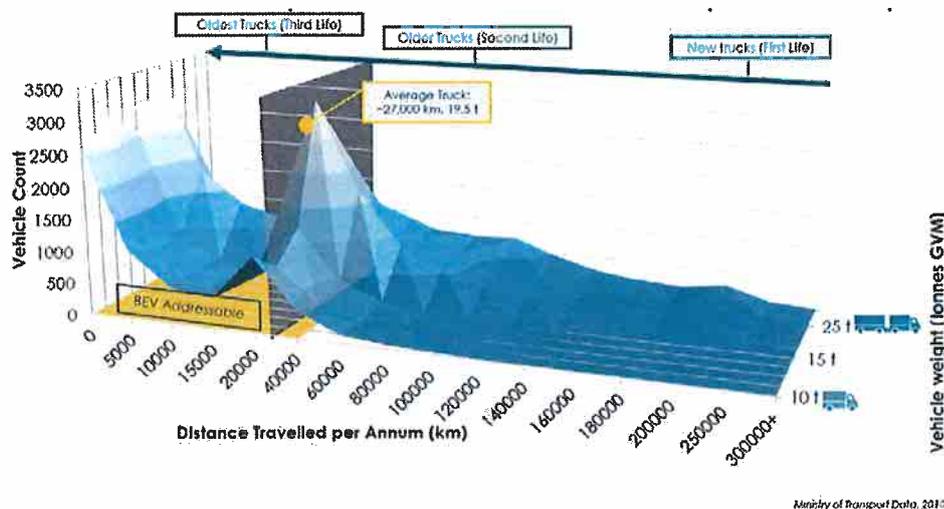
32. The steeper reduction in Kea’s transport emissions is driven by a faster uptake of EVs and lower growth in vehicle numbers compared with Tui. Emissions begin to fall immediately as the emissions from internal combustion engines fall as electric and hybrid vehicle uptake accelerates and slowly transport modes change in overall vehicle-kilometers travelled. Hybrid vehicles act as a transition technology, peaking in 2030 before reducing to zero by 2050. Both internal combustion and hybrid vehicle emissions drop to zero by 2050. In Tūi, overall emissions remain steady to 2030. This plateau in Tūi is attributed to the reduction in emissions from electric and hybrid vehicles being offset by the increasing vehicle fleet. There are more than double the emissions from hybrid vehicles in Tūi compared with Kea as these are more widely adopted in Tūi due to carbon price, technology costs and performance assumption differences between the two scenarios.
33. We note that the CCC’s chosen path to 2035 is more ambitious than our most ambitious scenario, Kea. The CCC’s final advice suggests that 36% of light vehicles will be electrified by 2035 (with a carbon price of \$160/tCO₂-e). Kea reaches 34% of the light vehicle fleet electrified by 2035 (\$120/tCO₂-e), and Tui 13% (\$60/tCO₂-e). Furthermore, the CCC suggests that 50% of our light vehicle imports will be made up of EVs by 2029, in Kea this would be 40% and in Tui 20%. The decarbonisation of the transport sector relies heavily on the switch from ICE to BEV light vehicles, yet we see real risks in securing the EV supply the CCC trajectory relies on. This may potentially mean higher marginal abatement costs, thus affecting long-term GDP.

34. While we are not disputing the CCC's estimates, we would like the Ministry to ensure all key risks that come with greater ambition have been uncovered so that all actions fully take account of costs, benefits, and potential trade-offs. What are the low-cost options and what needs to be done to make sure they are available?

Further modelling opportunities

35. We have noted that the Ministry's current model combines all heavy trucks (>10 tonne) in a single technology group. However, the heaviest trucks (up to 50 tonnes) travel the longest distances and contribute by far the most emissions and therefore, an average-based approach might not consider the real spread of emissions. For immediate policy analysis and future model iterations this segment needs to be disaggregated to provide a more accurate emissions profile and contain a portfolio of technologies available to reduce emissions.
36. Modelling is a very useful tool when trying to understand how best to tackle heavy transport emissions. However, we need to be mindful when basing assumptions on applying averages. For example, an 'average truck' based on the 2010 Ministry of Transport dataset and often used in analysis travels ~27,000km per year, with a GVM of 19.5t – see Figure 2.

Figure 2: Vehicle count by truck size and annual distance travelled (Truck >10 t GVM)



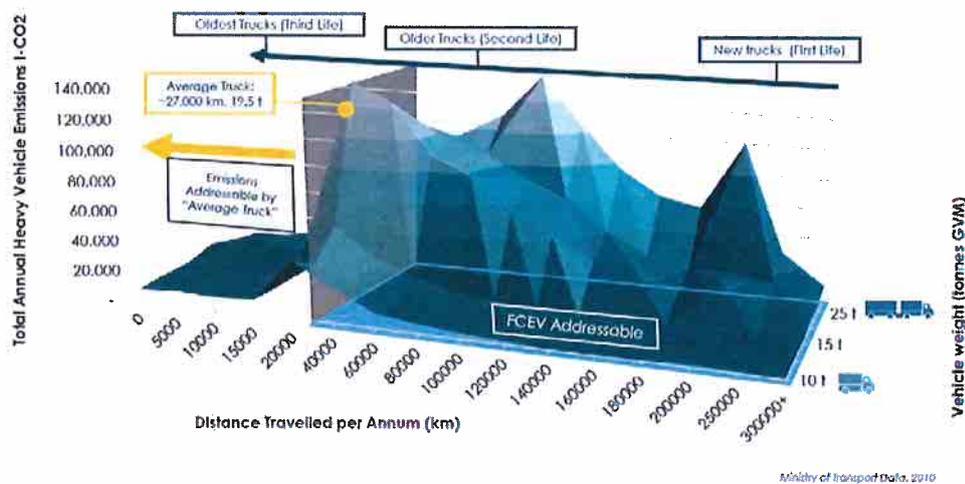
37. This approach fails to account for the actual emissions of the different truck subclasses and the actual lifecycle of a truck. A new truck typically enters the fleet at the high end of km service and/or payload where it can be commercially justified, it then generally goes through 3 'lives' with disproportionately high kilometres and emissions in its first 'life'. When emissions are accounted for in heavy vehicle modelling, a very different pattern emerges:

- (a) Over 80% of heavy trucking transport emissions originate from trucks that are heavier and drive further than the 'average truck'.

- (b) Less than 20% of emissions addressable with a zero-emission truck based on the 'average' heavy truck.
- (c) A heavy trucking decarbonisation strategy should introduce new zero emission vehicles in the 1st life and leverage the 'trickle-down' effect.

38. The bulk emissions being produced in its first and second life – see Figure 3.

Figure 3: Cumulative Emissions by truck size and annual distance travelled



CONSULTATION QUESTIONS 4 & 5: AN INTEGRATED TRANSPORT SYSTEM; MODE SHIFT

39. Changing behaviour involves a deliberate choice informed by the alternative infrastructure that might or might not be expected to become available. Although we generally agree with the CCC recommendation of improving mobility outcomes (CCC recommendation 17), the transformational element of this change needs to be highlighted more strongly.
40. We consider a shift from the historical focus on supply-side interventions (e.g., an increased supply of infrastructure) to demand response is inevitable simply because it will produce lower cost solutions that still meet user needs. Actions will potentially need to facilitate and accelerate moves to increase vehicle occupancy and provide reliable and integrated services for urban mobility through intelligent transport systems. This is a change that will require the Ministry's and others involved in the provision of transport infrastructure to rethink how New Zealand's transport system will operate, as it becomes smarter and more integrated. This kind of strategic thinking around mobility needs to be engaged in now, as capital investment decisions are being made nationally and locally. Expedience is also required as the needed behavioural change will take time to occur.
41. We also note that the Ministry acknowledges "*different approaches to managing the transport system will also be important, including how urban design and placemaking*

*can be used to support emissions reductions.*⁹ However, while urban design options need to be taken into consideration, they are likely to take much longer to have a positive impact than changing the composition of the vehicle fleet.

42. To facilitate the above changes and to aid users to exploit them, a good understanding will be required of the factors that drive mobility choices in the New Zealand context, and how these differ by location and personal circumstances. The Ministry should commission relevant research to ensure measures designed to shift demand or modal choices are effective.

CONSULTATION QUESTION 6: THE ROLE OF PRICING

43. We agree with the Ministry that *“Transport demand management, including transport pricing, is critical for supporting more liveable cities and encouraging people to make sustainable transport choices.”*¹⁰
44. We generally support the Ministry’s idea of getting the price right by better enabling demand to be managed, particularly in respect to congestion pricing. It is important that we continue improving the pricing system for transport, so that costs associated with vehicle use are internalised along with other transport modes, whether these be public transport, cycling or walking. By providing a more direct pricing signal of the real costs of all mobility choices, such a system would create stronger incentives to support low-carbon user choices while considering individuals’ and households’ unique preferences.
45. For example, congestion pricing might encourage desired behaviour with fewer cars on the road at peak time, potentially resulting in a reduction in transport-related emissions. However, we agree with the Ministry that *“Transport pricing can be a strong signal to change people’s behaviour, but it can have material impacts on household budgets and access to essential goods and services. It is important that we clearly understand the distributional impacts of pricing mechanisms, before imposing costs on users that could have unintended social consequences.”*¹¹
46. Pricing mechanisms such as congestion pricing are most effective if enough flexibility exists to avoid travel during peak hours (e.g., flexible working arrangements) and/or if alternative services are available (e.g., public transport, carpooling). There is otherwise a risk of charges adding to the household bill while the suggested reduction in traffic and emissions does not occur.

⁹ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](#), Page 29

¹⁰ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](#), Page 35

¹¹ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](#), Page 57

CONSULTATION QUESTION 7: TRANSITIONING NEW ZEALAND'S VEHICLE FLEET

Charging Infrastructure

47. As discussed earlier, to encourage the uptake of EVs, not only do we need sufficient supply volumes but also sufficient access to public charging. While there has been some good work done in building a network of publicly accessible charging sites, these are predominantly slow charging and located at places where there are limited opportunities for EV owners to avail themselves of other services while they wait for their EV to charge.
48. It will be important for EV uptake to be supported by smart charging capability. Smart charging can shift EV charging demand away from peak demand periods enabling higher network utilisation and deferring network upgrades, resulting in lower electricity prices to consumers. Electricity networks will be required to manage the associated increase in demand for electricity.
49. However, it should be noted that to time-shift the charging of a medium/heavy EV truck away from peak demand times may be impractical in most cases as there is less operational flexibility for commercial freight operations. Smart charging of medium/heavy vehicles in this way would effectively extend the charging time for these platforms, resulting in less time on the road. To fast charge a commercial medium/heavy vehicle will require chargers in the order of 1000KW, which is a significant step up from New Zealand's fastest chargers (currently around 180KW) and might require grid capacity upgrades wherever they are installed. In comparison, clean fuels refuelling station (for example hydrogen) will charge a heavy vehicle in 15 mins.
50. We support the Ministry's initiative of developing a roadmap for charging infrastructure and would like to reiterate the point made earlier of taking a system-based approach to doing so. We suggest that this development aligns with the work currently being undertaken by one of our members – Wellington Electricity.
51. As the EV uptake increases, electricity networks will be required to manage the associated increase in demand for electricity. Wellington Electricity has held multiple workshops to engage with stakeholders on how to move energy use to less congested times on the network. Discussion predominantly focussed
52. The project refers to a the *EV Connect – Draft Roadmap*¹² is co-sponsored by EECA as part of the LEVCF program. The purpose of the project is to support the EV adoption while maintaining network supply security, reliability and providing new benefits to consumers and across the electricity supply chain. Wellington Electricity found that a

¹² [EV Connect - Stakeholder Consultation | Wellington Electricity \(welectricity.co.nz\)](https://www.wellington-electricity.co.nz/consultation/ev-connect-stakeholder-consultation)

small EV will increase household electricity use by 35%. As energy bills make up a larger proportion of low-income household expenses, households stand to gain a great deal from reduced energy bills.

53. The roadmap development requires collaboration across policy, standards, regulation and both the electricity and transport sectors to enable support of EV adoption in a managed way which ensures security and affordability are well managed as part of achieving sustainability. The consultation is open until 15 July.

Equitable transition

54. Actions for an equitable transition are time critical. The timeline for electrifying light passenger vehicles is ambitious and as we accelerate to reach the target, we cannot afford to turn the corner without taking due consideration of equity impacts along the way.
55. The Government must ensure that low-income households, people with disabilities, and those who live in remote areas can also benefit from electrified passenger transport. We do not want the transformation in transport to perpetuate existing inequality. Instead, we want it to be an opportunity to improve the relative position of those parts of society that have previously been disadvantaged.

Refurbishment, disposal/recycling at the end of life

56. We support a collaboration between the public and private sectors to roll out EV battery refurbishment, collection, and recycling to ensure the electrification of the fleet is sustainable. Furthermore, consumers need to understand the options and processes involved to enable good decisions to be made.
57. The disposal of cars and car parts needs overall coordination as there are many small organisations of different capacity engaged in this activity all around the country and much automobile waste ends up in landfill.
58. We should note that there is already some good work underway. The Motor Industry Association and its members have committed to a code of practice to have suitable systems in place to tackle this issue. In Addition, the Battery Industry Group (B.I.G) is working to design a 'circular' product stewardship scheme. B.I.G includes over 140 organisations across the energy, waste, transport, and battery sectors.

CONSULTATION QUESTIONS 9, 10 & 11: AVIATION, FREIGHT AND FUELS

59. Clean fuels have a role to play in helping decarbonise the transport sector where alternative options are not available in the short and medium term, e.g., heavy trucks, marine and aviation. Each clean fuel has strengths and weaknesses. Currently, electric battery technologies have weight and operational downsides, hydrogen has an electrical efficiency downside and biofuels have a volume capacity downside.

Therefore, it is important that a fuel agnostic approach is taken and that the market is empowered to adopt the fuel best suited to their needs. For example:

1st Example: Heavy freight

60. For long-haul heavy freight, clean fuels such as hydrogen, biofuels and e-based synthetics look potentially more appropriate than battery technologies due to payloads, operational efficiencies, isolation from electrical grid demand peaks and troughs. Some of New Zealand's largest freight carriers have started procuring hydrogen fuel cell electric trucks.

2nd Example: Aviation

61. For commercial airlines and turbine engine operators, sustainable aviation fuel appears to provide the best alternative, coupled with ongoing improved designs of aircrafts and engine functioning. New engine designs could potentially provide considerable improvements in efficiency. For smaller operator though, there are potential issues operating sustainable aviation fuel mixed with existing fuels in piston engines. This is currently looked at more closely by Aviation NZ.
62. Over the course of the last two years, various useful reports have been produced by our members to get a better understanding of how clean fuels can assist us on our journey to decarbonise New Zealand's economy. Two examples below:

1st Example: FirstGas

63. FirstGas has done some work on zero carbon gases to demonstrate how existing gas infrastructure could be used to transport zero carbon fuels such as biogas and green hydrogen. This could become an attractive option for decarbonising some transport and industrial applications, including high temperature process heat, refining, the production of fertilizer and steel. FirstGas notes that developing these zero carbon fuels would reduce the burden on the electricity system, remove the need to overbuild renewable generation and could provide inter-seasonal and inter-year storage of energy for use in dry years.¹³
64. The FirstGas work highlights the need to think carefully about the linkage between transport and other parts of the energy system. While today's transport fuel (petrol and diesel) is primarily distributed by road, a net zero future is likely to see electricity and gas distribution networks used to fuel vehicles. Using these distribution channels reduces carbon and can provide a cost-effective way to transition to lower carbon transport fuels. A recent European report estimates that repurposing gas pipelines to transport hydrogen is expected to add less than 10% to the production costs of

¹³ [Transitioning To A Zero Carbon Future | Gas is changing](#)

renewable or low-carbon hydrogen.¹⁴ However, these networks need to be maintained and re-oriented towards zero carbon fuels.

2nd Example: EECA and Sapere Research

65. Sapere Research recently prepared an independent report for EECA referred to as *Biofuel Insights*¹⁵. The report aims to inform the discussions about potential pathways of biofuel uptake, associated emission reductions and related costs for New Zealand's light and heavy road transport, domestic aviation, and shipping. The report provides a summary of biofuel applications and limits – see Figure 4.

Figure 4: Summary of biofuel applications and limits

Fuel family	Conversion technology	Biofuel produced	Blend limits
Road diesel	Trans-esterification of lipids	FAME biodiesel	5% - 7%. Higher blends can be used depending on OEM specifications
	Hydro-treatment of lipids	Hydrogenated renewable diesel	There are no regulatory limits to blending HEFA in diesel. However, it is blended with conventional diesel fuel to meet fuel specifications.
	Gasification / Fischer-Tropsch	Drop-in diesel	EN 15940 does not apply regulatory limits to blending FT diesel
Aviation	Hydro-treatment of lipids	HAFE	Up to 50% HEFA in jet fuel
	Hydro-processing of bio-derived hydrocarbons	HH-SK / HC-HEFA	Up to 10%
	Fischer-Tropsch	Drop-in diesel	FT kerosene is certified for maximum 50% blends with jet fuel
	Cathalytic hydrothermolysis	Drop-in diesel	Up to 50%
Marine	Trans-esterification of lipids	FAME biodiesel	Technically, up to 7% blends can be used. Standards being developed
	Bio-oil upgrading	Drop-in	Technically, can be used as a direct replacement for fossil marine fuel. Standards being developed
	Mild bio-oil upgrading	Drop-in	Can be used in a marine engine. Standards being developed

66. The report found that by 2030, the implementation of biofuel could lead to a “total lifecycle emissions savings per annum of 3.8%-5.4%, increasing to 9%-21% by 2035, and 38% by 2050”.¹⁶ However, to achieve these emission reductions, significant capital investment would be required. In other words, “through to 2025, the average annual investment cost would be between \$39 and \$93 million, primarily to scale up production of biodiesel and renewable aviation fuel (HEFA). Over the 2026-2030 and 2031-2035 periods in the progressive scenario, additional investment costs of \$51-\$116 and \$115-\$254 million per annum would be required respectively to scale-up production of drop-in fuels from biomass feedstock.”¹⁷

1. ¹⁴ [How to transport and store hydrogen – facts and figures \(hydrogeneurope.eu\)](https://hydrogeneurope.eu)

¹⁵ [Liquid-Biofuel-Research-Report-March-2021.pdf \(eeca.govt.nz\)](https://www.eeca.govt.nz/publications/liquid-biofuel-research-report-march-2021.pdf), Page 79

¹⁶ [Liquid-Biofuel-Research-Report-March-2021.pdf \(eeca.govt.nz\)](https://www.eeca.govt.nz/publications/liquid-biofuel-research-report-march-2021.pdf), Page vi

¹⁷ [Liquid-Biofuel-Research-Report-March-2021.pdf \(eeca.govt.nz\)](https://www.eeca.govt.nz/publications/liquid-biofuel-research-report-march-2021.pdf), Page vi

67. We also note that assumptions on the blend rate, and suitability of types of biofuels (conventional versus advanced) remain subject to ongoing trials and testing, and will vary dependant on engine age and manufacturer, fuel type, and location of use relative to ambient air (and water) temperatures. A stated blend limit of 7% is reflective of the current New Zealand Legislation, and not related to fuel or engine specification(s).
68. We encourage the Ministry to make good use of the research already available and to join the dots between developments that are currently underway (e.g., Infrastructure Strategy development, Energy Road Map development, RMA reform).

CONSULTATION QUESTIONS 12: IMPACTS OF A JUST TRANSITION

69. We agree with the Ministry that there is a risk "*Government interventions that increase the cost of using vehicles, such as road pricing mechanisms, could have a disproportionate impact on low-income households who rely heavily on using a car.*"¹⁸
70. We note that the paper acknowledges distributional impacts of the proposed interventions and indicates it will take a system approach to considering the social impacts of its policies.
71. We encourage the Ministry to further investigate the impact of a just transition in conjunction with business and other agencies as some measures, if not correctly designed, will disproportionately impact low-middle income families.

CONSULTATION QUESTIONS 13 & 14: PATHWAY AND POLICIES FOR THE FIRST BUDGET

72. We support an effective and efficient decarbonisation of New Zealand's economy and suggest an economy-wide carbon price as a first-best solution. If an ETS complementary policy is to provide a positive net benefit, we encourage the Ministry to focus on the least-cost abatement options.
73. Again, we strongly caution the Ministry against being too prescriptive on the decarbonisation options for different transport uses and would like the tone of the advice provided to be 'neutral'. The proposal that transport emission reductions can be driven by arbitrary pathways is flawed and should be put aside.
74. Taking a technology, fuel, and process agnostic approach is key to making the most of scarce resources, sending equitable pricing signals, and avoiding unnecessary controversy and excessive complexity.

¹⁸ [Hikina te Kohupara - Kia mauri ora ai te iwi \(transport.govt.nz\)](https://www.transport.govt.nz), Page 103

APPENDIX ONE - BACKGROUND INFORMATION ON BEC

The [BusinessNZ Energy Council \(BEC\)](#) is a group of New Zealand's peak energy sector organisations taking a leading role in creating a sustainable energy future. BEC is a division of BusinessNZ, New Zealand's largest business advocacy group. BEC is a member of the [World Energy Council \(WEC\)](#). BEC members are a cross-section of leading energy sector businesses, government and research organisations. Together with its members BEC is shaping the energy agenda for New Zealand.

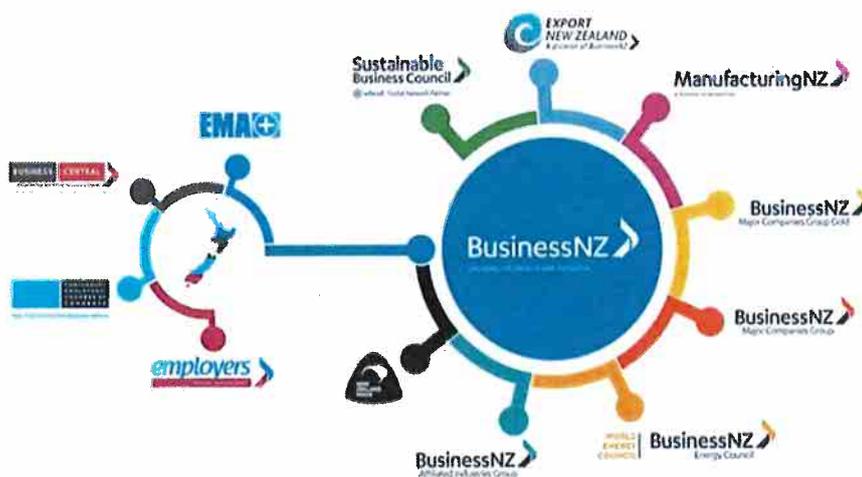
Our vision is to support New Zealand's economic wellbeing through the active promotion of the sustainable development and use of energy, domestically and globally. With that goal in mind, BEC is shaping the debate through leadership, influence and advocacy.

[BusinessNZ](#) is New Zealand's largest business advocacy body, representing:

- Regional business groups [EMA](#), [Business Central](#), [Canterbury Employers' Chamber of Commerce](#), and [Employers Otago Southland](#)
- [Major Companies Group](#) of New Zealand's largest businesses
- [Gold Group](#) of medium sized businesses
- [Affiliated Industries Group](#) of national industry associations
- [ExportNZ](#) representing New Zealand exporting enterprises
- [ManufacturingNZ](#) representing New Zealand manufacturing enterprises
- [Sustainable Business Council](#) of enterprises leading sustainable business practice
- [BusinessNZ Energy Council](#) of enterprises leading sustainable energy production and use
- [Buy NZ Made](#) representing producers, retailers and consumers of New Zealand-made goods

BusinessNZ is able to tap into the views of over 76,000 employers and businesses, ranging from the smallest to the largest and reflecting the make-up of the New Zealand economy.

In addition to advocacy and services for enterprise, BusinessNZ contributes to Government, tripartite working parties and international bodies including the International Labour Organisation ([ILO](#)), the International Organisation of Employers ([IOE](#)) and the Business and Industry Advisory Council ([BIAC](#)) to the Organisation for Economic Cooperation and Development ([OECD](#)).



**Sustainable
Business Council** 

 wbcSD Global Network Partner

 **CLIMATE
LEADERS
COALITION**

ON A MISSION TO REDUCE
EMISSIONS IN NEW ZEALAND

Submission to the Ministry of Transport on:

Hikina te Kohupara – Pathways to Net Zero by 2050

25 June 2021

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Executive summary

This submission by the Sustainable Business Council (SBC) and Climate Leaders Coalition (CLC) represents the combined view of our 150 member companies on *Hikina te Kohupara – Pathways to Net Zero by 2050*.

SBC and CLC members are already taking action to transition to a zero carbon future. That includes implementing transition plans and working together to develop pathways that quantify the trade-offs and interdependencies that will be required for sectors and systems to decarbonise.

Reducing transport emissions is crucial to meeting our climate targets. Transport currently represents a third of our total long-lived gas emissions. As the Climate Change Commission's final advice shows, action in this sector will have an immediate and lasting impact. Aotearoa can cut almost all transport emissions by 2050. The technology already exists and is improving fast.

In Aotearoa we need to change the way we build and plan our towns and cities and the way people and products move around. This includes making active travel easier with good cycleways and footpaths. It means moving freight off the road and onto rail and shipping. It means reliable and affordable public and shared transport systems. It means a low-emissions transport fleet.

Our members are already leading the way, including by engaging through the SBC Freight Group to develop the [Low Carbon Freight Pathway](#). Some of our members are involved in the development of the biofuels strategy and Sustainable Aviation Aotearoa which is mapping out a pathway for sustainable aviation fuel in our country.

We support many of the proposals in *Hikina te Kohupara*. This submission provides suggestions for where the proposals could be improved or strengthened. It draws on our submission on the Climate Change Commission's draft advice, as well as the Climate Change Commission's final advice.

Our key recommendations are:

- a. We ask that the private sector's vital role in decarbonising Aotearoa's transport sector be better reflected in the Emissions Reduction Plan (ERP) and related policy.
- b. We urge that a systems-level approach be taken to create a cohesive and coherent transition plan. This plan should create a clear signal that drives a fair, equitable and inclusive transition for all New Zealanders. We see specific need for the energy and infrastructure strategies to be embedded within the transport response.
- c. We recommend that a Low Emissions Vehicle Leadership Group be stood up as a matter of urgency and have broad business and cross-party involvement. The Group should be tasked with addressing practical barriers to low emissions vehicle uptake, such as supply, charging infrastructure, and incentives.
- d. We ask that the role of biofuels in decarbonising the transport sector be better reflected in the policy measures proposed, including fuel for shipping and sustainable aviation fuel (SAF).
- e. We encourage the freight part of the ERP's transport chapter and National Supply Chain Strategy reflect the work of the Low Carbon Freight Pathway, including the role of biodiesel, hydrogen, and BEVs in the freight sector transition.

1. Introduction

We welcome the opportunity to comment on *Hikina te Kohupara – Pathways to Net Zero by 2050 (Hikina)*, a system-wide review of options and opportunities to reduce emissions in the transport sector. We understand that feedback received on *Hikina* will be used to inform Government decisions on actions and policies to be included in the transport chapter in the first all-of-government ERP to be published by the end of 2021.

This report draws on our *Briefing to Incoming Government on Climate Action Priorities* from October 2020 (2020 report) and underscores key recommendations contained in our submission to the Climate Change Commission on their draft advice, March 2021 (CCC submission). We recognise the work of consulting firms Sapere and DETA that supported the development of our CCC submission. This submission focuses on the consultation questions in *Hikina* that are relevant to our members' interests as outlined in the CCC submission.

We look forward to engaging further with the Ministry of Transport (MoT) through the development of the ERP and associated policy, including the National Supply Chain Strategy.

1.2 Principles that guide our engagement

As with our CCC submission, we have formulated this input based on the overarching pursuit of an Aotearoa with:

- i. A society that is fair, inclusive, and diverse.
- ii. An economy that is:
 - open, recognising Aotearoa's role as a trading nation.
 - globally connected, virtually and physically.
 - supported by market regulation that is incentive focused, intervention cautious.
- iii. A climate change response comprising:
 - science-based mitigation with effective measuring and reporting of emissions.
 - adaptation efforts that are technology-based, risk- and future-focused.
 - a just transition that is fair, equitable, and inclusive for all New Zealanders.

We have also considered the following specific principles in preparing this submission:

- We support the emissions reduction targets and purpose of the Climate Change Response Act (the Act) to contribute to the global efforts under the Paris Agreement to limit warming to 1.5 degrees above pre-industrial levels.
- We understand and support the focus on gross emissions reductions. We also agree that forestry offsets should not be the only mechanism relied on and that offshore mitigation should not be used to meet New Zealand's first three domestic emissions budgets other than in circumstances prescribed in the Act.
- We want to work in partnership with Government to achieve the emissions budgets and by helping to shape and deliver the Plan.

- We think the ETS should be allowed to do its job and other interventions should only follow where there is a clearly articulated positive net benefit for other non-price policies.
- Non-price policies should focus on outcomes and promote efficiency rather than being specific regulation that disincentivises innovation.
- All parts of society will benefit from education and awareness raising on the imperative and the case for changing behaviours beyond ETS signals and justified non-price policies.

2. Response to specific questions

2.1 Consultation question 1: principles

SBC and CLC broadly support the principles in *Hikina*, subject to the following specific comments:

- a. **Systems-level approach:** We agree that coordinated action is required to get to net zero by 2050 and ensure that the transition is equitable. We strongly encourage a systems-level approach to achieve the desired transition across Government and all sectors of Aotearoa business and society. This means coordination and ideally co-design not just across the transport sector, but all the supporting industries that MoT identifies, such as, infrastructure, power, technology, and innovation.
- b. **We need to get started now:** We support Principle 6 and agree that we cannot wait for the perfect plan - we have to get started now. Many of our members are already demonstrating the art of the possible, such as the SBC Freight Group, where members are engaging in collaborative pilot decarbonisation projects to test ideas and technology.
- c. **Market-led approach:** A strategic approach to decarbonising the transport sector is important, but we caution the Government about 'picking winners'. The role of Government is to set the regulatory environment that enables the private sector to innovate and forge a market-led path to a net zero economy by 2050.
- d. **Close collaboration between Government and the private sector:** We recognise the role MoT describes for the private sector in the transport transition. It is clear from the consultation document that there is much detail still to be worked through, and that the operational policy to effect many of the required changes will sit elsewhere, such as in the National Supply Chain Strategy. We see a role for business and Government to work in partnership to accelerate thinking in these areas which was highlighted as a priority in the Climate Change Commission's final advice to Government. SBC and CLC members would welcome the chance to be part of this collaborative effort. One particular example is the recently announced Sector Leadership Group on electric vehicles (EVs) – discussed further below.

2.2 Consultation question 2: role of government

We are pleased that *Hikina* acknowledges the role that the private sector will play in helping New Zealand decarbonise its transport sector.

We do not see the decarbonisation of Aotearoa's transport sector as solely the role of government. Rather, our shared goal of a net zero economy by 2050 should be guided by a partnership between government and all of society's actors who will need to commit capital, take risks, and change behaviours in order to achieve them.

The investment choices that businesses make will determine the success of Aotearoa's transition. Businesses, including members of SBC and CLC, are already playing an important role in getting the

transition underway, for example by working to drive down emissions with the companies we work with in our supply chains. Many of the solutions the Climate Change Commission alludes to will be provided by and tested by business, so we would like to see emphasis on the need for Government policy to provide businesses with the flexibility needed to shape their own transition.

Hikina describes the private sector as one of a number of players in this transition and ascribes it a relatively narrow role. We ask that the vital role that business will play in this transition be better reflected, as it was in the Climate Change Commission's final advice to Government.

We do see a role for Government in using regulatory lever(s) to provide appropriate nudges and catalyse behaviour change where a non-price measure is demonstrably required to accelerate emissions reductions.

2.3 Consultation question 3: supporting transport innovation for emissions reductions

Changing the nature of vehicle ownership and how people travel in urban areas will require a strategic rethink of mobility options. Transportation and mobility are on the cusp of a paradigm shift that will be brought by technological innovation and social change that will see more New Zealanders using transport as a service and other more flexible options. For this reason, we ask that there be more research into the drivers of mobility choices within the Aotearoa context, including on a regional basis, and support for the sector to find innovative solutions to overcoming decarbonisation barriers.

To ensure Aotearoa can capitalise on the full potential of emerging technologies, it will be critical for Government and industry to work together to ensure that we are building skills and innovation capabilities within Aotearoa, and that the rollout of supporting infrastructure to enable innovation can continue at pace.

Particular candidates for targeted Government support to incentivise innovation and investment are set out in other parts of this submission, but in summary include:

- Domestic biofuel production, including sustainable aviation and shipping fuels.
- Investigation of the role of hydrogen in decarbonising heavy transport in particular.

2.4 Consultation questions 4 and 5: integrating transport, land use and urban development; encouraging mode shift

We support the development of an Integrated National Transport Network to reduce travel by private vehicles and to increase walking, cycling, low-emissions public and shared transport, as was recommended by the Climate Change Commission. We ask that the final transport chapter of the ERP be framed in terms of this Integrated National Transport Network and articulate a clear, systems-level approach to a strategy for our future mobility.

Changing the nature of vehicle ownership and how people travel in urban areas will require a strategic rethink of mobility options. The changes required to decarbonise our transport sector touch on deep and long-held habits and expectations as to how we (and the goods we consume) get from place to place in Aotearoa. Decisions will be varied in their size and scale but include considerations such as the kinds of vehicles we buy, how our cities and towns are planned, and how long we are prepared to wait for package deliveries.

As part of this, we **strongly encourage** that greater consideration is given to how rural communities are included in this work programme. While the recommendations within the discussion document focus heavily on urban development, alternative modes of transport like cycling or public transport are not viable options for many rural communities. This needs to be given careful consideration to ensure an equitable transition and that the impacts of the transition are not unduly borne by those living rurally.

Careful planning needs to accompany scaled up investment to old habits and building confidence in new means of travel. MoT appears to have undertaken some research of the drivers of mobility choices within Aotearoa, but as noted above, we think **there needs to be more** research into the drivers of mobility choices within the Aotearoa context to enable enduring change. This should include, for example, an understanding of the drivers and tipping points to use e-micro mobility (e-bikes and scooters) on movement corridors.

Hikina does address many proposals that could achieve a low-emissions Integrated National Transport Network, like active travel, accessible urban design, and efficient public transport. However, we **ask** that the individual policies floated in *Hikina* be considered in a more holistic way to ensure that linkages are identified and cross-system barriers, large and small can be tackled.

For example, on the small barrier side, e-bikes have many advantages over battery electric vehicles (BEVs), such as less wear on roads, improving activity rates (reducing obesity), and have far fewer embodied emissions. They can also help address the last-mile issue. Despite these advantages, they are not allowed to be taken on public transport. Such barriers need to be removed if behaviour is to change. The ERP's transport chapter should address these smaller, but important, issues too.

We agree that infrastructure and energy are sectors that are crucial to the transport transition. We **strongly encourage** that a systems-level approach is taken to ensure that the transport policy response be developed in tandem with aspects of the ERP and other policies that cover these sectors, to create a cohesive and coherent plan that creates a clear signal for all New Zealanders.

We see specific need for the energy strategy and the Infrastructure Commission's *Infrastructure Strategy*, in particular, to be embedded within and speak to the transport response. The transport chapter of the ERP should also be developed in close coordination with the *Equitable Transitions Strategy* that the Climate Change Commission's final advice recommends. Framing in terms of a holistic strategy or network will enable emissions reduction measures that cut across the transport sector to be better addressed, such as promoting increased vehicle occupancy and system productivity.

Successful transport transition planning will also require Government to explore a range of regulatory levers. Options could be considered through the reform of the Resource Management Act to integrate climate considerations into how we plan for and build towns, cities, and infrastructure. For example,

any new significant transport infrastructure could be required to establish consistency with the emission budgets before consent is granted.

2.5 Consultation question 6: role of pricing

We generally support improving the pricing system for transport, so that costs associated with vehicle use are internalised (e.g., congestion / parking charge). By providing a more direct pricing signal of the real costs of mobility choices, such a system would create stronger incentives to support low-carbon user choices. A congestion charge, for example, would encourage desired behaviours, fewer cars on the road, more people per car, reduce transport-related emissions and bring the cost of EVs down. It would also provide a mechanism for allowing investment into public transport infrastructure, innovation into cleaner fuels, and improvements to existing assets. It is therefore pleasing to see that MoT is considering congestion pricing and distance pricing and would like to work with the Government as options are further explored.

One issue that needs to be recognised is that, as fossil-fuelled vehicles start exiting the fleet, new sources of funding for capital investments in road infrastructure will need to be secured given the current dependence on payments from fossil-fuelled vehicle use (e.g., Road User Charge (RUC), fuel excise tax). We recognise the challenges *Hikina* sets out to implementation of a nation-wide road pricing scheme. However, in order to ensure sufficient public funds are available to support capital investments in transport infrastructure, including the low-carbon transition, we support acceleration of a nation-wide road pricing system to future-proof the Government's road infrastructure funding source. Specifically, we **suggest** that this be integrated into the current MoT project *Future of the Revenue System*, and that the feasibility of smart road pricing be specifically considered. This should include consideration of the distributional impacts of road pricing options.

2.6 Consultation question 7: actions to accelerate the transition of the vehicle fleet

Low-emissions vehicles, including electric vehicles (EVs – which for simplicity we use in this submission to refer to both battery electric and hybrid vehicles), will be an important part of the broad range of solutions that will be required in decarbonising Aotearoa's transport sector. SBC and CLC members are keen to work in partnership with government to develop collaborative pathways that have broad sectoral and, ideally, political support. We were pleased to see the recent announcement of the establishment of a Low Emissions Vehicle Leadership Group and look forward to being part of this work. We **recommend** that this Group should comprise a diversity of views and voices from the sector and different political parties. This Group **must** be established and commence work as a matter of urgency.

We **support** an ambitious roadmap to accelerate the transformation of the transport asset make-up. We, therefore, **support**, in principle, the restriction of Internal Combustion Engine (ICE) light vehicles entering, being manufactured, or assembled in Aotearoa. Any such restriction would need to be designed carefully to ensure it reflects the availability, affordability and safety of alternatives to ICE vehicles. The Low Emissions Vehicle Leadership Group could develop recommendations as to how

such a policy could be structured, taking into account the range of factors that will contribute to EV uptake in Aotearoa (including supply, charging infrastructure, and incentives).

Transitioning the light vehicle fleet is a major task. Many countries are further along this pathway than Aotearoa. We support the undertaking of a survey of policies to support EV uptake in comparable economies, to enable Aotearoa to learn from the experience of others.

EV supply

As *Hikina* identifies, there is a real risk to achieving the required EV supply given Aotearoa's limited bargaining power for the latest EV technology. We recommend the Low Emissions Vehicle Leadership Group be tasked with investigating options to minimise this risk. One solution could be bulk procurement of BEVs to reduce supply risks, e.g., through corporate buyer's club or other mechanisms, such as, strategic partnerships with other countries for EV supply. SBC and CLC members would welcome the opportunity to be part of this effort.

We also support the final advice of the Climate Change Commission in recognising the value of solutions, such as, hybrid vehicles and blended biofuels in reducing emissions until zero carbon options become more affordable.

Charging infrastructure

Hikina notes that "commenced work to develop a strategy to support the ongoing implementation of infrastructure, which should also include charging infrastructure for other modes such as for ships at ports." We support the acceleration of this work as a matter of priority:

- The infrastructure needs keep pace with the significant switch from ICE to EV. There is urgency to such a plan given the decisions that are already being made with respect to urban planning. The Electric Vehicle Infrastructure scoping project should be accelerated with a view to commencing implementation by mid-2022 at the latest.
- As part of that, we support the introduction of a co-investment subsidy for EV charging infrastructure to incentivise investment of fossil fuel industry capex into electric and divert it from inappropriate investment in potentially stranded fossil fuel assets. We support in particular work to consider how to promote establishment of necessary infrastructure in rural areas.
- We expect smart EV charging to play a critical role in electrifying transport affordably in the future, not just for EV owners but for all users of the electricity system. We recommend that the Electric Vehicle Infrastructure scoping project consider the value of smart EV charging and smart EV integration within the wider electricity system.

Charging infrastructure is one particular area that would benefit from a systems-level approach. Preparing Aotearoa's homes and streets with the necessary charging infrastructure will be a major undertaking, with some practical but important considerations. The electricity sector (and wider energy sector) therefore needs to be involved in designing and following through on the transport sector's transition. We are entering into a period where, for the first time at a large and widespread scale, the electricity and transport industries are converging to deliver transport outcomes for New Zealanders, which will require coordination at both a strategic level and at an operational level. The

Electric Vehicle Infrastructure scoping project should also consider the role and applicability of vehicle to grid technology and how utility companies can utilise this technology in partnership with smart EV charging systems to deliver the energy and power required to charge an EV fleet across the network.

Role of business in accelerating fleet transformation

Corporate fleets will play a major role in the move to electrifying light vehicles. We recommend that MoT deepens its consideration of the possible short-term impacts on businesses as they transform their fleet to lower-carbon assets. Removing current barriers will help smooth the pathway to electrification of corporate fleets. *Hikina* recommends investigation of tax incentives. This is an important step: reducing, removing, or changing the methodology for calculating the fringe benefit tax for the corporate BEV fleet and employee EV charging with accelerate uptake.

There are other impacts on businesses as well. For example, current Worksafe guidelines requiring employer owned EVs to be charged in a garage. This is a major barrier for some of our members in terms of which employees can be eligible for an EV. We ask that this be changed or modified to make it more practical and incentivise employer EV uptake.

Complementary measures

In addition to the recently announced incentive schemes to reduce the upfront cost of low-emissions vehicles, we recommend that MoT considers complementary measures aimed at getting older vehicles off the road. This should include exploration of the following potential measures:

- The further scrappage of older vehicles, including more stringent requirements for warrants of fitness and higher costs for annual licensing for such vehicles. However, we also recognise that there are significant social issues to address in exiting older vehicles from the fleet, and that the cost of scrappage and of upgrading to a newer vehicle will be prohibitive for many low-income households. We recommend that MoT consider whether cash incentives could be provided for scrappage, or for low-income households to trade older vehicles and purchase more fuel-efficient cars.
- We recommend MoT consider in more detail infrastructure required for recycling EV batteries at the end of their life within Aotearoa, with a view to a scheme being in place within the next two years.

Low-carbon fuels

We support the development of a biofuel strategy. We welcome the recent announcement of the extension of the biofuel mandate to all transport modes.

We were pleased to see the Climate Change Commission in its final advice support the development of a bioeconomy strategy for Aotearoa. The bioeconomy and biofuels strategies must be integrated, recognising other uses of biomass feedstock in the economy, and the trade-offs amongst supply-chain investment decisions that will need to be made. The issue of biofuel supply is particularly relevant for aviation, where alternative options to decarbonise are not available (see aviation below).

In addition, we recommend a moratorium or some other limitation on any new fossil fuel stations to be constructed if this would significantly reduce emissions. There is a real risk of stranded assets in a

relatively short timeframe, and this will assist in no small part, to educating the general population on the realities of our climate transition.

2.7 Consultation question 9: domestic aviation emissions

Decarbonising aviation is critical to the future prosperity of primary produce exports, the tourism sector, and maintaining important social connections. As acknowledged in the report, aviation plays an important role in connecting people, and delivering Aotearoa's high-value and perishable export products to the world, for which alternative transport modes are not often feasible.

Overall, we support the report's recommended actions to decarbonise aviation, including through SAF, next generation aircraft, and improved efficiencies. This includes the policy actions proposed for the first budget period.

Current technological challenges should not stop us from planning and working towards a future with electric short haul aviation in the coming decades. Electric aircraft will require major changes to airport infrastructure and operations, manufacturing, supply chains, maintenance infrastructure and operations, airline capital plans and operations, and training. To realise the future economic and environmental returns of zero-emission electric aircraft, now is the time to start planning.

SAF is also critical to aviation decarbonisation. For long haul, it is the only current option. Some of our members, including Air New Zealand and Z Energy, are committed to working with the Government and others in the private sector to make SAF a reality in Aotearoa over the next few years.

As noted above, we support the introduction of a biofuels mandate applying to SAF. However, the current proposal for a Sustainable Biofuels Mandate for Aotearoa would not facilitate SAF supply in Aotearoa. A SAF-specific mandate applying to all fuels (including exported) is required. We will engage further on this issue through the Government's consultation process on this policy.

We welcome consideration of subsidies to support domestic production to support domestic SAF supply, and to close the commercial gap between fossil-derived fossil fuel and SAF. However a biofuel mandate and subsidies to support domestic production are two of many possible policies that could be used to establish viable SAF industries and close the gap between SAF and fossil fuels. We welcome further discussion on what the best mix of policies is for making SAF a reality in Aotearoa.

In addition to the actions proposed for the first budget, we suggest the following additional actions to facilitate aviation decarbonisation:

- Establish a public-private, cross-agency advisory body focused on aviation decarbonisation.
- Identify and prepare for the infrastructure and energy requirements of next generation aircrafts. To operate these planes in the third budget period as we plan, research and investment in this infrastructure needs to start now.
- Implement the Climate Change Commission's recommendation to undertake a detailed study on the use of SAF in Aotearoa. This should include a detailed feasibility study to help confirm high level production cost estimates, confirm feedstock supply, determine necessary policy and investment settings, and quantify the greater benefits to the regions of standing up a SAF industry.

- Review the objectives of the air traffic management system to, after safety, optimise for carbon reduction.
- Assess regulatory settings related to aviation, including airports and energy systems, to ascertain whether the system is fit for purpose for the adoption of aviation decarbonisation technologies.

We support exploring scope for operational improvements at airports. Our members are already playing a leadership role here: Christchurch Airport allows planes to connect to electricity mains when grounded rather than burn fuel in onboard generators, saving emissions. This type of innovative thinking when rolled out across airports in Aotearoa could have a material impact on aviation emissions.

2.8 Consultation questions 10 & 11: freight supply chain, freight modes and fuels

SBC and CLC support the development of a National Supply Chain Strategy that addresses the need and plans for long-term infrastructure investments to support the decarbonisation of heavy freight. A concerted, coordinated approach at the central government level is required rather than a piecemeal local or regional plan. We see that much of the detail of freight sector decarbonisation will be contained in that Strategy. We look forward to collaborating with Government on its development and make some initial comments on the freight aspects of *Hikina* below.

Hikina recognises the complexity and market-led nature of the freight system and therefore the decarbonisation task. Recognising this, SBC's Freight Group, a group of nine companies representing the freight industry, carried out a study on the possibilities for this sector in 2020. SBC's Freight Group found:

- By 2030, 28 per cent of net emissions reductions can be achieved through options that are readily available. These include improved vehicle efficiencies, telematics, BEV, freight flow optimisation, and mode shift.
- These opportunities can be harnessed through improved collaboration across the HV supply chains, a better understanding of customer demand drivers, and government support to bring some of the required changes forward (e.g., BEV infrastructure, coastal shipping and rail infrastructure).
- The remainder of emissions will require an increasing uptake of biofuels or hydrogen, especially from 2030. Now is the time to act to remove barriers for those technologies so the scale of transformation is feasible. These barriers include high capital cost for hydrogen vehicles, and failures in the biofuels market.

Many of the potential emissions reduction measures *Hikina* sets out for freight align with the Low Carbon Freight Pathway, including:

- Optimising freight routes, logistic nodes, equipment and vehicles: SBC Freight Group is already planning on doing this through exploring collaborations aimed at optimising freight routes.

- Examine opportunities for the collection and better use of data to improve efficiencies in the freight system. Subject to competition law considerations, SBC Freight Group could play a role in the effective data gathering and use of data to improve efficiencies in the freight system. We would welcome the chance to discuss further with MoT in the context of the National Supply Chain Strategy.
- Consider encouraging/supporting voluntary business collaborations to reduce emissions in logistics – the Freight Group is already doing this and seeking to promote more cross-industry collaboration through expanding the Pathway membership.

Hikina considers the role of consumer demand in shaping freight patterns but does not propose an action arising out of it. One of the Freight Group's implementation channels is exploring consumer behaviour that promote modal shift. We look forward to engaging on this in more detail through the National Supply Chain Strategy.

Hikina does not specifically mention the roles of biodiesel, hydrogen, and BEVs in the freight sector transition. As noted above, the Low Carbon Freight Pathway showed that alternative fuels and electrification need to, and can feasibly, play a major role in freight sector decarbonisation. In particular, we ask for greater recognition of the potential of hydrogen as a low-carbon fuel. The Low Carbon Freight Pathway showed that hydrogen is a viable fuel alternative to biofuels and EVs. This needs to be factored in to policy to future proof the necessary infrastructure. We would like to see this reflected in future policy direction, including the National Supply Chain Strategy.

There is also an opportunity for the domestic refurbishment of high-emitting trucks. New trucks enter Aotearoa as a cab and chassis and have their freight bodies fitted locally. This has created a local expertise in truck assembly that could be used to convert diesel trucks. This would also help address low-carbon vehicle supply challenges. We are aware of the barriers to such refurbishment on a larger scale, particularly the reluctance of truck manufacturers to provide warranties, and therefore support the focus to be on newer existing diesel trucks that do not have deteriorated running gear.

We support a review of restrictions/requirements (e.g., length restrictions) on the type of heavy vehicles that can be bought into Aotearoa. These restrictions are a barrier to low-carbon heavy vehicle uptake. A change to allow longer vehicles could incentivise low-emissions heavy-freight vehicles into Aotearoa faster.

We support the establishment of an investment strategy and clear targets to increase the share of rail and coastal shipping. For rail, this should be done as part of the *New Zealand Rail Plan* that is being drafted. The work by SBC's Freight Group found that mode shift is a key pillar for optimising the freight system, however, additional investments are required to integrate road, rail, and coastal shipping into a cohesive transport system. *Hikina* contains a detailed and extensive plan for mode shift into rail and shipping, with accompanying investment. MoT estimates that between 15-35 per cent of the road freight task is potentially transferrable to rail and coastal shipping. The Pathway report models 14 per cent, which is likely at the very top end of what the Freight Group's report considered realistic. We would welcome the chance to discuss this in the context of the National Supply Chain Strategy to ensure the freight pathway is feasible.

We also recognise that other users of fuels within the marine space do not fit the natural definition of coastal shipping, such as the fishing and cruise liner industries. We recommend that MoT ensure their

definitions are clear with respect to targets/mandates and requirements for different sub-sectors of the maritime sector.

We recommend that MoT support the Climate Change Commission's recommendation of the introduction of a target/mandate for renewable fuels for ships with policy level guidance, and recommendations to support the domestic production, distribution, and supply for those alternative fuels.

Finally, we would welcome closer examination of the role of shipping, including international shipping, in reducing Aotearoa's transport emissions, as part of the ERP.

2.9 Consultation question 12: ensuring a just transition

We are pleased to see *Hikina* acknowledge the distributional impacts of EV policies and indicate that it will take a system approach to consider the social impacts of particular policies. We encourage more focus and investigation on how to ensure a just transition in the low-carbon transport transition. We acknowledge that some measures, if not correctly designed, can disproportionately impact low-middle income families.

We encourage an approach to the transition that is well-signalled, to allow proactive planning. It should be based on co-design with business, employees, iwi-Māori and communities to enable an enduring response. It should also be based on sound modelling and open dialogue about who will bear the cost of change so that the distributional impacts of the transition can be managed effectively.

We support work to ensure effective policy design and management of distributional impacts to understand and minimise these impacts. We encourage particular consideration to be given to rural communities and small and medium businesses to whom low carbon transport options may be less accessible.

2.10 Consultation question 13: which pathway?

SBC and CLC appreciate MoT setting out a series of pathways in *Hikina*, as well as inputs to the underlying modelling. At this stage, the model does not include many modes and assumptions that our members see as key to decarbonising the transport sector. This includes the omission of freight rail, aviation, ships, and boats from the modes considered, as well as sustainable aviation and shipping fuels and hydrogen. It also leaves out some of the key recommendations of the Climate Change Commission in its final advice, such as supporting flexible working policies as a transport emissions reduction measure, and key policies to support uptake of low-emissions vehicles, such as tax incentives, restrictions on ICE imports and scrappage schemes. This makes it difficult for us to provide meaningful comments on the pathways at this stage.

We urge MoT as an immediate priority to build these into the model and re-run it, including to reflect the Climate Change Commission's 'demonstration path' in its final advice. We look forward to engaging with the pathways when the modelling is at a more advanced stage.

We also note that, as currently modelled, Pathways one to three focus on slower adoption to low carbon transport and do not meet the Climate Change Commission's recommended emissions budgets over the next 15 years. Adherence to the emissions budgets should be a minimum requirement for any transport decarbonisation pathway.

2.11 Consultation question 14: policies for the first emissions budget period

SBC and CLC comments on specific policy recommendations are embedded in the sections above, indicated in bold.

About Sustainable Business Council

The Sustainable Business Council (SBC) is a CEO-led membership organisation with over 100 businesses from all sectors, ambitious for a sustainable Aotearoa. Members represent more than \$87 billion of collective turnover, 28 per cent of GDP, and nearly 160,000 full-time jobs. Our network gives members the ability to take large-scale collective action. SBC is part of the BusinessNZ network and is the New Zealand Global Network partner to the World Business Council for Sustainable Development. www.sbc.org.nz/about/our-members/sbc-members

About Climate Leaders Coalition

The Climate Leaders Coalition (CLC) was launched in July 2018 with 60 original signatories to promote business leadership and collective action on climate change. With now over 100 signatories, they account for almost 60 per cent of New Zealand's gross emissions, around \$86 billion of collective turnover, and employ almost 200,000 people. Signatory commitments include measuring and publicly reporting their greenhouse gas emissions, setting a public emissions reduction target, and working with suppliers to reduce their emissions. www.climateleaderscoalition.org.nz/who

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Sustainable Business Council

wbcscd Global Network Partner

CLIMATE LEADERS COALITION

ON A MISSION TO REDUCE EMISSIONS IN NEW ZEALAND





Submission on the
Hīkina te Kohupara - Transport
Emissions: Pathways to Net
Zero by 2050

Submitted on behalf of:
Te Rūnanga o Ngāti Whātua
Māori Public Health Unit

Introduction

1. Te Rūnanga o Ngāti Whātua would like to thank the Ministry of Transport for the opportunity to contribute to the feedback on the Hīkina te Kohupara - Transport Emissions Pathways to Net Zero by 2050 discussion document, and Aotearoa New Zealand's response to climate change. It is of paramount importance that this proposal is not only informed by statistical evidence, but that the voices, experiences, and institutional knowledge of tangata whenua, hapū, iwi and hāpori are acknowledged and taken into consideration.
2. Te Rūnanga o Ngāti Whātua wishes to orally present feedback to the Ministry, should the opportunity arise.
3. As an iwi, Ngāti Whātua's tribal boundaries extend from Ōtāhuhu, in South Auckland, and extend to Whangarei and Waipoua in the North. Ngāti Whātua's hapu collective and iwi affiliations are to Ngā Oho, Ngāi Tāhuhu, Ngāti Hinga, Ngāti Mauku, Ngāti Rango, Ngāti Rongo, Ngāti Ruinga, Ngāti Torehina, Ngāti Weka, Ngāti Whiti, Patuharakeke, Te Parawhau, Te Popoto, Te Roroa, Te Urioro, Te Taoū, Te Uri Ngutu, Te Kuihi and Te Uri o Hau.
4. Te Rūnanga o Ngāti Whātua was established in 1988, for the purpose of settling the treaty claims of the Ngāti Whātua People. Te Rūnanga o Ngāti Whātua is constituted as a body corporate by the Te Rūnanga o Ngāti Whātua Act 1988 and is a Māori Trust Board under the Māori Trust Boards Act 1955. It is the sole representative body and authorised voice to deal with issues affecting the whole of Ngāti Whātua.
5. Ngāti Whātua prides itself on always being an iwi of manaaki, and through this philosophy, Ngāti Whātua can promote, enhance, and advocate for quality living for Ngāti Whātua uri, Māori, and all peoples living within the rohe Ngāti Whātua. Given

its traumatic history, Ngāti Whātua are leaders and innovators in the space of advocacy for Māori rights. We continue to advocate for Māori health rights which are enshrined in Te Tiriti o Waitangi. We support the view that Te Tiriti o Waitangi recognises the status of whānau, hapū and iwi, and reinforces the rights of Māori to taonga, including wellbeing.

Background & Context

6. Te Rūnanga o Ngāti Whātua hold sacred obligations of kaitiakitanga (guardianship) to protect Papatūānuku, manaakitanga to care for people, and to uphold the mana of Ngāti Whātua. We express grave concern regarding the state of climate emergency in Aotearoa and call for urgent action to restore the mana and mauri of our whenua, wai (water) and hau (air). We strongly believe that our whenua, wai and hau are intrinsically intertwined and interconnected with all aspects of life, including tangata (people), ora (life), wairua (spirit), mātauranga (knowledge), and all living and non-living things. Therefore, we strongly support rapid action to reduce carbon emissions to net zero by 2050.
7. We support the goal for Aotearoa New Zealand's transport system to shift to a low/zero carbon pathway as soon as possible to achieve the net zero carbon 2050 goal. We highlight the importance of rapid action following consultation on the Hīkina te Kohupapa proposal to put measures into long-term action, shift behaviours, fund the right infrastructure, and introduce bipartisan policy to actively work towards the goal.
8. We note the importance of a system wide approach for reducing transport emissions, as well as addressing all cross-sector factors including industrial processes and product use, energy, waste management, aviation, agriculture etc.
9. We also wish to highlight the importance of building and expanding renewable energy in Aotearoa to completely minimise fossil fuels including coal and gas.

10. Te Rūnanga o Ngāti Whātua supports an incentive scheme to achieve price parity between ICE vehicles and zero or low-emission vehicle alternatives. We recognise that large upfront costs are the main deterrent preventing people from purchasing e-vehicles, and we would like to see a range of more affordable zero or low-emissions vehicles (including imported used e-vehicle options) available.

Key Recommendations

11. Te Rūnanga o Ngāti Whātua express concern that the implementation of the Clean Car Standard will disproportionately affect people experiencing social and economic hardship, particularly Māori and Pacific communities. We recommend that ICE vehicle fees are only implemented once e-vehicles become accessible and affordable to whānau. Alternatively, we recommend that additional financial support, schemes such as e-vehicle social leasing or funding, be available to assist low income households to purchasing e-vehicles, or be exempt from ICE vehicle fees. For many whānau, transport is an integral component of accessing employment, income and education, while also raising a family (making public transport impractical). We do not wish to further disadvantage whānau that may already face transport poverty or financial hardship.

12. In order for policy to have equitable, fair and inclusive outcomes, at this stage, we do not support the additional carbon charges of increased fuel excise duty, congestion pricing, distance pricing or low-emission zones. We strongly recommend for public transport to become more accessible, reliable, affordable, and safer across the board, and for e-vehicles to be affordable for lower income whānau and communities before implementing the additional carbon charges (outlined on page 10 of Hīkina te Kohupara).

13. Te Rūnanga o Ngāti Whātua supports considerations to enable Māori to fulfill housing aspirations such as developments on whenua and papakāinga, including rural areas. We emphasise that whānau in rural areas should be entitled to

additional support and options, including charging stations and funding opportunities, to thrive and contribute to Aotearoa's low emissions goal.

14. We strongly support and emphasise the need for urban developments with affordable housing for whānau, to prevent low-income households being forced to live in rural areas, with poor transport options. This is a major equity concern to be addressed to prevent further disadvantages over time, particularly for Māori and Pacific peoples. We stress that this must be a cross-sector collaborative approach to address the wider determinants leading to poverty, including health care access, income, systematic racism, education, employment, housing etc. We recommend measures to be put in place to ensure lower income households have transport options to easily access health care, employment and education.
15. Te Rūnanga o Ngāti Whātua support implementing a fuel efficiency standard, ensuring that all imported vehicles pass the Clean Car Standard. We hope to see the increase in range of electric vehicles, (including used, imported e-vehicles) lead to more affordable clean cars, and appropriate electric vehicles for all sectors, including the agriculture sector.
16. We also support an ICE vehicle importation phase out to prevent the surge of imported fossil fuel vehicles, price reduction tactics of ICE vehicles, or a "dumping ground" for unused petrol cars.
17. Te Rūnanga o Ngāti Whātua strongly supports further investment in public transport infrastructure to increase the capacity, frequency, quality, safety and reliability of services, particularly in socially and economically deprived areas to address transport poverty and inequity. Te Rūnanga would also recommend further infrastructure such as affordable parking, e-scooters or e-bikes to be available at public transport stations to increase accessibility to train stations, bus stations, and ferry terminals.
18. We agree with increased incentives to use existing public transport including both fare reductions, service improvements and concessions. We support this measure to not only encourage people to use public transport, but to also provide affordable

means of transport, and remove barriers for those travelling to work, health care, education, lesiure, and cultural activities etc.

19. We strongly recommend for any changes of ports or freight hubs, land or areas to improve public transport, to first consult with iwi and hapū, Te Rūnanga o Ngāti Whātua support Ngāti Whātua ki Ōrākei as manawhenua within the Auckland region. We also ask that the effects on the wider environment such as marine life, kai sources, and the foreshore and seabed to be seriously considered. We support encouraging cleaner and more efficient ships and ports to first and foremost meet obligations of protection under Te Tiriti o Waitangi.
20. We support the proposal of place making and inclusive street design to turn spaces into vibrant public spaces that are good for people's wellbeing and provide easy access to community learning spaces, workplaces, shops, education etc. We recommend incorporating manawhenua stories, history, and tikanga into these designs and formation, making spaces culturally appropriate, accessible for people with disabilities, and diverse.
21. Based on international examples of biofuel production leading to deforestation, loss of biodiversity, and negative environmental impacts, we call for a robust sustainability criteria to ensure that **only** environmentally, economically, and socially positive biofuels are permitted in Aotearoa.
22. Te Rūnanga o Ngāti Whātua would like to thank the Ministry of Transport once again for taking the time to consider this submission.

Hīkina te Kohupara - — Kia mauri ora ai te iwi
'Transport Emissions: Pathways to Net Zero by 2050'

Christchurch International Airport Ltd Submission



**Christchurch International Airport Ltd Submission to
Hīkina te Kohupara - – Kia mauri ora ai te iwi 'Transport Emissions: Pathways
to Net Zero by 2050'**

*Kaua e hoki i te waeae tūtuki
Ā pā anō hei te ūpoko pakaru*

Do not turn back because of minor obstacles
but press ahead with the desired goal

*Ko ngā pae tawhiti whāia kia tata
Ko ngā pae tata whakamaua kia tina*

The potential for tomorrow depends on what we do today

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1 INTRODUCTION

Christchurch International Airport Limited [CIAL] wishes to thank the Ministry of Transport for the valuable mahi undertaken to create this “Transport Emissions: Pathways to Net Zero by 2050” Green Paper.

We support the Hīkina te Kohupara goal of decarbonising transport. We endorse the Green Paper’s approach that decarbonising New Zealand’s aviation sector needs to be focused on changes that are technologically possible at this time while also studying, enabling, and then encouraging the necessary future technological changes that will be required to achieve decarbonisation.

We urge those across business, government and society to support this work with urgency and raised ambitions. This is about our future, and rightly, the part we all need to play in the betterment of our planet. Collectively we need to change our behaviours, but we also support market incentives with measured interventions where necessary. An extensive toolkit is required to combat climate change, business as usual is no longer an option.

Our submission will touch on the areas of broad alignment between the Transport Emissions Green Paper, and our own Emissions Reduction Pathway. We then seek to provide greater detail on sector specific considerations relating to CIAL and aviation.

2 AREAS OF ALIGNMENT

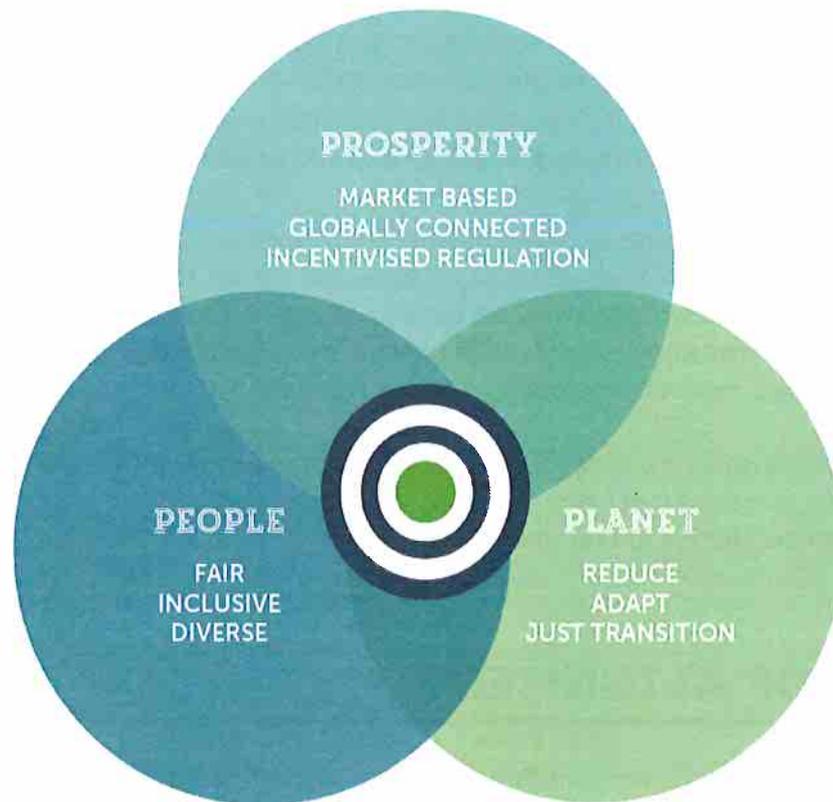
CIAL shares in the determination to contribute meaningfully to global efforts to limit warming to 1.5 degrees above pre-industrial levels. Recognising that Aotearoa is currently not on track to meet our Nationally Determined Contribution, and that includes the continued growth of transport emissions. We agree that Aotearoa must act with greater urgency to meet our national and global emission reduction commitments.

Hikina te Kohupara provides useful signalling to the transport sector on our collective direction, though we understand more detail will follow. We support broader and deeper changes needed to quickly shift our transport system to a zero emissions pathway, recognising this will involve many levers, the ETS and policy interventions.

We appreciate the pathway approach being based on current technologies, as this allows Aotearoa to get started immediately. However, we also note the need to be dynamic and inclusive of quickly evolving new technologies. Particularly those that could complement climate adaptation.

CIAL support the shared vision of a thriving, climate-resilient low emissions Aotearoa, that is equitable, inclusive, protects livelihoods and makes economic sense. We see value in a collaborative approach, working alongside tangata whenua, acknowledging rangatiratanga and kaitiakitanga.

CIAL take a principled approach towards decarbonisation, understanding that the key to a just transition means intersecting the needs of people, planet and prosperity. It means focusing on absolute emission reductions, it means using market based incentives and interventions, and ensuring that we are bringing people along in a fair inclusive manner.



3 OUR CIAL EMISSIONS REDUCTION PLAN

CIAL accept the role carbon dioxide and other greenhouse gases play in climate change. We believe in the science behind climate change. We support the global target, as established by the United Nations Framework Convention on Climate Change (UNFCCC) in the Paris Agreement 2015, to keep global temperature rise within 1.5 degrees.

We were advocates for the New Zealand Zero Carbon Act, the establishment of an independent Climate Change Commission, and having national emissions reduction targets enshrined in law. Our commitment to carbon reduction is reflected in our memberships of the Climate Leaders Coalition and the Sustainable Business Council. We're proud to be an early signatory of the Climate Leaders' High Ambition Pledge to reduce emissions.

CIAL have been measuring our emissions since 2007 and were the first airport in the world to do so with independent scrutiny. We have mapped out our own emissions reduction plan, with science-based targets and absolute reduction goals, in line with limiting temperature rise to 1.5 degrees. This includes an 84% reduction in Scope 1 and 2 emissions against 2015 levels by 2035, and a goal of absolute zero Scope 1 and 2 emissions by 2050. This is achieved through emissions reduction projects including;

- decommissioning of diesel generators and replacing them with ground source heating;
- conversion of our commercial vehicle fleet to electric vehicles, with the intention of regular turn-over to contribute to the local second-hand electric vehicle stock;
- replacement of lighting with LED equivalents;
- replacement of HVAC systems with refrigerants that have lower emissions factors;
- introduction of gate ground power to replace airline auxiliary fuel use with grid electricity;
- waste minimisation initiatives to decrease waste sent to landfill;
- implementation of sustainable procurement guidelines to impact our own operations and our supply chain;
- implementation of design build guidelines to encourage best practice with airport campus property development;
- investigation of future aviation technology and how best to support the decoupling of aviation from fossil fuel.

Our CIAL vehicles policy requires all CIAL vehicles to be electric, where an electric alternative exists. Where no alternative is commercially available to us, we actively encourage manufacturers to work on zero emission alternatives to meet our future needs.

We also seek to advocate for a wholistic transport solution – that looks at the connectivity of different modes, for example, working towards supporting accessible zero emissions public transport (that may be electric, or hydrogen fuelled) and active transport connections, that connect to our low or zero emissions flights.

In addition to this, there have been many more small and medium sized decarbonisation projects, as well as behavioural change pieces that seek to further influence emissions reductions across our operations, and those in our supply chain.

To this effect, CIAL was recently recognised as the first airport in the world to reach the highest level of Airport Carbon Accreditation. As an airport we should be doing all we can to transition now, as one of the few component parts of the aviation sector that currently have the available technology to do so.

We recognise the greatest burden of decarbonising aviation remains with airline operators – and the decoupling of aircraft technology from the use of fossil fuel. CIAL seek to encourage and support this decoupling of aviation from fossil fuel, and make sure we have the appropriate infrastructure capabilities to support future zero emission aviation.

4 AVIATION'S UNIQUE POSITION IN NEW ZEALAND

Aviation overall is a force for good – it underpins the global economy, broadens the mind, and connects people. It is the resulting carbon emissions that are problematic. Aviation currently contributes around 5% of global carbon emissions¹, but pre-COVID, the aviation sector was the fastest-rising source of carbon emissions over the past decade.

Our challenge is to protect the benefits of aviation while recognising that future viability of the aviation industry depends upon its ability to decarbonise. It is imperative that effective measures are taken at a global and national-level to decouple aviation from fossil fuel, and this cannot be overstated in the case of geographically isolated Aotearoa.

Airports are critical infrastructure which allow Kiwis connectivity to the rest of the world, but also provides benefits across the entire economy. Aviation is often described as solely the movement of passengers, but critically it also enables 13% of the value of New Zealand's total freight. For example, a daily 787 passenger flight, over the course of a year, contributes \$157million of tourist spend and \$509million of freight value.

In 2019 international air cargo represented only 0.3% of total freight, however this is high value time-sensitive freight – with exports including respiratory equipment, pharmaceuticals, and high value fresh and chilled perishable food.

New Zealand is typically a technology taker from global industry, importing a large variety of high value manufactured industrial and consumer goods by air to support time sensitive needs of industries including manufacturing, farming, retail and e-commerce.

New Zealand typically trades over 220,000 tonnes of goods internationally by air, worth \$26 billion to the New Zealand economy.³ So emissions from aviation sit across the entire economy, with multiple interdependencies along the supply chains of almost all sectors.

When compared to many of our trading partners, and comparable developed nations, New Zealand has a unique dependency on aviation, with no ability to develop international low emission land transport routes. Given this, to maintain any trade advantage, New Zealand needs to prioritise the decoupling of aviation from fossil fuel. We must be conscious of how our policies impact on global investment decisions and international trade.

We believe Aotearoa is in a unique position to show the world how to decarbonise in a relatively short timeframe. If we are ambitious enough. There is an opportunity to export our knowledge to the rest of the world and become world leaders in cross-border decarbonisation. We could do more, and with the right policies and incentives, we could be a testbed for zero carbon manufacturing and future zero emissions aviation.

5 COORDINATION ACROSS THE AVIATION SECTOR IS ESSENTIAL

Aviation is a highly integrated and regulated sector because it has an absolute priority on safety and reliability. No part of the industry able to operate safely or change its operations without the support of other parts. Major reductions in aviation emissions will require all sub-sectors cooperating with, and enabling changes by, other sub-sectors.

Globally, the aviation sector is coordinating rapidly through existing groups such as International Civil Aviation Organisation (ICAO), International Air Transport Association (IATA) and Airport Council International (ACI), and other new groups being formed at the national or regional levels. The Air Transport Action Group (ATAG) is a highly respected association that represents all sectors for the air transport industry and enables the different sectors to work together on sustainability issues.

Political entities such as the European Union have set targets for aviation's decarbonisation, including net zero carbon by 2050 for all flights coming in and leaving from Europe. The aviation sector within those regions and nations have responded by forming sector-based initiatives to meet those targets. In the UK they have the 'Jet Zero Council' - a partnership between industry and government to bring together ministers and chief executive officer-level stakeholders, with the aim of delivering zero-emission transatlantic flight within a generation, driving the delivery of new technologies to cut aviation emissions.

This pro-change dynamic also needs to occur within the domestic aviation and wider transport sector within New Zealand, with the different sub-sectors and regulators coming together to determine how best to achieve decarbonisation within the regulatory and policy frameworks.

Airports need to prepare for the infrastructure and energy requirements for the next generation of aircraft. To support those aircrafts' operations across the air network, New Zealand's aviation sector needs to be planning and investing in this infrastructure. CIAL wishes to be part of the aviation's sector decarbonisation strategy suggested in the Green Paper.

6 THREE THEMES

We note the opportunities raised to reduce transport emissions within Hikina te Kohupara, as informed by the 'Avoid, Shift, Improve' framework; including changing the way we travel, improving our passenger vehicles, and supporting a more efficient freight system.

6.1 THEME 1: CHANGING THE WAY WE TRAVEL

Changing the way we travel requires examining and addressing our available modes of transport, as well as our surrounding environments.

CIAL agree that a key method for improving overall transport efficiency will be how we better shape our cities and towns. Integrated land use and transport systems planning that considers what emission reductions can be achieved at a national level will be necessary. Current frameworks sometimes see district and territorial level decision making compromise improved outcomes for Aotearoa overall.

Over the next 30 years it will be necessary for new investment in infrastructure to best enable low emissions transport networks. Some of these investments will replace existing assets and in so doing, will create opportunities to rethink how those assets can be repurposed and how that land can be used in alternative ways to serve the objective of improving transport efficiency through better shaping our urban centres.

The decarbonisation pathway ought to take a mode agnostic approach that focuses on the most efficient low or zero emission forms of transportation available to meet our needs, in light of New Zealand's unique geographical challenges, and with climate adaptation in mind.

6.2 THEME 2: IMPROVING OUR PASSENGER VEHICLES

Decarbonising the light vehicle fleet is crucial. At CIAL our vehicles policy requires all CIAL vehicles to be electric, where an electric alternative exists. Currently this means 11 out of our 18 vehicles are electric, and we are awaiting the commercial availability of further alternatives i.e. electric utility vehicles. CIAL actively encourage manufacturers to work on zero emission alternatives to meet our future needs. For example, German manufacturer Rosenbauer is currently developing the world's first electric fire truck fleet for airport use.

We support the need to increase the supply of clean vehicles, and the necessary provision of supporting infrastructure. We have 12 electric vehicle chargers on CIAL airport site at present and have the network cabling in place to provide further electric vehicle charging capacity as demand increases.

However, alongside improving passenger vehicle fleet, there is also space to rethink how individuals travel across our country and whether passenger vehicles, in particular single-occupancy vehicles, are the most emissions efficient mode. We support the move towards increased public transport options, and request that aviation be considered amongst that – particularly future electric and hydrogen low emissions aircraft, that could offer a form of transport available to the public that is both efficient, low carbon, and very adaptive to climate risks when compared to land based transport solutions.

6.3 THEME 3: SUPPORTING THE MORE EFFICIENT FREIGHT SYSTEM

Supporting a more efficient freight system and improving supply chain efficiency will be key to lowering emissions while zero emission technology is developed. CIAL have been looking closely at how best to improve efficiency in supply chains – most notably with the proposal to develop a new airport in Central Otago. Air freight is of great importance to many sectors across the economy, yet

it is not well understood that tourism is the reason air freight capacity exists at all. In effect, airlines make their profits primarily from passenger seat sales, in which those same planes provide the airfreight capacity for trade.

Freight efficiency gains, and subsequent emissions reductions could be made, if produce for export was able to take a more direct route to market i.e. produce flown to markets, rather than trucked to hub and then flown using a less direct route. This would be further improved as aircraft technology decarbonises, allowing for both a more direct and low emissions freight supply chain.

In order to support a more efficient freight system that takes advantage of direct routes to market and future aviation technology, we need supporting airport infrastructure. In the same way that transitioning a land based passenger vehicles will require greater electric charging facilities, so too will the decarbonisation of aviation.

Payload optimisation should be considered in any integrated transport strategic planning and investment cases. Any region capable of accommodating wide-body air services will significantly increase access to markets in ways that are cost effective, time efficient and transport sector effective. For example, at present primary sector produce from significant portions of the South Island can only access international air freight services by trucking produce to either Christchurch or Auckland. Wide body aircraft carry significantly more freight than can narrow bodies. The more wide body services can access the South Island, the greater the access to market opportunities and the efficient the transport network.

7 HĪKINA TE KOHUPARA CONSULTATION QUESTIONS

CONSULTATION QUESTION 1

Do you support the principles in Hikina te Kohupara? Are there any other considerations that should be reflected in the principles?

Yes, CIAL is supportive of the 7 principles outlined in the Hikina te Kohupara. In particular, the need for strategic and co-ordinated action across the entire transport system. Often the focus is purely on land transport modes, where a whole of systems mode agnostic approach must include aviation and shipping.

In addition to the principles listed, we would suggest the addition of an 8th principle – to include consideration towards increased resilience and managing of risks, as a co-benefit to this transport emissions pathway. This is increasingly important and ought to occur alongside future pathways, as we are already facing increased weather events that adversely affect our current transport infrastructure.

The actions taken to reduce transport emissions should help manage increasingly extreme weather events, increasing risk of drought and flooding, increasing fire danger, and increasing incidence of pests and diseases. Where possible, actions should increase our transport infrastructure resilience to the impacts of climate change that are already being experienced and that will increase in the future.

CONSULTATION QUESTION 2

Is the government’s role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?

We encourage MoT to consider any policies or investments that will expedite the development of Sustainable Aviation Fuel (biofuels) production capabilities in NZ. Currently NZ is heavily reliant on other countries / economies for the supply of our various liquid fuels. Helping NZ gain energy independence and resilience should be a key strategic objective of the MoT. build more details into the model and re-run it, including to reflect the Climate Change Commission’s ‘demonstration path’ in its final advice. We look forward to engaging with the pathways when the modelling is at a more advanced stage.

CONSULTATION QUESTION 4

Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?

In addition to the principles listed, we would suggest the addition of an 8th principle – to include consideration towards increased resilience and managing of risks, as a co-benefit to this transport emissions pathway. This is increasingly important and ought to occur alongside future pathways, as we are already facing increased weather events that adversely affect our current transport infrastructure.

The actions taken to reduce transport emissions should help manage increasingly extreme weather events, increasing risk of drought and flooding, increasing fire danger, and increasing incidence of pests and diseases. Where possible, actions should increase our transport infrastructure resilience to the impacts of climate change that are already being experienced and that will increase in the future.

CONSULTATION QUESTION 5

Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?

The decarbonisation pathway ought to take a mode agnostic approach that focuses on the most efficient low or zero emission forms of transportation available to meet our needs, in light of New Zealand’s unique geographical challenges, and with climate adaptation in mind.

Often aviation is discounted as a high emissions transport option, but when considering current airline fleet alongside private internal combustion vehicles, the Ministry for the Environment emission factors set out that current jet and medium sized aircraft have a lower emissions contribution than most private vehicles. This will only improve as the aviation industry transitions to electric, hydrogen and sustainable aviation fuelled fleet.

MfE emissions factors

Domestic aviation emissions factors with radiative forcing

Emissions Source	Unit	kgCO ₂ e/unit	Example
National average	p/km	0.242	
Jet aircraft	p/km	0.134	Airbus A320
Medium aircraft	p/km	0.213	ATR 72 (50-70 seats)
Small aircraft	p/km	0.659	(less than 50 seats)

* Based on 70% aircraft passenger loading

NZ has the highest number of passenger vehicles per capita

Emissions Source	Unit	kgCO ₂ e/unit	Example
Petrol	p/km	0.268	
Diesel	p/km	0.270	
Petrol hybrid	p/km	0.202	
Diesel hybrid	p/km	0.242	
Electric	p/km	0.025	

* Based on single occupancy vehicles

CONSULTATION QUESTION 6

Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

Pricing will be critical to the establishment of a hydrogen fuel and Sustainable Aviation Fuel (SAF) supply in New Zealand. Both present significant decarbonisation opportunities for the aviation industry, and SAF is known as a “drop-in fuel” which means it could be used in current fleet. The difficulty is the high relative cost of SAF and hydrogen fuel when compared to fossil-fuel based jet fuel. This will require government intervention, both in terms of industry capital cost to establish, but also to encourage uptake while the pricing differential in fuel types remains significant.

CONSULTATION QUESTION 8

Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?

CIAL support the intentions behind the decarbonisation of the public transport fleet – however, we suggest that the approach be to focus on zero emissions fleet, rather than electric. In some cases, green hydrogen fuel may provide a more suitable alternative to electric, and if the ambit were edited to focus on zero emissions, you then have the ability to capture both technology solutions.

Airports are also responsible for the land transport emissions from passenger, freight, and staff travel to/from the airports, and for staff business travel, as a Scope 3 emission.

As major transport infrastructure within its locality, public transport services are usually available for individuals to arrive at or depart from airports, subject to sufficient demand and the timing of that demand. This in turn is driven by the scale and timing of regular scheduled passenger flights.

In New Zealand, public transport is a Local Government responsibility (at either the regional council or local authority level) and these authorities either own or contract public transport operators. By a fortunate co-incidence, almost all airports receiving regular scheduled passenger services have

some level of local government ownership, so the one organisation owns and/or has some control over both public transport and the local airport. This may provide a useful synergy for greater integration of aviation and land transport systems.

At CIAL we are serviced by both a public transport system that includes an electric bus, though it currently has a relatively low uptake. CIAL is also serviced by taxis with a high use of hybrids, but not EVs. We have 'Zilch' car sharing services available as well. CIAL currently provide EV charging stations in carparks, and this service can readily expand to match demand from EV drivers.

CIAL support the focus on decarbonising the public transport fleet, transitioning transport and industry to be powered by electricity and zero emissions fuels, and an integrated transport system designed for zero emissions technology.

CONSULTATION QUESTION 9

Do you support the possible actions to reduce domestic aviation emissions? Do you think there are other actions we should consider?

CIAL acknowledge the approach taken within Hikina te Kohupara in relation to decarbonising aviation – particularly the understanding of the embedded nature of air connectivity across our society, economy and New Zealand's role within the Pacific. As acknowledged in the report, aviation is critical for connecting people, and delivering Aotearoa's high-value and perishable export products to the world, for which alternative transport modes are not often feasible.

CIAL support the focus on reducing emissions rather than reducing travel – as the latter approach can lead to accessibility issues, climate reduction maladaptation, carbon leakage and an inequitable transport system. We recognise we cannot increase emissions irrespective of growth, that we are operating within a capped and reducing national carbon budget. Though it is a difficult puzzle to solve how best to do that, the strategy we continue to rely on is to focus on decoupling the industry from fossil fuel, as quickly as possible.

We recognise that aviation is understood to be one of the latter sectors to transition due to commercially available technology, however significant progress is being made with low emissions domestic aviation technology, particularly electric aircraft, hydrogen fuel, and sustainable aviation fuel. We believe Aotearoa is well placed to be early adopters, and if there were ambition, even the first nation to have our domestic aviation fully transitioned to a low emissions fleet. Our geography and the distance of most domestic flights is particularly favourable for new technologies to reduce and replace fossil fuel equivalents.

Sustainable Aviation Fuel remains the most mature and proven technology available at present, however it still emits carbon and other particulates and faces feedstock and land use competition with other sectors. It has the immediate potential to reduce aviation emissions by up to 80%, compared with conventional aviation fuel as a direct replacement fuel to fossil-based jet fuel, and not requiring different infrastructure or engine technology.

We are supportive of the introduction of a biofuels mandate and will engage with the Government through its consultation process on this policy. We welcome consideration of subsidies to support domestic production to support domestic SAF supply, and to close the commercial gap between

fossil-derived fossil fuel and SAF. A biofuel mandate and subsidies to support domestic production are two of many possible policies that could be used to establish viable SAF industries.

Noting that Denmark and Sweden both provide excellent examples of how this can be done. Suppliers of petrol and diesel are obliged to supply a minimum proportion of biofuels with a target of 30% biofuel by 2030. When it comes to long haul travel, SAF is critical. It is the only technology available for decarbonisation. Although new technologies are in development, due to constraints associated with battery weight and range, and hydrogen storage, we think this will likely remain the case out to 2050.

Electric aviation technology is progressing with Sounds Air announcing commercially available flights from 2026. Alongside developments in green liquid hydrogen (LH2), there may be better alternatives for domestic aviation that abate all CO2 emissions from flying sooner than anticipated, if we are able to support them.

Hydrogen fuel can reduce a significant share of non-CO2 emissions like NOx and SOx, leading to an overall reduction of 50-90% in climate impact, which exceeds the reduction potential of all other alternative fuels. However, contrary to other sustainable aviation fuels, LH2 requires an overhaul of existing fuel infrastructure.

Hydrogen at scale can cost-effectively decarbonize flights up to the short and medium range categories, which account for 70% of global aviation CO2e emissions. Beyond the 10,000km range, the storage space requirements make hydrogen unfeasible in terms of cost. For long-range flights, which account for 30% of global aviation CO2e emissions, synfuel and advanced biofuels are the most cost competitive decarbonisation options, both requiring significant volumes of hydrogen.

The leading development pathway for domestic fleet (e.g. turbo prop Q300 aircraft) to low emission fuels is the conversion/retrofit of existing aircraft with hydrogen-electric powertrains. The current estimation for commercial availability of this technology is circa 2024.

Light electric aircraft (6 to 18-seater) powered by hydrogen fuel cells have been conducting successful test flights since 2016, with commercially available models converted to fuel cell-power and electric engines flying since 2019. Light fuel cell-powered electric aircraft could be entering service in New Zealand before 2025. There is also potential for fuel cell technology to decarbonise New Zealand's 'narrow body' fleet, enabling Trans-Tasman carbon free travel/freight. Beginning with the decarbonisation of our Q300 fleet immediately would enable the infrastructure and regulations to adjust and paves the way for 'narrow body' decarbonisation in the medium term. There is growing interest in using hydrogen for aviation within Aotearoa.

CIAL is committed to providing the infrastructure to support future low emissions aviation decoupled from fossil fuels. We recognise Airports are often well suited to the hydrogen hub model, where production and multiple use consumption (air travel and freight distribution) are clustered together. So, in addition to the actions proposed for the first budget, we encourage an additional action to identify the infrastructure and energy requirements of next generation aircraft. To operate these planes in the third budget period as we plan, research and investment in this infrastructure needs to start now. We have begun this work as part of our investigations into the feasibility of a new Central Otago Airport that would support future low emissions aviation requirements.

To encourage speed in technology development, deployment and commercialisation of new technology, we note the UK/Norwegian example of establishing a public-private aviation working group to develop a coordinated approach towards a more sustainable aviation industry. A similar body set up in Aotearoa could identify and enable the policies and investment settings, regulatory/certification requirements, needed to support the development and commercial deployment of zero emission aviation with ambition.

In addition to this, the proceeds from the ETS could be utilised for research and development targeted at emissions reductions, including support for decarbonisation of aviation. Noting the advantage of government as the majority shareholder in our national airline carrier.

CONSULTATION QUESTION 10

The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised?

Aviation is often described as solely the movement of passengers, or tourists, but critically it also enables 13% of the value of New Zealand's total freight. For example, a daily 787 passenger flight, over the course of a year, contributes \$157million of tourist spend and \$509million of freight value.

Further to this, international air cargo typically represents high value time-sensitive freight – with exports including vaccines, respiratory equipment, pharmaceuticals, and high value fresh and chilled perishable food.

Typically, New Zealand is a technology taker from global industry, importing a large variety of high-value manufactured industrial and consumer goods by air to support time-sensitive needs of industries. For example, New Zealand typically trades over 220,000 tonnes of goods internationally by air, worth \$26 billion to the New Zealand economy.

As such, aviation services almost the entire economy somewhere in its freight supply chain. CIAL's view is that in order to protect New Zealand's trade interests and global connectivity, priority should be given to rapidly decarbonising the aviation sector – initially with SAF, the domestic fleet transition, and the airport infrastructure to support low emissions aviation.

CONSULTATION QUESTION 13

Given the four potential pathways identified in Hikina te Kohupara, each of which require many levers and policies to be achieved, which pathway to you think Aotearoa should follow to reduce transport emissions?

CIAL commend the approach taken under all pathways to aim for zero carbon, rather than net zero carbon by 2050. Acknowledging the difficulty that achieving absolute zero might bring, we think this is a more admirable goal, understanding that New Zealand will have other hard to abate sectors that may rely more heavily on the ability to offset. It may be that aviation falls within that category, nonetheless, we still see value in planning for and getting as close to absolute zero emissions as possible.

CIAL appreciate MoT setting out a series of pathways in *Hikina te Kohupara*. At this stage, the model does not include aviation, freight rail, or shipping which we think are key to decarbonising the transport sector, as well as the introduction of sustainable aviation fuel and hydrogen. It also leaves out some of the key recommendations of the Climate Change Commission in its final advice, such as supporting flexible working policies as a transport emissions reduction measure, and key policies to support uptake of low-emissions vehicles, such as tax incentives, restrictions on ICE imports and scrappage schemes. This makes it difficult to choose an optional pathway at this stage.

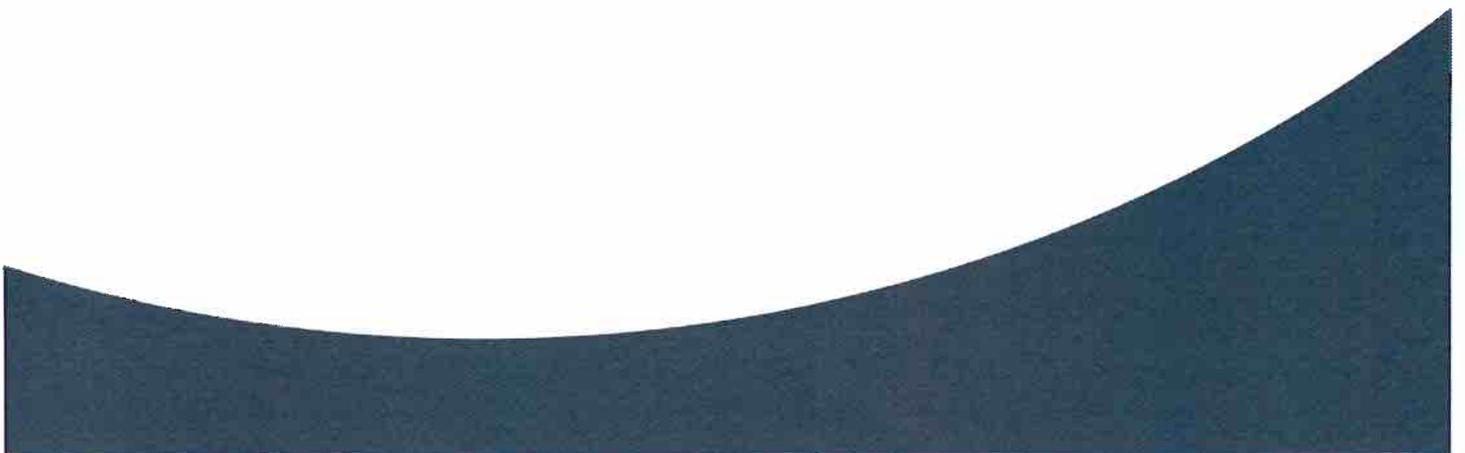
We encourage MoT to build more details into the model and re-run it, including to reflect the Climate Change Commission's 'demonstration path' in its final advice. We look forward to engaging with the pathways when the modelling is at a more advanced stage.

8 CONCLUSION

The latest climate science is suggesting globally we are tracking towards the IPCC's worst-case scenario. We need bold urgent action to address our climate emergency and expedite our transition as quickly as possible.

Aotearoa's Transport Emissions Pathway must reflect this. This is more than just playing our part but understanding that the rest of the world is looking at what New Zealand is doing. We must get the level of ambition right.

CIAL look forward to playing our part, to working collaboratively across the sector, with the Ministry of Transport, Climate Change Commission and Government, to acceleration the decarbonisation of the aviation sector. We want ambitious climate action, decoupling of aviation from fossil fuel, the realisation of a just transition for Aotearoa, and to ultimately contribute to a climate action plan that speaks to our global commitments and responsibility.



Hīkina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050

Submission prepared by Kāpiti Climate Change Action Group

Introduction

Kāpiti Climate Change Action Group is comprised of Kāpiti residents engaging with district and national political and community leaders to create a safe and secure climate and environment for our future, based on a well-being economy for the benefit of all.

New Zealand's transport sector currently produces 47 percent of New Zealand's CO₂, nearly a fifth of total emissions. However in Kapiti, in 2019 transport represented 57% of the districts gross GHG emissions.¹ The changes that need to occur in reducing transport emissions are especially relevant to Kapiti.

Hīkina te Kohupara contains seven principles:

1. The transport sector will play a lead role in meeting our 2050 net zero carbon target
2. We need to focus on moving to a zero carbon transport system, rather than offsetting emissions
3. We need to take a strategic approach to reducing transport emissions
4. Co-ordinated action is required across the transport system to avoid and reduce emissions
5. To ensure a Just Transition we need to manage the impacts and maximise the opportunities brought about by changes to the transport system
6. We need to forge a path to zero transport emissions by 2050, while recognising that there is not one way to get there
7. Innovation and technologies will play an important role in reducing emissions, but people are the key to our future.

Hīkina te Kohupara uses the Avoid-Shift-Improve (ASI) framework to inform its work:

- Avoid – improve the overall efficiency of the transport system through interventions to reduce the need to travel and trip lengths.
- Shift – improve the efficiency of trips by promoting mode shift to low carbon modes, such as walking, cycling, public transport, coastal shipping and rail freight.
- Improve – lower the emissions of transport vehicles and fuels.

The report uses the ASI framework to identify opportunities to reduce emissions across the transport system, grouping these opportunities into three themes:

- Theme 1 – Changing the way we travel.

¹ <http://www.gw.govt.nz/assets/Climate-change/GHG-Summary-Report-Wellington2019KCDCEFinal.pdf>

- Theme 2 – Improving our passenger vehicles.
- Theme 3 – Supporting a more efficient freight system.

These three themes are used to build four pathways or models.

Pathway 1 assumes ‘avoid’ and ‘shift’ initiatives (Theme 1) play a significant role in reducing transport GHG emissions. This pathway requires reducing nearly 30 percent of the light vehicle kilometres travelled by 2050 through reducing trip distances and encouraging mode shift to public transport, walking and cycling. It also requires higher mode-shift from road to rail and coastal shipping.

Pathway 2 assumes ‘improve’ initiatives (Theme 2) play a more significant role in reducing emissions than Pathway 1. This pathway requires a larger number of electric vehicles with greater use of biofuels in the short to medium terms. There is also emphasis on ‘improve’ initiatives for freight.

Pathway 3 assumes ‘improve’ initiatives (Theme 2) play a more significant role in reducing emissions than the other pathways. In this pathway, bringing more EVs into New Zealand’s transport system compensates for the limited ‘avoid’ and ‘shift’ changes. There is also much more emphasis on ‘improve’ initiatives in freight.

Pathway 4 gives even stronger weight to ‘avoid’ and ‘shift’ initiatives (Theme 1) than all other pathways. This includes assuming that ‘avoid’ and ‘shift’ interventions happen more swiftly, bringing forward their impact on emissions and that the clean car policies will be very successful in accelerating the uptake of electric vehicles. This pathway requires reducing nearly 40 percent of the light vehicle kilometres travelled by 2035 and over 55 percent by 2050. In the long term, the greater impact of ‘avoid’ and ‘shift’ initiatives reduces the number of vehicles that need to be electrified.

What we like about the report

- The report demonstrates a significant shift in transport thinking. Delivery of large road transport infrastructure projects is described as a legacy practice, whereas emphasis should shift towards a new practice that enables “the delivery of integrated multi-modal transport system programmes and activities.”² However, in our district large scale road building has become the norm with new roads still promised in both local and regional plans.
- Hīkina te Kohupara uses an Avoid, Shift, Improve framework which is very beneficial.
- Offsetting is off the table.
- Policies for all settings. The report contains a multitude of potential policies including everything from additional fuel taxes, congestion charges to parking management reform, tactical urbanism, electrifying the rail network to phasing out imports of internal combustion cars between 2030-35. All available levers need to be pulled.

² Ibid., P. 123

What we do not like or is missing

- Action is needed urgently. The Ministry's base case forecasts road transport emissions to keep rising until around 2024, plateauing, then slowly declining because of EVs.
- Only one of the four pathways (Pathway 4) gets anywhere meeting the target.
- Unfortunately, the Avoid, Shift, Improve framework is not applied to the domestic aviation or freight sections, where avoiding demand could have large, immediate emission reductions.
- International aviation is not considered. Plans need to be put in place as to how to decarbonise international aviation.
- This is top level policy making. Much of the actual decision making about biking, walking and urban PT is made at a local level. Based on recent transport plans being adopted by local authorities, including KDCDC, the planning undertaken at a local level is not aligned with either the recommendations of the Climate Change Commission or the MOT. Local authorities need to be required to rewrite their transport plans.

Pathway 4 is the only pathway to meet the emissions budgets recommended by the Climate Change Commission and the first Emissions Reduction Plan (ERP) for transport needs to go further and faster to make up for the lack of reductions in other sectors such as agriculture.

At a national level the first Emissions Reduction Plan, which is due in December this year should include:

1. A commitment to allocate transport funding only to projects that reduce emissions and end investments in urban state highways and roads that simply encourage urban sprawl and increase car use. For example Wales is pausing all new roading projects.³
2. Cancelling the \$5.3 billion in roading projects announced January 2020, and investing the money in road safety upgrades instead, freeing significant money for additional public transport, walking and cycling infrastructure. This includes the newly announced extension of SH1 to Levin.
3. An ambitious plan to take advantage of New Zealand's low Crown debt position and the low costs of borrowing to invest an unprecedented amount in public transport, walking and cycling infrastructure and incentives.
4. Setting significant increases in the targets for walking, cycling and public transport use. Providing incentives/penalties for local authorities to meet these targets. Kāpiti is an ideal place for cycling, being predominately flat and being a series of villages. Ireland has recently announced 20 percent of their transport budget is to be spent on active modes, which is orders of magnitude greater than New Zealand's percentage.⁴
5. A plan to take a more active role and use all levers at the government's disposal to support our towns, cities and local governments to:
 - a. Deliver quality compact, mixed use urban development to reshape our urban streets to support active and public transport modes.

³ <https://www.bbc.com/news/uk-wales-politics-57552390?>

⁴ Irish Times (June 2020) <https://www.irishtimes.com/news/politics/cycling-and-pedestrian-projects-to-get-360m-parties-agree-1.4279850>

- b. Invest in and provide public transport services including significant new infrastructure and all-electric or sustainable-biofuel buses and trains.
 - c. Remove barriers to public ownership of public transport through PTOM review.
 - d. Reduce the costs of public transport through expanding and universalising across New Zealand different cities' off-peak, student, community service card concessions.
 - e. Reform parking charges and parking standards.
 - f. Allow cities the option of congestion charges and parking levies.
 - g. Improve social outcomes by designing all transport options to be accessible for people with a diverse range of needs.
 - h. Remove student car parks in schools and tertiary training institutions, or at least charge for parking.
6. Developing an ambitious decarbonisation plan for both domestic and international aviation. Encouraging mode shift away from flying.
 7. More investment in rail services and in the port and rail network, including electrifying remaining track to move more freight off trucks and onto rail and coastal shipping.
 8. Supporting the introduction of a night train between Wellington and Auckland, with a stop in Kāpiti. Supporting the provision of fast rail passenger services between Auckland and Tauranga and Hamilton, as well as between Wellington and Palmerston North and Wellington and Masterton.
 9. Supporting the upgrading of long-distance coach services with improved bio-fuel buses and quality of bus infrastructure.
 10. Supporting greater incentives for electric vehicles, but especially e-bikes to assist New Zealanders who are reliant on motor vehicles to rapidly upgrade to electric vehicles.

There are also some important initiatives that should occur within the Kāpiti/Horowhenua region. These are:

1. Immediately double tracking the rail link from Waikanae to Ōtaki and developing a regular train service from Ōtaki to Wellington. In the medium term extending the link to Levin.
2. Investigating ways to speed up these rail services which eventual provision of fast rail.
3. Eventually extending the Palmerston fast rail link to Palmerston North airport.
4. Supporting the closure of Kāpiti airport. Closure of the airport would allow medium to high density housing to be developed, and restoration of the surrounding swampland as a carbon sink. Airport planning should be undertaken on a regional basis.



All Aboard Aotearoa Inc

Submission on *Hīkina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050*

25 June 2021

All Aboard Aotearoa Submission for: Hīkina te Kohupara

This is a submission by All Aboard Aotearoa Inc - a coalition of climate and transport advocacy groups, including Generation Zero, Bike Auckland, Greenpeace Aotearoa, Lawyers for Climate Action NZ Inc, Movement, Women in Urbanism, among others. All Aboard Aotearoa is calling for decarbonisation of transport by 2030 because we see this as the best way for Aotearoa to contribute to the global effort to limit warming to 1.5 degrees Celsius above pre-industrial levels. Decarbonisation should be achieved by reducing reliance on private vehicles and investing in public transport, active transport, and a compact city.

Introduction

New Zealand has the fifth highest per capita rates of CO₂ emissions from road transport in the OECD.¹ After decades of focus and billions spent on car-centric infrastructure, a massive and urgent investment is needed to provide New Zealanders with options to travel without carbon emissions.

Transport is a major source of New Zealand's emissions and these continue to rise. Transport emissions have risen more than any other emissions source with an increase of approximately 90 percent between 1990 and 2018. This compares with 24 percent for gross emissions across the total economy.²

The New Zealand Government has declared a climate emergency and the Government has the primary obligation and opportunity to lead this transformation of our transport sector.

Government transport leadership in the past has positively shaped our cities and gifted infrastructure modern generations have benefited from, such as the first Labour Government's investment in city rail in Wellington.

We agree with the report that:

The Government can also make it easier for people and businesses to access places by low-carbon modes, and to make sustainable transport choices that support a

¹ OECD (2017) *Environmental pressures rising in New Zealand*. Retrieved from: [Environmental pressures rising in New Zealand - OECD](#)

² Ministry of Transport. (2021) *Hīkina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050*.

*transition to a low carbon transport system. This will require leadership by Government, close collaboration with a wide range of stakeholders, and consideration of a wide range of policy levers within and beyond transport.*³

It is important that the large number of current and potential policies considered do not suffer from decision making inertia or phasing issues waiting for other policy decisions. Many of these policies can be implemented urgently and deliver multiple co-benefits.

We acknowledge the positive contribution *Hikina te Kohupara – Kia mauri ora ai te iwi* makes to New Zealand’s transport planning. What Aotearoa needs now is greater ambition, stronger targets, increased policy detail, and massive investments in public, active and electric transport to match the scale of the climate emergency. Plus leadership to get the changes past initial rocky resistance.

Report: Positives and Negatives

Sets up a reorientation of transport thinking. The report’s scope and scale is a notable and positive step up from the climate work delivered by the Ministry of Transport last term. Delivery of large road transport infrastructure projects is described as a legacy practise where emphasis should shift towards a new practice that enables “the delivery of integrated multi-modal transport system programmes and activities.”⁴ We hope this reorientation of thinking resonates quickly throughout the transport sector.

Policies for all settings. The report contains a multitude of potential policies including everything from additional fuel taxes, congestion charges, to parking management reform, tactical urbanism, electrifying the rail network to phasing out imports of internal combustion cars between 2030-35, and low-traffic neighbourhoods. We acknowledge the wide variety of policy levers canvassed in the report; high ambition, a focus on equity and a willingness to depart from car dependence should help choose which ones are implemented. Meeting our emission targets will require many of the levers at the Government’s disposal.

Avoid, Shift, Improve framework (ASI). *Hikina te Kohupara* uses an Avoid, Shift, Improve framework which is a useful framework. The report says “avoiding activities that produce emissions is, on balance, a more effective strategy than minimising the emissions from those activities.”⁵ We agree that ASI encourages mode shift and reducing vehicle use as a lower cost pathway and that this is the most effective strategy. US President Joe Biden who has recently announced an investment shift from new roads to maintaining and improving safety on existing roads and rapid rail, public transport and active transport.⁶ We also note the Climate Change Commission (CCC) in their final advice continue to place too high an emphasis on electric vehicles (EVs). While an improvement over Internal Combustion Engine (ICE) vehicles, electric vehicles still create issues with sprawl; congestion and urban amenity; resource-use; safety and equity issues. The focus for reducing emissions needs to

³ *Hikina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050.*, P. 20

⁴ *Ibid*, P. 123

⁵ *Ibid*, P. 107

⁶ Forbes 31 March 2021

<https://www.forbes.com/sites/cartonreid/2021/03/31/bidens-infrastructure-plan-most-radical-change-for-transport-since-creation-of-interstate-highways-say-city-transport-officials/?sh=19837c5877e8>

shift substantially away from vehicle emissions improvements only to the full spectrum of ASI. This report is a good first step.

Offsetting is off the table. The report states “it is still unclear to what extent carbon offsetting will help to achieve this target...given this uncertainty, these pathways explore what could be required to take us as close to zero transport GHG emissions as possible.”⁷ All Aboard Aotearoa agrees carbon offsetting should not be factored into meeting transport targets.

Action is needed urgently. The Ministry’s base case forecasts road transport emissions to keep rising until around 2024, plateauing, then slowly declining because of EVs. The paper has an underlying theme that actions taken or not taken within the next five years will significantly shape this future pathway - we should make sure systemic and long-lived decisions are made urgently under this term of Government and not mired in timing or phasing challenges, working groups or review.

Scale of aspiration doesn’t look like it’s aligned with the law. More detail in the “A note on the Climate Change Response Act” section below.

Playing a lead role. Decarbonising transport is a communications and engagement challenge much more than a technical challenge. The Government’s main task is to lead this national conversation. More detail in the “Engagement - Playing a lead role in meeting our climate targets” section below.

Facing the tough challenges. Unfortunately the Avoid, Shift, Improve framework wasn’t applied to the aviation or freight sections, where avoiding demand could have large, immediate emission reductions, for example reducing trips by plane or localising production and consumption.

Are the pathways on the right path? In the published report only one of the four pathways (Pathway 4) meets the CCC target, and only just. It is disappointing MOT didn’t include a more ambitious pathway to allow for changing climate urgency or future policy uncertainty. As a minimum, all pathways should be consistent with the legal 1.5 degree target. This is likely to require the Ministry to chart an Emissions Reduction Pathway that is more ambitious than the Climate Change Commission’s recommended emissions budgets.

Where’s the money? The paper makes the point that the National Land Transport Fund (NLTF) and Government Policy Statement (GPS) - the two crucial funding processes “may not play a role” and “may not have a significant impact on transport emissions in the short to medium term.”⁸ The report states three quarters of the NLTF is allocated over the next ten years and alternative sources of funding are critical to achieve policies to reduce emissions. With the Government’s tightening fiscal approach there is a risk that many of the good policies outlined here won’t receive the funding needed to achieve them. Additionally the NLTF funding model is largely based on fuel taxes, ie. emissions. Given the required significant reduction in transport emissions over the next ten years, this means the current RLTP and NLTF 2021 budget are already out of date. Other parts of this discussion are around the ETS and ring fencing⁹ future fuel emission tax in a similar way as regional fuel

⁷ Hikina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050., P. 10

⁸ Ibid., P. 125

⁹ <https://mobile.twitter.com/jamespeshaw/status/1395258009400586245>

taxes to direct transport emissions reduction programs. The Government should plan to release significant additional funding outside of traditional long-term funding processes to achieve the policies outlined. Investment in large-scale projects like the City Rail Link, Light Rail and Regional Rail cannot be delayed due to budget uncertainty. Work on this needs to begin immediately and to run in parallel with the ERP work program.

Local government? Achieving emission reduction targets will succeed or fail due to the ability of local governments to deliver and fund infrastructure and services. The Government needs to both allocate greater resources to local governments to achieve their important transport and planning functions; and give strong direction to local government to lead change - like the NPS-UD minus its ambiguities - and reform planning and delivery processes. This will give local government greater capacity to meet the climate goals.

Road safety? Road safety is acknowledged as important for cycling, and mentioned as a co-benefit of improving urban environments. There's insufficient focus on the scale of the road safety problem - and therefore on the opportunities for modeshift available. Safety has major implications for freight planning, but this has been missed, critically, from the freight section.

Build a legacy? In the short term, the Land Transport Management Act (LMTA) will need to be amended in order to reduce the burden of consultation. For the long term - in parallel with the work stream for "Where's the money?" above regarding the NLTF - the LMTA must have climate, public health¹⁰, equity, safety, and resilience at its core.

A note on the Climate Change Response Act

The purpose of the Climate Change Response (Zero Carbon) Act 2002 is to facilitate the development of policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels.

New Zealand has committed to the principle of common but differentiated responsibilities, so to "contribute" to this global effort, New Zealand must achieve emissions reductions higher than the global average, and lead with both mitigation and adaptation. Future international commitments are likely to be more ambitious so prudent planning would ensure our plans are resilient to this likely change.

Reaching net zero by 2050 is necessary but not sufficient for us to contribute to the global effort to limit the average global temperature increase to 1.5 degrees. We must move quickly - the IPCC has reported that keeping warming to 1.5°C requires global CO₂ emissions to decline by around 45% from 2010 levels by 2030. Lawyers for Climate Action NZ Inc have calculated that, applying the IPCC's recommendations to NZ's emissions, our total emissions from 2021 to 2030 should be no higher than [485 Mt CO₂e](#),¹¹ before adjusting for our fair share, having regard to global equity.

¹⁰

<https://www.nzma.org.nz/journal-articles/the-climate-change-act-will-now-shape-the-nations-health-an-assessment-of-the-first-policy-recommendations-to-reach-our-zero-carbon-target>

¹¹ <https://www.lawyersforclimateaction.nz/news-events/cac-final-advice>

The Climate Change Commission's final advice to the Government fails to achieve this. This is because the total for emissions for 2021-2030 allowed by the Commission's proposed budgets is 648 Mt CO₂e. The Climate Change Commission's advice thus fails to achieve the purpose of the Zero Carbon Act and is arguably unlawful.

We submit that Hīkina te Kohupara should shift its focus from net zero by 2050 to the 1.5 degree limit. It should not limit its ambitions to the Climate Change Commission's advice, which fails to contribute to limiting warming to 1.5 degrees.

Further, we note that some of the pathways in Hīkina te Kohupara do not even provide the emissions reductions required to meet the Climate Change Commission's advice. These pathways must be removed before going to public consultation, as they will hinder the Government's management of the national conversation, setting the public's expectations for emissions reductions at an unrealistic and counterproductive level.

In summary, all pathways proposed in Hīkina te Kohupara should meet the purpose of the Zero Carbon Act including our contribution to the global efforts, that is to say, our fair share of limiting global warming to 1.5 degrees. In addition, all pathways should have clear mechanisms for being adapted to easily meet targets for larger emissions reductions, as it is highly likely future international agreements will become more ambitious than the Paris Agreement, not less. The Ministry should be planning for this now.

Engagement - "Playing a **lead role** in meeting our climate targets"

Informing, educating, and aligning the team of five+ million - public, officials, politicians, everyone.

"high-carbon systems should be understood not just as technologies and physical infrastructure, but also as social and cultural systems, influencing our expectations, practices and ways of thinking" - [Too Hot to Handle? The democratic challenge of climate change](#), Rebecca Willis

To stay under 1.5°C, transport will be the **lead sector** and thus the Ministry of Transport is the lead agency for direct policy work and governance of infrastructure delivery for this goal.

To meet the overarching objective of Just Transition to support the transition away from high-carbon production and consumption, transport must be understood as **both physical and social infrastructure**. Understanding how to change transport in social terms requires a different set of interventions and investments - new civic spaces and processes to support transition. These also provide a foundation for other sectors to transition. This social infrastructure project must start now and run in parallel with the physical infrastructure investment.

For this social project the Government has the central role, our agencies and the public service need to prepare for the transformation. Officials have enduring influence on Government policy and direction. Three types of investment are recommended:

1. upskilling government officials at national and local levels, as well as employees of key agencies - so that they fully understand their role;¹²
2. engagement at community level. Every local project must come with an engagement plan that will identify all the groups that need to be reached, starting with mana whenua, and different ways they must be accessed - including social media. This is not easy and cheap but it can have a long term benefit in the sense that, once established, these are people and groups that can work on other aspects of carbon transition **in their communities**; and
3. supporting advocacy. Advocates often work for little or no payment, yet they are the lead change agents for society.

Recent experiences with tactical urbanism interventions have shown how quickly public discussions about change can be captured and influenced by business-as-usual agents.^{13 14} They will occur for commercial self-interest, due to differences in understanding, or for social-political reasons. These conflicts should not be a surprise and as the agent with the lead role in this transformation, the Government needs to plan and prepare to better serve justice, equity, and democracy.

"I used to be sure that with science on our side, policy change would naturally follow. If only. Instead, we haven't even begun to reduce global emissions. Why? In a nutshell, because opponents of climate action have too often had the better stories, and stories always beat data. (Evans, 2019)" - [Too Hot to Handle? The democratic challenge of climate change](#), Rebecca Willis

The final point is on leadership. Much of the literature shows that change is difficult without strong leadership. Change is often a lightning rod for grievance. Leaders and advocates will be targets for abuse. It is important that we get ahead of this and establish no tolerance for threats, abuse and violence.

Recommendations for the First Emissions Reduction Plan

We agree that broader and deeper changes are needed to quickly shift our transport system to a zero emissions pathway. The impact of COVID on transport emissions¹⁵ is similar to the required drop by 2030. We have longer to respond to this bigger challenge, but can not wait until 2030. We believe any pathways that do not at least meet the emissions budgets recommended by the Climate Change Commission should be removed before wider consultation with the public. The first Emissions Reduction Plan (ERP) for transport must also go further and faster to make up for the delay of emissions reduction by other sectors, such as agriculture.

The first Emissions Reduction Plan, which is due in December this year, should contain:

¹² <https://www.newsroom.co.nz/pro/jess-berentson-shaw-in-the-public-service-mindsets-matter>

¹³ <https://www.stuff.co.nz/environment/climate-news/125296439/why-does-it-take-so-long-to-build-a-cycle-lane>

¹⁴ <https://www.nzherald.co.nz/nz/simon-wilson-suburban-streets-are-climate-action-streets/FOOIQQSUGY27EM2PZ7DKFXPY/>

¹⁵ Hikina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050., P. 18

1. A commitment to allocate transport funding only to projects that reduce emissions. An end to investments in urban state highways and roads that encourage urban sprawl and increase car use.
2. An immediate halt to all road expansion projects, as Wales has done¹⁶. For example, road expansion projects in the NZ Upgrade programme, like the Otaki to North of Levin highway at \$1.5 billion, and the state highway and tunnel aspects of Get Wellington Moving at \$1 billion. These projects will simply induce further vehicle movements, increase emissions, and reduce funds for public transport, walking and cycling infrastructure. We note that commencing a project is not a valid reason to continue it - if it will increase emissions, the costs of continuing the project (including costs to future generations) should be weighed up against any costs involved with renegotiating the contract. The "under construction" status should not be treated so gingerly.
3. A call for an unprecedented amount of investment in public transport, walking and cycling infrastructure. A low carbon transport plan will be cheaper than our current plans. New Zealand's low Crown debt position and the current low costs of borrowing should be harnessed to ensure we leave a sustainable transport legacy.
4. Significant increases in the targets for walking, cycling and public transport use. New Zealand should be following in the footsteps of cities like Vancouver, which has set a target of two-thirds of trips made by sustainable modes (walking, cycling, public transport) by 2030.¹⁷ Ireland has recently announced 20 percent of their transport budget is to be spent on active modes which is an order of magnitude greater than New Zealand's percentage.¹⁸
5. A plan to deliver more direction and support, using all levers at the government's disposal, to ensure our towns, cities, and local governments:
 - a. Deliver a quality compact urban form through mixed use urban intensification development that reshapes our existing city and town streets to support active and public transport modes. Stop all expansion into greenfields.
 - b. Substantially increase investment in public transport. Increased capex is required - for significant new infrastructure, new depots and all-electric buses and trains. Increased opex is also required initially, enabling many more services and the development of comprehensive networks to enable reduced car ownership and to provide non-drivers with independence from being driven.
 - c. Reduce public transport fares to encourage modeshift, starting with off-peak, under 25 and community service card concessions, by expanding the existing discounts and making them universal across New Zealand
 - d. Reform parking charges, parking fines, and parking standards, reduce public car parking provision, and introduce parking levies.
 - e. Use congestion charging, road pricing based on vehicle tailpipe emissions.
 - f. Improve social outcomes by designing all transport options to be accessible for people with a diverse range of needs.
 - g. Incorporate the need to improve and protect walking and microbility at all times and prioritise it over other modes.
 - h. Implement the Road to Zero strategy, into all systems.

¹⁶ <https://www.bbc.com/news/uk-wales-politics-57552390>

¹⁷ <https://vancouver.ca/green-vancouver/how-we-move>

¹⁸ Irish Times (June 2020)

<https://www.irishtimes.com/news/politics/cycling-and-pedestrian-projects-to-get-360m-parties-agree-1.4279850>

- i. Set walking, cycling and micromobility mode share targets and DSI reduction targets. Government should make all funding contingent on achieving them.
6. More attention to the Road to Zero strategy, including a recommendation that it is better incorporated into systems like temporary traffic parking management, speed limit policy, travel demand management (currently the sector has no systems for effectively calculating the increase in walking and cycling from safety improvements), Crash Analysis System descriptions, monitoring of walking and micromobility volumes.
7. Direction to update traffic modelling, ensuring the four step traffic model is no longer used in comparisons of transport project options, as misapplying this model in this way in New Zealand's transport planning is misinforming investment decisions.
8. The removal of barriers to public ownership of public transport through PTOM review.
9. Direction to all ministries and public organisations to reduce transport emissions and to redesign their properties and systems to prioritise and enable walking and cycling, including the removal of car parks and driveways through campuses, locating main entrances on main bus routes and designing them to be focused on arrival by sustainable modes, and the provision of cycling and walking facilities including drying rooms for wet weather gear and secure bike storage.
10. Recommendations for reform of the Police's programme of work. Government should require a priority in enforcement to minimise injury risk and use of vehicles as weapons, and to increase children's health, and potential for modeshift and decarbonisation - rather than to ease traffic flow or to "flag changes well to drivers". This means clamping down on illegally parked vehicles, dangerous and aggressive driving, and requiring strictest compliance by those with the potential to harm (drivers) rather than those whose freedoms are currently curtailed by the system (children and people walking, cycling and using public transport). The Police should also have zero tolerance to the use, or threat, of using vehicles as weapons.
11. Substantial expansion of inter-city rail services, including a night train between Auckland and Wellington, and more investment in the rail network, including electrifying remaining track to move more freight off trucks and onto rail and coastal shipping.
12. Investment in the port infrastructure and systems required for these domestic ships (which does not mean infrastructure for megaships).
13. Tax reform to remove incentives that encourage transport emissions and use tax and pricing tools to encourage public and active transport modes. For example, provision of a car park by an employer to staff is not currently subjected to Fringe Benefit Tax. This undercuts the Government Policy Statement transport targets of increasing use of low carbon modes such as walking, cycling and using public transport. These perverse incentives should be removed.
14. Implementation of the EV feebate scheme. We encourage a revenue-neutral approach to encouraging EV uptake; we would like to see the scheme expanded to include rebates for e-bikes.
15. Encouragement of eBikes uptake. E-bikes should be considered separate from non-electric bicycles as a policy tool. eBikes are the most popular electric vehicle with 65,000 [purchased](#) nationally in 2020. eBikes can also contribute to vehicle kilometre and trip reduction goals: "A [recent review and meta-analysis of 24 studies](#) showed that e-bikes replaced around 24% of trips previously taken by car. ... A [UK](#)

[study](#) that did examine this showed that there was a 20% reduction in car miles travelled by participants of a trial of e-bikes.” - [E-bikes are the new cars](#).¹⁹

16. Urgent measures to address the low wage economy, invest heavily in public and active transport improvements in lower socioeconomic areas, provide schemes that provide bikes, e-bikes and e-cargo bikes to low-income households, and for mobility service providers (who are often low wage or volunteers) design tiered progressive incentives or low cost load schemes for electric vehicle purchase schemes. All this is critical to ensuring low-income New Zealanders are not disadvantaged and stuck with higher operating cost ICE vehicles.
17. Reform of the NLTF to reduce the significant impact of shifting to a zero emissions transport system on funding on the National Land Transport Fund. We are now within the horizon for this to impact on 10-year transport planning processes. Decisions and legislation about this need to be resolved within the next two years to inform the 2024 RLTPs.
18. Measures to address the problem of a road building focus within Waka Kotahi, with a solution that allows it to maintain its focus on project and programme delivery, regulation and compliance, whilst growing its skills in behaviour change, mode-shift, urban design, land-use planning, tactical urbanism, etc. This will involve a restructure to separate strategic planning, design, assessment, delivery and maintenance of projects. It will involve the removal of the conflict of interest caused by the current reliance on funding from the burning of fossil fuels. It will also require board and management resolve to ensure staff are focused effectively on implementing the decarbonisation strategy. It may be that Waka Kotahi would best be relieved of the responsibility for assessing and approving projects altogether, creating a more appropriately focused agency, as is required to ensure better implementation of Aotearoa's national strategies.

Response to specific questions

1. Do you support the principles in *Hikina te Kohupara*? Are there any other considerations that should be reflected in the principles?

We support these principles, with changes.

Principle 1. The transport sector will play a lead role in meeting our 2050 net zero carbon target

As discussed above in “A note on the Climate Change Response Act” - The purpose of the Climate Change Response (Zero Carbon) Act 2002 is to facilitate the development of policies that contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels.

The focus for Principle 1 should shift from net zero by 2050 to the 1.5 degree limit.

¹⁹ <https://blogs.otago.ac.nz/pubhealthexpert/e-bikes-are-the-new-cars-why-dont-transport-policy-makers-treat-them-seriously/>

The transport system underlays many individual and collective decisions. As discussed above in “Engagement - Playing a lead role in meeting our climate targets”, the Ministry of Transport has a lead role in establishing a new system over the next ten years to provide a foundation for other sectors to transition and for New Zealand to meet our climate goals by 2030 then 2050.

Principle 6. We need to forge a path to zero transport emissions by 2050, while recognising that there is not one way to get there

There is a significant relationship between Principle 1 and Principle 6.

Actions taken within the next five years will significantly shape this future pathway, and determine how close we get to, or stray from a zero carbon target. We base our advice on evidence as much as possible.

All Aboard Aotearoa's position and the evidence that we have presented to the Minister of Transport is that the transport system in New Zealand needs to completely decarbonise by 2030. The next five year period is key to meaningful change.

Principle 7. Innovation and technologies will play an important role in reducing emissions, but people are the key to our future.

We do not support Principle 7.

This is too focused on new technologies, and introduces both economic and emissions risks. We suggest the following modification:

Principle 7. People and small-scale technologies are the key to our future.

Innovation has a role to play, mainly in how we make decisions together and roll out existing technologies and techniques. The Government's role is not to 'pick winners' amongst potential new technologies but to establish proven, sustainable systems. It can play a powerful role in accelerating the uptake and diffusion of transport technologies and services but many of these are not new. Ultimately, systems change depends on people not on technology – so we need to put people at the centre of our policy development.

We would like to see the inclusion of **two new principles**:

Te Tiriti o Waitangi. The Government must uphold Te Tiriti o Waitangi and ensure Māori are enabled by the changing transport system. This means ensuring Māori have decision-making power and that policies to decarbonise transport benefit Tangata Whenua.

Community empowerment. The principal section acknowledges coordination but empowered communities with the right resources can deliver the solutions needed in a way that is best for them, often in a manner that unites rather than divides, speeding up transformation. The Government should see its role as one of

leadership and encouraging coordination but also providing resources and devolving decision making to local communities where appropriate.

2. Is the government's role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?

Yes, it is clear the government has the central role in reducing transport emissions.

We believe Hīkina te Kohupara should outline more clearly the Government's responsibility to lead a productive and equitable national conversation about decarbonising transport. This should appeal to the public's hearts, minds and sense of equity and also illustrate the benefits of decarbonising transport. More holistic and up-to-date methods of democracy should be harnessed. New Zealand should develop its own citizens' assembly-style of engagement that is consistent with Te Tiriti o Waitangi, which seeks broad consensus in high level goal-setting rather than attempting to seek community consensus on changes such as the removal of a parking lane on an arterial road.

We also note the importance of government as a major segment of the economy and driver through its procurement policies. It can act as a leader and as an exemplar. We acknowledge and support the Carbon Neutral Government Programme (CNGP) to measure and reduce the state sector's emissions.

We suggest that both commuting and business travel emissions of Public Sector employees (including aviation emissions) be measured and reduced as part of the CNGP.

Further, we believe all ministries and public organisations have a role to influence transport emissions beyond their own staff. There are many ways to do so and the following ideas are simply a starting point: All public organisations should be instructed to:

- redesign properties and systems to prioritise and enable walking and cycling.
- remove car parks and driveways through campuses.
- redesign premises to relocate and redesign the main entrances to be focused on safe and accessible arrival by bus or active travel (rather than to be focused on arrival by car).
- ensure any new premises are located on main bus routes.
- provide cycling and walking facilities including safe paths, drying rooms for wet weather gear and secure bike storage for staff, customers and visitors.

We would encourage increasing the State Sector Decarbonisation Fund and establishing targets to reduce transport emissions through remote work policies, encouraging inter-city rail and coach use and urban buses to stations and airport (rather than taxis) within cities, policies limiting air travel and incentives for active transport modes.

This section highlights collaboration with local government. We agree collaboration is important but submit that the Government should be more ambitious in its thinking and support of local government. In many respects achieving emission reduction targets will succeed or fail due to the ability of councils to deliver and fund infrastructure and services.

New Zealand's local government is smaller, with lower revenue compared to most developed countries.²⁰ All Aboard Aotearoa urges the Government to provide greater immediate financial support to councils for low carbon transport projects while on-going reviews into local government and funding occur.

We agree with Hīkina te Kohupara describing governments' need to collaborate between central and local government, Iwi and hapū, and advocacy groups. We note there should be more emphasis placed on clear communications, leadership, regulation and enforcement of the private sector and industry associations rather than collaboration. These are groups that benefit from the current system, making it difficult to have healthy discussions around outcomes that challenge their business models and potentially diminish their profits and status.

3. What more should Government do to encourage and support transport innovation that supports emissions reductions?

All Aboard Aotearoa believes Government can do more to encourage and support sustainable transport, which may or may not necessarily involve innovation, and notes the risk of being distracted and focused only on technological solutions. In Chapter 4, Hīkina te Kohupara briefly mentions the Innovating Streets programme's funding of

temporary cycle lanes, traffic calming devices, street art and other relatively new/modern street design and placemaking initiatives.

and says

Exploring different approaches for reducing emissions in the transport system should include the role of urban design and placemaking.

Yet these seem to then be discarded as unimportant. The key examples box puts far more weight on electric and low emissions vehicles ("likely to have a major impact") than on "new street design principles and approaches" (only "likely to have a positive impact").

This shows a bias towards the "Improve" approach over "Avoid" and "Shift". Decades of climate inaction has been the direct result of persisting with an undeserved belief in the potential for future, as yet unproven, technological innovation to deliver solutions. In transport, new technology can be a bonus but shouldn't be a focus. Instead, we need to focus on better network planning, street layout, traffic circulation, urban planning and regeneration principles to enable healthier lifestyles.

Chapter 4 continues:

We are seeing three major innovation trends in transport relevant to decarbonisation - electrification, shared mobility and automation

²⁰ <https://www.lgnz.co.nz/assets/Publications/3e6f178e2e/A-global-perspective-on-localism.pdf>

Saying these trends “are likely to have a significant impact on how people and goods travel.” We think too much emphasis is given to these trends. Instead, **modeshift, regeneration of urban areas, and improving proximity to amenities** will have a more significant impact.

We also fundamentally disagree listing drones amongst the innovations that could have a “major role” in decarbonising transport, while putting bikes and e-scooters into the “may also make a contribution” classification.

We note the technology, practices, infrastructure, and potential incentives exist today to significantly reduce emissions and what is needed is leadership, funding, and support.

Government could for example accelerate adoption of integrated ticketing and contactless payments on Public Transport by funding the cost of upgrading card readers on all Public Transport services. Government also has a role in specifying national standards for open data and mobility feeds to allow carsharing and micromobility operators to become part of Mobility as a Service offerings. This can be as simple as backing an existing international standard (like the General Transit Feed Specification has been used for Public Transport) for all Road Controlling Authorities and Transport Authorities to adopt.

4. Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?

The solutions in this section are mostly beneficial and one key to implementation success (in addition to the national conversation as discussed above) will be phasing. Outcomes will be magnified by getting as many implemented as fast as possible. Phasing will be key so that quick wins can feed into longer-term processes and establish a positive feedback loop.

As well as setting higher Funding Assistance Rates for walking and cycling investments and dedicated/priority bus lanes to strongly incentivise Road Controlling Authorities to prioritise and accelerate street changes, greater direct funding could be provided. Conversely, it makes sense to lower funding assistance rates for local transport projects (including renewals) that have no dedicated active travel or public transport provision.

While parking reform is mentioned elsewhere in the report, it is crucial that smarter, more modern approaches can assist quality, compact urban design, placemaking and inclusive street design.

The Ministry of Transport and Waka Kotahi can define regulatory pathways and technical blueprints to allow Road Controlling Authorities to roll out innovative road layouts at scale, including Bus Rapid Transit lanes on Motorways and State Highways, Low-Traffic Neighbourhoods, and to use less conventional techniques like tactical urbanism via programs like Innovating Streets. Such blueprints can include approved treatment types, fast-track consultation processes, and designs.

Hikina te Kohupara discusses “integrating” land use and transport but falls short of responsibly interpreting this concept for the Aotearoa context. Our cities have high transport emissions because of car-dependent planning patterns that have created too much sprawl and leading to unproductive car ownership; even our towns are suffering the donut problem of outer sprawl and empty cores. All our projected population growth for the next 50 or more years can be accommodated within existing urban footprints, and should be. Any level of sprawl undermines work towards emissions reductions.

For New Zealand, achieving a quality, compact urban form cannot include - as may be required in Asian and European cities with higher existing densities - continued expansion onto farmland and greenfields areas. Policy must require harnessing the opportunity of regeneration and reduction in travel demand that intensification provides and prevent the increase in emissions that further sprawl creates. Therefore instead of:

*Make transport investments conditional on having clear links to land use and urban development plans that support quality compact, mixed use urban development. This will affect the types of projects that are included in Regional Land Transport Plans.*²¹

We recommend making this clear:

Make transport investments in cities and towns conditional on creating the conditions for regenerative, quality compact, mixed use urban intensification of existing urban areas, rather than improving transport links to greenfields areas. This includes reallocation of existing street space and new rapid transit lines through existing urban areas. It does not include new or widened highways or even new train stations in sprawl developments. This will affect the types of projects that are included in Regional Land Transport Plans.

5. Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?

We agree with these options however would urge greater ambition. To achieve emission reduction goals a massive, sustained investment is needed in all areas: infrastructure, safety, operations, services and amenities, legislation and regulations, incentives to encourage greater public transport and walking and cycling. With Emissions Trading Scheme revenue ringfenced to assist funding the ERP as well as other sources, an unprecedented amount is required to redress decades of under-investment. In particular, investment must be prioritised to deliver transport infrastructure to urban areas that have been historically under-served.

We would like to see a single national transport card.

Lower public transport fares are another useful lever for encouraging modeshift, although not at the expense of improving the service quality. Concession rates vary across territorial

²¹ Hikina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050., P. 43

authority and a strong case can be made for universalising this across Aotearoa as an issue of equity as well as effectiveness.

We would like to see a standardised discount (or free) travel for under-25's, Community Service cardholders and for off-peak travel. Consideration of a concession card for public servants would also further avoid vehicular emissions.

Consistent with MOT's ASI framework, removing road space prioritised for vehicular traffic and re-orienting towards bus priority, light rail, lanes for micromobility, wider footpaths and public living space would speed up delivery and magnify impact. This should be encouraged and barriers removed. For example, we support allocating at least one lane of the Auckland Harbour Bridge for walking and cycling paths as an urgent interim step while consideration is given for longer-term provision.

A good transport system should be usable by anyone regardless of their access needs. Councils must work with groups that represent disabled people to ensure efforts to decarbonise transport accommodate them.

We recommend establishing a principle that parking cannot be retained on arterials unless a quality, protected cycling infrastructure has been provided, and that removing parking for the provision of cycling and micromobility is an action that requires no consultation. Consultation has delayed the roll out of cycling investment and kept the system highly inequitable and unsafe.

6. Pricing is sometimes viewed as being controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

It can be viewed as controversial, however through good design and communication, pricing can apportion costs more accurately and fairly and deliver direct benefits (for example better public and active transport services). Additional fuel or carbon charges on transport emissions should be levied and the revenue recycled into ASI initiatives. The UK example of Nottingham's Workplace Parking Levy shows that the public can accept pricing when use of the funds is clearly linked to providing alternatives. On the other hand, the absence of pricing locks in the status quo.

We submit that other cities as well as Auckland should be allowed the ability to issue congestion charges. However, traditional congestion pricing is not sufficient in its objectives, equity, and scope to maximise emissions reduction. Territorial Authorities should be allowed to introduce differentiated pricing by vehicle weight, size, and tailpipe emissions. SUVs and utes which now represent the majority of new car sales should incur significantly higher charges to reflect their disproportionate impact and signal to the automotive industry that vehicles have to become smaller and more efficient.

Pricing should also work to encourage modeshift where congestion is not present, as vehicle emissions are a problem at all times of day and in all places. Thus “congestion pricing” should be expanded to include capturing the externalities of driving. By definition, this means an increase in road user charges that is not revenue neutral.

Additionally, land value capture taxes could be a useful contribution to assist in bridging the funding challenges identified by MOT whilst building low-carbon infrastructure.

We urge the Government to work with Territorial Authorities in all urban areas to introduce parking levies, i.e. a tax on each privately owned parking space. This has been in place in Sydney since 1992. The availability of free or cheap parking is known to be a strong incentive to drive²², so parking levies will reduce traffic, and thus emissions, giving a positive effect on intergenerational equity. Vulnerable road users in all locations will also benefit from parking levies as their effect on traffic volumes throughout the network leads to improved safety and better air quality.

Parking levies are needed²³. They should be applied as quickly as possible in city centres, which generally have the most viable active transport options (due to proximity) and public transport options. With these options, there are less likely to be perverse effects felt by lower income people, indeed the lower traffic volumes throughout the network should lead to improved bus travel times which will improve equity also.

Low-emission zones are probably not a useful concept in 2021 as all regions of our towns and cities should rapidly become low-emission zones. However, if low-emissions zones are introduced, this should be paired with incentives for e-bikes, public transport passes and other options, as has been done in Edinburgh.²⁴

7. Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition. Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?

We agree with some of the key actions and submit on the need for being cognisant of equity issues. We encourage using the ASI approach so that the “avoid” and “shift” levers receive the funding they need. Vehicle improvements should be encouraged through regulation rather than subsidy. We disagree in general terms with parking and priority use on roads for low emission vehicles, except in low emissions zones where air pollution is a concern. To improve the emissions profile of the vehicle fleet it is important that incentives are available to remove the most polluting vehicles through two avenues:

- A scheme to replace ‘clunkers’ with e-bikes;
- a direct emissions cap.

²² <https://www.sciencedirect.com/science/article/abs/pii/S0967070X11001028>

²³ <https://www.greatauckland.org.nz/2021/03/20/the-long-term-plan-2021/>

²⁴ <https://energysavingtrust.org.uk/grants-and-loans/low-emission-zone-support-fund-for-households/?ref=LEZ>

It is also urgent to reduce the average tailpipe emissions of new vehicles entering the fleet by discouraging the purchase of oversized vehicles. We recommend sharply and continuously increasing tax on the purchase of vehicles above a certain threshold of tailpipe emissions and increasing licensing cost for the same vehicles. This would typically impact utes and SUVs.

As Hīkina te Kohupara recognises, socio-cultural identities are tied with large vehicles²⁵. The Government could run repeated media campaigns explaining that bigger vehicles (Utes, SUVs) are more dangerous (for pedestrians, especially children), more polluting, and inadequate for daily needs. A good example is the UK “When you have a hammer, every problem looks like a nail” video²⁶. Such campaigns could also start tackling the masculine identity tied to large vehicles by instead presenting healthy male figures whose identity is not tied to their vehicle. In parallel, the Government should consider regulating advertising that promotes aggressive and polluting driver mindsets.

In terms of electric vehicles, the high capital cost has been identified as the largest barrier. As well as RUC, tax and other incentives considered, a low-cost loan scheme where cost savings are used to service the loan could be the most effective way to drive adoption at minimal cost to the Crown.

We submit that electric bikes should also be eligible and to ensure low-income New Zealanders are not disadvantaged and stuck with higher operating cost ICE vehicles, incentives should be designed in a tiered, progressive fashion.

New Zealand should aim for an earlier importation ban on ICE vehicles to recognise the fact we hold on to vehicles longer than most developed countries and to avoid the risk of becoming a dumping ground as identified by the MOT.

8. Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?

We agree with these possible key actions.

9. Do you support the possible actions to reduce domestic aviation emissions? Do you think there are other actions we should consider?

No. Avoiding air travel will reduce emissions faster and at less cost than any other measure to decarbonise aviation. Funding needs to be reallocated from aviation to establishing the low-carbon, land based public transport network we need to be able to avoid flying.

Education, promotion, and leadership should be used to encourage New Zealanders to avoid flying, use remote alternatives, or use inter-city public transport. Consistent with this, a

²⁵ Hīkina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050., P. 67

²⁶ https://twitter.com/SarahJ_Berry/status/1398191433270579203

clear sign of leadership from elected Members of Parliament would be to remove their perk of unlimited free air travel for personal reasons.

Additionally, airport expansion and new airport construction should be stopped.

Domestic aviation emissions, once radiative forcing factors are included, contribute more to climate change than our heavy trucks do, and are rising faster²⁷. Any efficiency gains have been swallowed by increases in passenger numbers. In the Kyoto Protocol, the aviation industry agreed to work through the International Civil Aviation Authority to reduce aviation emissions. They've had plenty of time and money to research this, but instead of using profits (during this period of not paying for their climate damage), they instead offered cheap flights to grow passenger numbers.

"Sustainable" aviation fuels do not exist, because the radiative forcing effects at altitude mean **any** aviation fuel damages the climate more than if a fossil fuel was burnt at ground level. Electric aeroplanes therefore are the only potential way to achieve net zero emissions in aviation, and there is zero chance that technology will be available to move more than a tiny fraction of the current domestic passenger volumes by the end of the third emissions budget.

Pinning hopes on sustainable aviation is therefore neither responsible from an economic nor a climate perspective. The only solution is to reduce flying substantially. The Avoid-Shift-Improve framework is as important for aviation, both domestic and international, as for land transport, yet the Ministry has not taken this approach. The government is ignoring the need to substantially reduce aviation, with obvious equity implications²⁸.

Aviation is subsidised; it does not pay for its carbon emissions and Air New Zealand, other smaller airlines, and airports have continued to be bailed out and/or subsidised by taxpayers and ratepayers. The Government has used taxpayer money to promote tourism.

Research into low emissions flying should be a private endeavour, funded entirely from within the industry. This is because flying is an energy-intensive, highly inequitable transport mode that does not benefit most ordinary New Zealanders, and especially not those with the lowest incomes. Current and future generations have no responsibility to prop up or subsidise aviation-critical industries, nor their research needs. Sustainable industries using sustainable transport can serve us better if we provide the transport infrastructure they need.

To serve future generations well we should be investing in the low carbon transport modes they will need: regional rail and coach.

The government should establish workstreams and funding streams for establishing a national public transport network, and start to build it at pace. The benefits go well beyond emissions reductions²⁹.

²⁷ <https://www.greatauckland.org.nz/2019/12/04/planning-for-air-travel/>

²⁸ <https://www.nationalgeographic.com/environment/urban-expeditions/transportation/air-travel-fuel-emissions-environment/>

²⁹ <https://www.greatauckland.org.nz/2019/08/07/regional-access/>

10. The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised?

Aotearoa needs new freight strategies and systems that cause no deaths or serious injuries; are compatible with quality, compact cities; and that don't endanger healthy regional active travel. Hīkina te Kohupara's Chapter 8 on freight takes a conventional approach and the recommendations will limit outcomes - for freight efficiency, system decarbonisation and safety. The chapter would benefit from looking beyond the current system and from integrating freight planning with other transport priorities.

Freight is an area where innovation and new technologies will be helpful, such as this suggestion on page 82:

consolidating deliveries in urban consolidation centres (UCCs) or drop-off/pick-up points for self pick-up.

More information is given on page 50, including about e-cargo bikes for deliveries, but in Chapter 8 itself, doubt is placed on their applicability to Aotearoa:

How much more scope there is for Aotearoa to open further consolidation centres and complement these with last-mile low emission modes such as electric vans or cargo-bikes remains to be studied.

New Zealand is not somehow 'different' so there's no need to "study" these. Instead, we need the infrastructure rollout to allow it to happen. The infrastructure needed to make e-cargo bikes safe and attractive for businesses is the same infrastructure that will allow significant modeshare for passenger trips, freeing up the road network for trucks and vans.

The section in Chapter 8 on "consumer and business owner demands" describes the shift to a focus on speed and efficiency for deliveries, noting that:

If supply chain managers and consumers accepted slightly longer delivery times, it could enable slower modes, which are often lower emission, to play a larger role. This may require efforts to shift and shape consumer preferences, which will be challenging.

Relying on hopes that customers' behaviour will change has been a delaying force in the climate action story for decades; what's required is systems change to enable this behaviour change.

Systems change that would encourage a shift to slower modes of freight delivery is to enforce good driving behaviour. A central Vision Zero concept is that responsibility for the behaviour of fleets of vehicles like courier delivery vans needs to be moved upwards to the regulators and enforcement authorities. Internal company cultures will shift if the threat of action for poor driver behaviour is something the company management feels the heat on. The threat of massive fines can mean courier drivers start to have to park legally, drive considerately and slowly. Together with higher registration costs for vehicles, congestion

charges and higher fuel taxes, the option of switching to slower, safer modes that don't have these fines and charges would be more attractive. Levies on delivery vans could even be used to provide subsidies to e-cargo bikes.

Freight is now a key strategic priority in the GPS 2021, indicating the importance the government has given to improving outcomes for freight.

The Auckland Freight Plan³⁰ is an example of how the sector has responded to the new priority for freight in the GPS. Neither aligned with Vision Zero, nor cognisant of freight's relationship with our climate and equity goals, the plan has the potential to worsen outcomes for all three³¹. Yet a more efficient freight system can be achieved in Auckland if there is considerable modeshift of passenger trips to sustainable modes. Freight's enormous contribution to this task should be central to the freight plan. The reference group for the Auckland Freight Plan was made up of people from these organisations:

Auckland Transport, NZ Transport Agency, Auckland Council, Ministry of Transport, KiwiRail, Automobile Association, Road Transport Association NZ, National Road Carriers Association, Auckland Airport and Ports of Auckland.

The Ministry should improve its freight section with input from experts on disability, cycling, walking, safety, decarbonisation, placemaking and equity.

Freight efficiency is improved with lower traffic volumes. This was demonstrated during the Level 3 and 4 lockdowns, when the recorded "level of service" for freight showed significant improvement. Hikina te Kohupara should stress that all the levers for reducing traffic volumes³² are not just decarbonisation tools but are also tools for improving freight efficiency. The actions listed in the freight section should therefore include reducing traffic volumes, with an upfront list of how to do so: reducing road capacity, removing ratruns, reducing intersection sizes, improving public and active transport, reducing parking supply, reallocating road space to sustainable modes and stopping sprawl.

Freight efficiency is improved with lower levels of congestion, but transport planners are still attempting to improve congestion with incremental intersection widening and optimising for the flow of general traffic. This is a failed approach that increases traffic and therefore increases congestion, slowing freight down. The freight section should include an action that addresses this, calling for congestion to be reduced by traffic reduction approaches, rather than the conventional road network optimisation approach of widening pinch points and reassigning signal priority.

Our freight network impacts our ability to decarbonise the whole transport system, but this point hasn't been addressed in the paper. Trucks are disproportionately involved in death and injury crashes. The size and mass of our trucks is inappropriate for a road network shared by other road users, and this will continue to prevent modeshift if we don't tackle the problem. This suggestion (p 84) is entirely lacking in Road to Zero understanding:

Some routes have even been approved for use by specifically designed 62 tonne

³⁰ <https://at.govt.nz/media/1983982/auckland-freight-plan.pdf>

³¹ <https://www.greatauckland.org.nz/2020/10/20/the-auckland-freight-plan/>

³² <https://i1.wp.com/www.greatauckland.org.nz/wp-content/uploads/2020/02/Lever-for-Reducing-Traffic.png>

HPMVs. It may be possible to explore whether more sections of the road network could support higher capacity trucks and whether any additional costs of maintenance and infrastructure upgrades could be justified. However, allowing heavier and greater cubic capacity loads on trucks might conversely lead to competition with lower carbon modes on some routes.

The suggestion should be removed from the document. Trucks of these sizes need to be completely separated from all other modes for their entire routes, including full grade separation, but freight companies would never agree to pay for such an endeavour. Even just strengthening or replacing bridges each time the truck weight limits are increased imposes a massive cost. The funding provided for maintenance of the transport network is never sufficient, we are facing a big bill for climate resilience work to raise and strengthen roads, railways and cuttings, and we need to transform the network so it's safe for all modes.

We simply don't have the money to adapt more of the network for massive trucks.

Instead, the Government should be working to shift far more freight to rail. Rail is far safer than trucks. It is far easier to decarbonise - electric rail is proven technology. Investment in rail should aim to remove as many large trucks from the regional road network as possible. We agree with this need:

We need to fully understand the optimal spatial layout of transport and logistics nodes (e.g. ports, rail, freight hubs, etc.) in Aotearoa.

And stress that it needs to be rail-based, with any truck movements being in smaller trucks, with those great big 50 and 62 tonne trucks retired from the public network.

11. Decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?

We do not agree with the possible key actions. Using the ASI approach, freight emissions should be avoided through reduced activity or improved logistics and through modeshift to rail, shipping and e-cargo bikes or other sustainable modes. Greater proximity with increased local production and consumption would significantly decrease emissions while providing regional economic development and promoting resiliency.

Shifting freight off trucks and onto rail and coastal shipping decreases emissions and delivers other co-benefits such as road safety outcomes. Significant investment is needed in rail and coastal shipping infrastructure.

We support higher emission standards and believe an early import ban and the phasing out of registration of diesel vehicles is needed. The Road User Charges scheme isn't accounting for the true costs to society from road freight and should be modernised to price externalities and provide revenue for zero-carbon alternatives.

We urge the Government to set sustainable standards for biofuels to ensure emission reductions are achieved without contributing to food insecurity, poor land use, reduced biodiversity, wasteful practices in agriculture, or environmental disasters (such as using feedstocks like palm oil).

12. A Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?

We acknowledge the impacts identified and consider that positive social outcomes must be maximised as we decarbonise the transport sector. The transformation of our transport system to meet climate goals offers a huge opportunity to undo the existing injustices currently baked into the system, particularly for persons with disabilities, low-income people and people of colour. This opportunity must not be squandered.

13. Given the four potential pathways identified in Hikina te Kohupara, each of which require many levers and policies to be achieved, which pathway do you think Aotearoa should follow to reduce transport emissions?

This is discussed above in **Report: Positives and Negatives - Are the pathways on the right path?** And **A note on the Climate Change Response Act.**

In summary:

The pathways should be more ambitious. The primary goal of the Emissions Reduction Plan must be to reduce emissions in line with the target. It is clear that some of the pathways do not achieve this. Pathway 4 gets closest but we urge MOT to recommend and advise emission reductions further and faster than outlined in any of the four pathways, in order to make up for the lack of reductions in other sectors such as agriculture.

In the final report, all pathways should be consistent with achieving the goal of staying below 1.5 degrees, as outlined in the Zero Carbon Act. There is no excuse to include pathways that miss this life-saving goal. Indeed, including pathways that do not achieve the law only serves to confuse the public and decision-makers alike.

14. Do you have any views on the policies that we propose should be considered for the first emissions budget?

See **Recommendations for the First Emissions Reduction Plan** above.

Thank you for the opportunity to provide feedback and we look forward to further engaging with you.

ENDS

From: [REDACTED]
To: [Transport Emissions](#)
Subject: SUBMISSION: from Tranzit Group on 'Hikina te Kohupara – Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050'
Date: Tuesday, 22 June 2021 1:52:06 pm
Attachments: [image612001.png](#)
[image772003.png](#)
[Tranzit's Submission on Govt Emission Reduction Plan - transport \(002\).docx](#)
[Tranzit's Submission on Govt Emission Reduction Plan - transport \(002\).pdf](#)

Good afternoon,

Tranzit Group welcomes the opportunity to provide a submission on 'Hikina te Kohupara – Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050'.

As a New Zealand based, family-owned company playing a significant role in electrifying public transport, we support Government and central government's efforts to reduce carbon emissions in New Zealand and to reduce dependency on fossil fuels. We recognise there are new and interesting technologies emerging that can improve Public Transport while delivering environmental and social benefits as well as economic improvements.

On behalf of Keven Snelgrove, Tranzit Group's Director of Transport and Logistics please find attached in both word format and PDF our submission – noting, we would specifically like to address eight points.

If you have any further questions, please get in touch with me.

Kind regards

Katie Farman on behalf of Keven Snelgrove



Katie Farman
Senior Communications Advisor, Tranzit Group

[REDACTED] | **W:** www.tranzit.co.nz
316-330 Queen Street, Masterton | PO Box 116, Masterton 5840



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Monday, 21 June 2021

To: Transport Emissions
 Ministry of Transport
 P O Box 3175
 Wellington, 6140

To whom it may concern.

RE: Tranzit Group’s submission on Transport Emissions for DRAFT Emission reduction plan.

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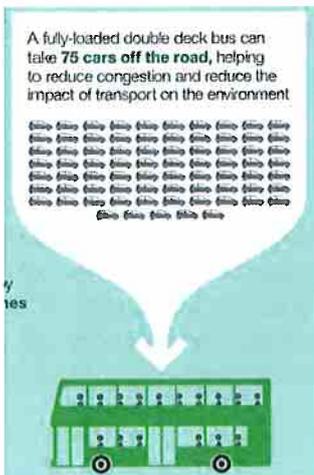
For this submission, Tranzit would specifically like to address the following eight points and at the bottom of this document we have included some background information on our company.

1. Road User Chargers (RUC)

There needs to be a consideration on what the RUC user rate will be for electric buses. This needs to take into account that an EV bus is heavier than a diesel. Alternatively a special “EV single deck” and “EV double deck bus” charge could be established with a discount added as an incentive for bus operators to de-carbonise their fleet.

2. Bus Priority Lanes

New Zealand’s on-road infrastructure needs to be improved to facilitate journey times that have a comparable travel time to that of private car times. We have been advocating for bus priority lanes for many years and will continue to advocate for their planning and building, especially in urban centres.



Tranzit believes the financial boost from these bus priority lanes will include reduced running costs for operators (from faster, guaranteed journey times) and increased revenue for councils (from more passengers choosing to use buses over private vehicles).

Regional Councils’ will need to look closely at their networks to see what is achievable including the best location of bus priority lanes and taking into account factors like topography, trip length and supporting infrastructure such as bus stops. (left: graphic taken from UK’s *Bus Back Better* document).

3. Collaboration with energy sector and local distributing companies

We need to bring together bus operators, the energy sector including the local distributing companies, local and regional councils and other stakeholders to develop financial and commercial models of delivering zero emission buses at scale, with government and nongovernment funding. Up until now, the energy sector has often been the missing piece of the jigsaw puzzle, but we all need to understand the complex requirements of securing and buying power to support charging infrastructure.

4. Charging infrastructure ownership

Your report mentions Government ownership of assets like charging infrastructure, however Transit feels this should remain with the operators as they are the experts in this field and have experience in procuring the charging infrastructure and in maintaining it. This also ensures a competitive outcome under public value. Support needs to come by way of funding, as the report mentions the capital cost of charging infrastructure is significantly higher and the current set up of PTOM does not cater for this expenditure.

This leads onto retaining intellectual property here in NZ. For example: when Transit began to electrify its fleet in Wellington, we worked with numerous stakeholders including Wellington Electricity to build a network of chargers around the wider region for our electric bus fleet. We secured the additional power from Wellington Electricity to ensure our charging network could function properly.

This charging infrastructure now includes:

- the country's fastest 450kW charger located in Island Bay,
- a combined capacity of 300kw at our Rongotai depot, being up graded to 600kW in the next six months,
- a combined capacity of 1080 kW at our Grenada depot,
- the Thorndon 450kW fast charger installation in September 2021,
- our Palmerston North depot which has a 120kW charger.

We have since been used as a positive business case study with Transpower on this process and we are happy to share our knowledge with industry. We are aware that some bus operators and Council Controlled Organisations are not aware of how this process works and as experts in this field, we would be happy to share our learnings.

5. A National Standard for Charging

There is currently no National Standards around charging infrastructure which can help build economies of scale and could help WorkSafe form clearer and better industry guidelines. If there no inter-changeability with the fleet and charger,

6. Supporting Local

Transit sets itself apart from other bus operators by helping to build New Zealand's electric bus capability by working with Tauranga's Kiwi Bus Builders to build the buses using parts sourced from New Zealand as well as from leading global suppliers in China and Europe. When Transit signed a contract with Greater Wellington Regional Council in June 2020 to deliver 31 more EVDDs into Wellington, it was noted at the time that Kiwi Bus Builders would bring in an additional 30 staff to work on the project. Transit also supports the wider industry as several of our EV bus components are sourced from NZ include pantograph components, lighting, and switches.

7. People. People. People.

Your report states “people at the centre of our policy development.”



We couldn't agree more.

Tranzit would like to stress the importance of training and upskilling of staff on EV infrastructure/ EV cars/ EV buses. Tranzit strongly advocates for more scholarships or educational pathways directed to this field to ensure the industry is supported, moving forward.

Did you know?

Tranzit has around 20 workshop team members who have gone from working on diesel bus technology to EVs. To date, four of

our diesel mechanics, including Tom pictured above, are completing their MITO New Zealand Certificate in Electric Vehicle Automotive Engineering (Level 5) in order for them to be ready to work on our growing fleet of electric buses. Tranzit has plans for more of our diesel mechanics to be upskilled in this area, but support by way of scholarships or free fees would make it even more attractive to bring newcomers into the industry. With battery and charging technology changing at such a rapid rate, it is important a skilled workforce keeps up with this pace of change and is there to implement the Governments' changes. A positive consequence of this, is keeping Intellectual Property in New Zealand.

8. Unintended Consequences of Moving too Fast.

As part of our national fleet of 1800 vehicles, Tranzit currently operates over 270 Euro 6 diesel buses, which meet the highest global emission standards. These are only three years old. We are concerned that there maybe unintended consequences if the Government or Council Controlled Organisations accelerate the transition to a Zero Emission Bus Fleet. We believe these unintended consequences would include:

- a. Reduction in the market valuations of current diesel bus fleets by up to 50%. Whether this manifests next year or is progressively implemented, we believe a massive drop in bus fleet valuations will occur and this Capital loss will lead to a poor outcome for regional councils, who contract bus operators to deliver urban services.
- b. If the above happens, then the next logical question is what do bus operators do with this fleet? Where do the buses go?

GOOD NEWS! Tranzit has a solution to this.

In a Southern Hemisphere first, Tranzit is converting two of its three-year-old double deck diesel buses to fully electric. This conversion is taking place in Tranzit's Masterton workshop with the company's specialist mechanic team creating a blueprint for further conversions. After creating this blueprint, Tranzit will have the knowledge, expertise, and capacity to repower some of its urban diesel fleet to electric assuming we can get funding from the Government and Regional Councils to do this. Because the planned conversion vehicles are all three years of age – single and double decks - they are worth further investment and will help New Zealand achieve its goal of reducing carbon emissions.

Tranzit would also seek a 50% reduction in vehicle age, up to a max of five years, as this will help amortise the capital cost of the vehicle. Note “all urban bus have a max age and Average fleet age” by readjusting age on late model vehicle helps in spreading the costs and affordability.

This conversion project came about after Tranzit Group was granted almost \$500k from the Low Emission Vehicles Contestable Fund, which is administered by the Energy Efficiency and Conservation Authority (EECA). Tranzit matched this grant dollar for dollar – meaning we also contributed \$500K. Now the first “prototype” has been completed and showing great results, the second repower is underway to confirm costings and modular fabrication for ongoing repowers.

Thank you for time and by means of background please find below some information about Tranzit:

Tranzit Group is an award-winning, family-owned transport and tourism company operating throughout Aotearoa, New Zealand.

Preparing to celebrate its centenary in 2024, Tranzit is a leader in its field bringing key family values into the workforce and exceptional customer service for all its passengers and clients. Employing over 1500 staff and operating more than 1800 vehicles nationwide, including 12 electric buses in service, Tranzit has the flexibility to meet all transport requirements and is a significant contributor to the local economy.

Tranzit Group has been researching and developing electric bus technology since 2014. It believes this sustainable technology is the future of public transport in New Zealand and as the leaders in the industry, is committed to continuing to lead the way for more 100% electric buses on New Zealand roads. In addition to operating 10 Electric Double Deck Vehicles (EVDDs) in Wellington, it collaboratively introduced a fully battery-powered electric bus servicing Auckland University of Technology’s Northcote and Manukau campuses. In February 2021 it introduced a third generation EV bus into Palmerston North’s urban network and is now looking forward to introducing 31 fourth generation EVDD’s into the Wellington region over the next two years.

Tranzit also sets itself apart from other bus operators by helping to build New Zealand’s electric bus capability, working with Tauranga’s Kiwi Bus Builders to build the buses using parts sourced from New Zealand as well as from leading global suppliers in China and Europe. Tranzit is also working on a Southern Hemisphere first – converting two double deck diesel buses to fully electric.

Kind regards

Keven Snelgrove
Director of Transport and Logistics
Tranzit Group

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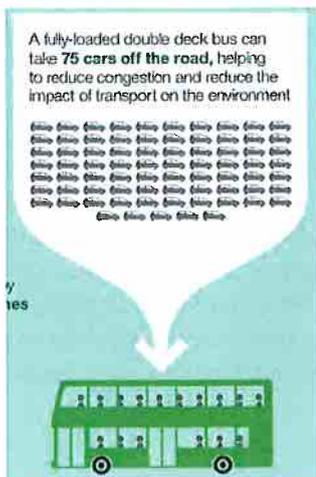
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This charging infrastructure now includes:

- the country's fastest 450kW charger located in Island Bay,
- a combined capacity of 300kw at our Rongotai depot, being up graded to 600kW in the next six months,
- a combined capacity of 1080 kW at our Grenada depot,
- the Thorndon 450kW fast charger installation in September 2021,
- our Palmerston North depot which has a 120kW charger.

We have since been used as a positive business case study with Transpower on this process and we are happy to share our knowledge with industry. We are aware that some bus operators and Council Controlled Organisations are not aware of how this process works and as experts in this field, we would be happy to share our learnings.

5. A National Standard for Charging

There is currently no National Standards around charging infrastructure which can help build economies of scale and could help WorkSafe form clearer and better industry guidelines. If there no inter-changeability with the fleet and charger,

6. Supporting Local

Transit sets itself apart from other bus operators by helping to build New Zealand's electric bus capability by working with Tauranga's Kiwi Bus Builders to build the buses using parts sourced from New Zealand as well as from leading global suppliers in China and Europe. When Transit signed a contract with Greater Wellington Regional Council in June 2020 to deliver 31 more EVDDs into Wellington, it was noted at the time that Kiwi Bus Builders would bring in an additional 30 staff to work on the project. Transit also supports the wider industry as several of our EV bus components are sourced from NZ include pantograph components, lighting, and switches.

7. People. People. People.

Your report states “people at the centre of our policy development.”



We couldn't agree more.

Tranzit would like to stress the importance of training and upskilling of staff on EV infrastructure/ EV cars/ EV buses. Tranzit strongly advocates for more scholarships or educational pathways directed to this field to ensure the industry is supported, moving forward.

Did you know?

Tranzit has around 20 workshop team members who have gone from working on diesel bus technology to EVs. To date, four of

our diesel mechanics, including Tom pictured above, are completing their MITO New Zealand Certificate in Electric Vehicle Automotive Engineering (Level 5) in order for them to be ready to work on our growing fleet of electric buses. Tranzit has plans for more of our diesel mechanics to be upskilled in this area, but support by way of scholarships or free fees would make it even more attractive to bring newcomers into the industry. With battery and charging technology changing at such a rapid rate, it is important a skilled workforce keeps up with this pace of change and is there to implement the Governments' changes. A positive consequence of this, is keeping Intellectual Property in New Zealand.

8. Unintended Consequences of Moving too Fast.

As part of our national fleet of 1800 vehicles, Tranzit currently operates over 270 Euro 6 diesel buses, which meet the highest global emission standards. These are only three years old. We are concerned that there maybe unintended consequences if the Government or Council Controlled Organisations accelerate the transition to a Zero Emission Bus Fleet. We believe these unintended consequences would include:

- a. Reduction in the market valuations of current diesel bus fleets by up to 50%. Whether this manifests next year or is progressively implemented, we believe a massive drop in bus fleet valuations will occur and this Capital loss will lead to a poor outcome for regional councils, who contract bus operators to deliver urban services.
- b. If the above happens, then the next logical question is what do bus operators do with this fleet? Where do the buses go?

GOOD NEWS! Tranzit has a solution to this.

In a Southern Hemisphere first, Tranzit is converting two of its three-year-old double deck diesel buses to fully electric. This conversion is taking place in Tranzit's Masterton workshop with the company's specialist mechanic team creating a blueprint for further conversions. After creating this blueprint, Tranzit will have the knowledge, expertise, and capacity to repower some of its urban diesel fleet to electric assuming we can get funding from the Government and Regional Councils to do this. Because the planned conversion vehicles are all three years of age – single and double decks - they are worth further investment and will help New Zealand achieve its goal of reducing carbon emissions.

Tranzit would also seek a 50% reduction in vehicle age, up to a max of five years, as this will help amortise the capital cost of the vehicle. Note “all urban bus have a max age and Average fleet age” by readjusting age on late model vehicle helps in spreading the costs and affordability.

This conversion project came about after Tranzit Group was granted almost \$500k from the Low Emission Vehicles Contestable Fund, which is administered by the Energy Efficiency and Conservation Authority (EECA). Tranzit matched this grant dollar for dollar – meaning we also contributed \$500K. Now the first “prototype” has been completed and showing great results, the second repower is underway to confirm costings and modular fabrication for ongoing repowers.

Thank you for time and by means of background please find below some information about Tranzit:

Tranzit Group is an award-winning, family-owned transport and tourism company operating throughout Aotearoa, New Zealand.

Preparing to celebrate its centenary in 2024, Tranzit is a leader in its field bringing key family values into the workforce and exceptional customer service for all its passengers and clients. Employing over 1500 staff and operating more than 1800 vehicles nationwide, including 12 electric buses in service, Tranzit has the flexibility to meet all transport requirements and is a significant contributor to the local economy.

Tranzit Group has been researching and developing electric bus technology since 2014. It believes this sustainable technology is the future of public transport in New Zealand and as the leaders in the industry, is committed to continuing to lead the way for more 100% electric buses on New Zealand roads. In addition to operating 10 Electric Double Deck Vehicles (EVDDs) in Wellington, it collaboratively introduced a fully battery-powered electric bus servicing Auckland University of Technology’s Northcote and Manukau campuses. In February 2021 it introduced a third generation EV bus into Palmerston North’s urban network and is now looking forward to introducing 31 fourth generation EVDD’s into the Wellington region over the next two years.

Tranzit also sets itself apart from other bus operators by helping to build New Zealand’s electric bus capability, working with Tauranga’s Kiwi Bus Builders to build the buses using parts sourced from New Zealand as well as from leading global suppliers in China and Europe. Tranzit is also working on a Southern Hemisphere first – converting two double deck diesel buses to fully electric.

Kind regards

Keven Snelgrove
Director of Transport and Logistics
Tranzit Group

Date: 23 June 2021

A submission by: The Transport Special Interest Group of the Regional Sector of Local Government New Zealand

On: Hīkina te Kohupara – Kia mauri ora ai te iwi – Transport Emissions: Pathways to Net Zero by 2050

Contact Address: c/- Greg Campbell, Chief Executive Officer, Greater Wellington Regional Council and sponsor of the Transport Special Interest Group, PO Box 11646, Wellington 6142

Telephone number: 04 384 5708

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Who we are?

The Transport Special Interest Group (TSIG) is an officer group established under the Regional Sector of Local Government New Zealand. All regional councils, unitary authorities and Auckland Transport are represented on TSIG. Our organisations are responsible for regional transport planning, identifying regional transport investment priorities, and provision of public transport services. We also provide the broad framework for land use and resource management within regions through Regional Policy Statements, and have a high interest in ensuring integrated land use and transport outcomes. The primary role of the TSIG group is to collaborate and advocate on regional transport matters.

1. TSIG would like to thank the Ministry of Transport (the Ministry) for the opportunity to provide a submission on Hīkina te Kohupara.
2. We acknowledge the work that has gone into the development of Hīkina te Kohupara and the specific engagement the Ministry has undertaken with TSIG.
3. This submission provides our initial feedback. The submission timeline (together with binding deadlines for our Regional Land Transport Plans and Long Term Plans, as well as other current central government submission processes) meant that we did not have sufficient capacity and time to develop a joint position on many of the detailed proposals and possible key actions covered in Hīkina te Kohupara.
4. We will continue our work on this and are looking forward to further engagement with the Ministry during the development of the transport section of the Government's Emissions Reduction Plan.

Summary of key points

5. Overall, we support the reduction of transport CO₂ emissions for environmental outcomes and the key matters outlined in Hīkina te Kohupara.
6. We believe that a change in the approach to reduce the need to travel and achieve mode shift is needed, as it is unlikely that continuing with the status quo will be sufficient.
7. We support the avoid-shift-improve (A-S-I) framework used to identify opportunities to reduce transport emissions.

8. We support Pathway 4 as this is the only Pathway that meets the Climate Change Commission advice.
9. We strongly support a change to funding and financing mechanisms that rebalance investment away from large scale roading construction towards locally-based sustainable transport initiatives and larger scale public transport (PT) investments.
10. We support solutions that can take local community needs into account and integrate with land use planning.
11. We recommend a joined-up approach across government to ensure policy solutions that are being developed in other areas, like the resource management (RM) reform and the Future of Local Government review, are aligned with the transport approach.
12. We also support the level of attention in the draft discussion document afforded to equity.
13. We note a need for improved focus on rural areas, and the needs of people who do not have regular or any car access to jobs and essential services.

Further detail is provided below, to expand on the key points of our submission.

Overall support for Hīkina te Kohupara

14. Overall, we support the reduction of transport CO₂ emissions for environmental outcomes and the key matters outlined in Hīkina te Kohupara.
15. We believe that a change in the approach to reduce the need to travel and achieve mode shift is needed, as it is unlikely that continuing with the status quo will be sufficient. With our current tools and approach, particularly the promotion of PT and active modes (where these are viable options), we have yet to see the shift in behaviour change that will be required to meet transport's contribution in the Climate Change Commission advice.
16. We support the A-S-I framework used to identify opportunities to reduce transport emissions. We note that local government (territorial authorities (TAs) and regional councils) has control of, or at least some influence over, several of these interventions, including those related to accelerating mode shift, reallocating road space, reprioritising investment away from additional roading capacity, and shaping urban form.
17. These interventions almost exclusively sit within the 'avoid' and 'shift' space, which the Ministry considers to be the most impactful and cost effective in reducing overall transport sector emissions.
18. While we support initiatives that disincentivise private vehicle travel, such as making greater use of pricing mechanisms, we also need to correspondingly invest significantly in increasing accessibility and travel choice by modes other than private vehicle, particularly in established urban areas.
19. We support the level of attention in Hīkina te Kohupara afforded to equity. The transition to a low-emissions transport system for Aotearoa New Zealand, and particularly the greater use of pricing mechanisms, has the potential to exacerbate existing inequities in access in many of our communities. Bringing a spatial lens over transport decision making that carefully considers the locations and groups in our community with the least access to opportunities and who experience the greatest marginalisation, will enable a more equitable transition.

20. We support Pathway 4 as the only pathway that aligns with the advice from the Climate Change Commission. However, we note the significant barriers to achieving this, which will require new tools and new funding mechanisms for the sector.

There are barriers to change

21. We note the following barriers for our sector to contributing to the change needed:

- funding constraints, e.g. uncertainty of contestable funding, inequitable cost allocation to benefitting parties, lack of funding tools at a local level, high level of committed investments that do not support emissions reduction and competing demands on rateable income
- complexity of systems and structures, e.g. slow decision-making processes through current RMA processes and subsequent funding for required public assets
- inadequate resourcing, e.g. difficulties to recruit skilled and experienced staff
- lack of community mandate for certain solutions, e.g. removing parking is often strongly opposed by members of the public and consequently not always implemented.

22. We acknowledge the work underway to look at the systems, structures and funding (through the RM reform, the Future of Local Government review and other government initiatives). However, we expect that some barriers, including sector capacity and social mandate, will be ongoing issues that will impact the efficacy of any pathway that our councils look to implement.

Funding

23. We note that funding constraints are impacting on our ability to improve the attractiveness of alternatives to private motor vehicle usage. Contestable funding does not appear to be a very suitable mechanism, as decision-making needs to be connected to the strategy and planning (as opposed to chasing available funding). We are seeking more certainty over the medium to long-term resourcing to implement regional plans, particularly the regional programmes in RLTPs.

24. Both Waka Kotahi NZ Transport Agency, managers of the National Land Transport Fund (NLTF), and councils are experiencing significant funding pressures. These pose a risk to maintaining current levels of PT services, let alone the increased levels (and supporting infrastructure) needed to achieve our ambitious joint goals. The following factors are contributing to funding pressures:

- pressure on the NLTF, caused by factors like:
 - a decline in road user charging revenue as a result of COVID-19, reflecting lower levels of vehicle usage
 - the NLTF now covering a wider range of activities than when it was originally set up
 - major cost increases in Waka Kotahi roading projects
- cost increases to councils, including from central government policy changes
- ongoing PT revenue shortfall due to reduced patronage during COVID-19.

25. We note that a hypothecated fund that relies on fossil fuel-based vehicle travel as its main revenue stream looks somewhat anachronistic when we are seeking to reduce the need for said travel (and hence reducing the revenue we need to fund alternatives).

26. Delivering business as usual can be challenging for councils on the current levels of resourcing, let alone the transformational improvements required.

27. We note the potential of a 'build back better' approach to maintenance and renewals. While this may have little to no short-term cost saving, it may reduce future maintenance costs (while potentially having additional emissions benefits). For many regions, maintaining and renewing the existing road networks forms the vast majority of RLTP expenditure and there is a need to consider new approaches.

Capacity and capability

28. The regional transport sector currently does not have the capacity or capability to effectively respond to the pace of change outlined, particularly in terms of Pathway 4.
29. We expect that changes and developments like the RM reforms and the Future of Local Government review, and the impacts of COVID-19 and climate change on travel and freight movements, will be major disruptors which will challenge our sector's business as usual capability and capacity.

Social mandate

30. We seek a stronger emphasis from the Government on social mandate to tackle the culture of high single occupancy car use. We would support a holistic, collaborative approach across government.
31. This is particularly important as many of the ideas proposed for this sector to drive change are deterrents. We believe that more incentives or initiatives that create a supportive social context to underpin the pace of change are required. It is important to avoid negative social dynamics resulting from changes to transport. Working collaboratively with a multi-pronged centrally-led approach could help with the social shift required to support the transport sector to achieve the pace of change proposed.

Need for a cross government approach

32. We note the underlying assumption that ample, stable, renewable energy will be available to support the future of transport. Climate change will impact energy generation and distribution. This ties directly to work currently being undertaken by the Infrastructure Commission. A joined-up cross government approach is needed to ensure policy solutions are aligned.
33. We recognise that there is a strong relationship between strategic transport outcomes and outcomes in other areas like housing, urban development and health. There are also various frameworks that need to be aligned, such as the RM reform, the Future for Local Government review and implementation of the National Policy Statement on Urban Development (NPS-UD). These frameworks set a tone and lasting mechanisms, and define how parties, roles, and strategies fit together.
34. Success under any pathway requires strong, consistent direction from central government, backed by the mechanisms, funding and resourcing to deliver. We will continue to work with the Ministry and with other colleagues in central government to ensure strong alignment and coordination through this transition.

Theme One

Urban Form

35. Aotearoa New Zealand cannot meet its CO2 emission targets without transport, and transport cannot meet its targets without a corresponding change to land use.
36. Spatial plans are a key tool to enable greater integration of land use and transport, which will contribute to emissions reductions. However, spatial planning in and of itself does not create good outcomes without the mechanisms to deliver. We are interested in new mechanisms to deliver on spatial plans, including infrastructure funding and financing, land aggregation and assembly and other regulatory tools.
37. Spatial plans take time to develop and consult on and there are many functions of local and central government that sit outside of spatial planning. There will continue to be a need to make investment decisions outside of spatial planning processes. These decisions can still contribute toward reductions in transport emissions.
38. We believe that there is a potential conflict between reducing transport emissions and the operation of competitive land markets. The NPS-UD includes climate change as both an objective and a policy, yet it also requires TAs to enable growth in greenfield areas and be responsive to out of sequence plan changes.
39. We note that TAs (rather than regional councils) hold many responsibilities and tools related to urban development. For example, delivering a quality, compact urban form requires TAs to invest upfront in infrastructure. This includes non-transport infrastructure (like three waters) so that the systems can cope with increased densification and population.
40. We believe that TAs will require additional tools to facilitate urban development outcomes that support transit-oriented development. For example, to be able to deliver upfront infrastructure, TAs will require more funding and financing tools, like an ability to appropriately levy beneficiaries (primarily landowners) for the full cost of infrastructure, or the balance sheet capacity to carry the increased holding costs of greater investment in infrastructure.
41. We note that urban form takes a long time to change, and the pace of change set out in Pathways 1 and 4 are unlikely to be able to be achieved within the current regulatory framework. The RM reforms may enable a faster pace of change.

Better Travel Options

42. We support better travel options and further investment in PT infrastructure, walking and cycling. We do not consider that there are significant regulatory barriers to increased uptake of these modes, rather, a lack of incentives to reduce private vehicle use. The GPS on land transport is already strong in relation to supporting PT, walking and cycling. The key issues appear to be the availability of funding and onerous processes required to unlock that funding. Ways that could be considered to address this issue include reducing the requirement to develop complex business cases for individual projects to develop integrated walking, cycling and PT networks. The RLTP process could be better used to propose multi-year programmes of investment for sustainable transport infrastructure and services.
43. We note that the lack of an additional source of PT funding (other than the NLTF) is currently the biggest barrier to expanding the frequency and coverage of PT networks. If additional sources of funding were available we could consider significant improvements to our PT services.
44. We consider that an enhanced national bus network that operates across regions and facilitates inter- and intra-regional PT, linking our smaller rural communities, may have a significant role to

play in a low emissions transport network. Inter-regional PT services are currently treated as exempt under the Land Transport Management Act. We understand the PTOM review may soon consider the issue of inter-regional services and whether they should remain exempt.

45. An increased Funding Assistance Rate would be one way central government could provide more funding for these activities. We note that this would require additional funding to the National Land Transport Fund (NLTF) and/or new/additional funding sources.
46. We suggest that Waka Kotahi should look at its existing business case tools and models and consider whether these remain fit for purpose in transitioning our transport system toward zero emissions. Currently these processes are largely based on historic measures and inputs in terms of journey time improvements, service elasticity, price elasticity etc. These may need reviewing and updating to ensure the right mix of projects are receiving funding, and delivery at pace.

Travel Demand Management and Pricing Mechanisms

47. We support the introduction of enabling legislation to make pricing tools available to influence travel behaviour in Aotearoa New Zealand. We note that pricing tools – such as smart or distance-based road pricing, congestion charging, cordon charges and parking charges/levies have the potential to support a range of transport outcomes, including mode shift and emissions reduction.
48. It is important that the use and deployment of these tools respond to the local context to achieve its intended outcomes and avoid unintended consequences. We believe that the greater use of pricing mechanisms is particularly useful in locations that are already well served by alternative transport modes, or in combination with investment in making alternative transport choices more attractive. Their use and application needs to be considered spatially and account for local inequities in access. We think that travel demand management and behaviour change programmes have a significant complementary role to play.
49. We believe that any revenue from road pricing schemes should be directed into maintaining and improving the transport network, particularly active modes and PT. However, pricing schemes should be designed primarily to reduce demand for car travel, and such revenue should not be relied upon as a sustainable source of transport funding. In relation to road maintenance, new pricing tools could allow a fairer allocation of costs, particularly for low volume, high value roads such as those used by forestry and quarrying operations.
50. We support in principle low emission zones in urban areas. However, we note that this may result in behaviour counter to intended aims, by essentially incentivising development on the periphery and decentralisation of employment in established urban areas, particularly city centres.
51. We support the removal of minimum parking requirements to support intensification and we support the introduction of parking maximums, but only where their use and application is determined by local councils.

Theme two

Improving our passenger vehicle fleet

52. Given the slow turnover of the vehicle fleet in Aotearoa New Zealand, we believe that urgent action to accelerate the transition to light electric vehicles is needed. Hīkina te Kohupara rightly focuses on addressing the primary barriers to electric vehicle uptake: purchase price and then

supply. Pairing these with complementary interventions that increase the awareness of electric vehicles and their convenience (i.e. public fast chargers) can potentially support a swifter uptake.

53. We would welcome the introduction of tools to support the uptake of electric vehicles, like a fuel efficiency standard to drive the supply of low emissions vehicle imports, and the feebate scheme. A feebate or microloan scheme could also be useful to support the uptake of electric bikes. Another important area of work is the standardisation and further roll out of electric vehicle charging infrastructure.
54. We see a need to minimise the risk of exporting used Internal Combustion Engine vehicles to other countries, as this would export the emissions problem. We therefore welcome Government initiatives to increase stewardship of used vehicles and/or increase the proportion of used vehicle materials that are recycled and/or reused. An approach to this issue should focus on the engine, not the vehicle.
55. We emphasise the importance of the shift to low emissions and electric vehicles for our rural communities, who are currently most reliant on private vehicle use for their daily needs. Their needs should to be front-of-mind in making this shift, due to their lack of choice.
56. We note that maintaining/retaining core services (such as justice) in our rural communities may have significant emissions benefits in terms of reduced vehicle kilometres travelled. Stronger national guidance and direction is needed to regulate the location and mode of high trip-generating activities, for example hospitals and schools generating high volumes of passenger trips.

Public Transport fleet

57. We note that the Ministry is currently consulting on the review of the Public Transport Operating Model, which includes a focus on bus fleet decarbonisation.
58. We support the extension of the current Road User Charges exemption for electric buses. We consider that this should be expanded to include all zero-emission PT vehicles, e.g. hydrogen.
59. We believe that rail has an important role to play in the overall network solution, particularly as housing density increases, and that this needs to be adequately funded by government.

Theme three - Freight

60. We think there is value in further use and deployment of intelligent transport systems, including the use of data generated by the freight network for transport planning. Given the competitive nature of the road freight industry, we consider that a government-backed approach to enabling greater data collection, information sharing and collaboration may be warranted.
61. In particular, we believe that investigation of the merits of urban consolidation centres for first and last mile delivery would be useful. We also think further investigation into electrification of short-haul freight tasks, particularly within major urban areas, has the potential to contribute to a reduction of CO2 emissions.
62. We recognise the need to invest in developing and rolling out greater use of biofuels, given the slow turnover of our heavy vehicle fleet. Heavy vehicles have a greater contribution to air pollutants than light vehicles, and low carbon fuels have air quality benefits by significantly

reducing the emissions of nitrogen oxides, sulphur oxides and particulate matter, which have known health impacts.

Improved focus on Rural Areas

63. It is important to ensure mechanisms designed to address urban solutions, where the greatest gains are likely, do not have unintended consequences in rural areas through a blanket approach.
64. Rural communities do not have the high growth and may not be able to make a compelling case for investment if this is conditional on spatial planning and changes to urban form. However, rural communities need to maintain their networks to have safe and accessible transport options for social, cultural and economic outcomes.
65. Rural communities have low volume high value travel. They have little mode choice. Provision of core services (like hospital care) has become centralised, necessitating travel. It is not uncommon for people in rural communities to need to drive long distances, or even fly, to obtain such services. Key workers may also commute long distances. PT or active transport are generally not a viable option for serving these communities due to the low-volume, long-distance nature of these trips.
66. Rural communities can be supported with improved interregional transport solutions. There are opportunities to look at PT solutions that link small towns together. These services can also be attractive for tourists.

Partnership with Maori

67. We recognise the importance of a partnership approach with Maori and note the proposed approach to have marae-level working groups with iwi. We seek greater clarification over what is proposed to ensure we can resource that and practically implement that for various local authorities.

Thank you again for the opportunity to provide feedback on the Hīkina te Kohupara – Kia mauri ora ai te iwi - Transport Emissions: Pathways to Net Zero by 2050 green paper.

25 June 2021

Hikina te Kohupara discussion
Ministry of Transport
PO Box 3175
Wellington 6140

Tēnā koutou

SUBMISSION ON THE MINISTRY OF TRANSPORT'S HĪKINA TE KOHUPARA DISCUSSION

1. The Dunedin City Council (DCC) welcomes the opportunity to submit on the Hikina te Kohupara discussion document on options to accelerate the transport sector to meet the draft advice and recommendations of the Climate Change Commission and move to a net zero carbon transport system by 2050.
2. The DCC supports the principles in Hikina te Kohupara and stresses the urgency to commit to strong actions to decarbonise the transport sector. In 2019, the DCC declared a climate emergency and set the ambitious goal of making Dunedin city net carbon neutral by 2030. In 2018/19, the transport sector was assessed as the city's largest source of emissions. Therefore, the DCC is committed to policies to reduce the carbon emissions produced from the transport network.
3. The DCC supports the 'Avoid, Shift, Improve' framework and welcomes the clear acknowledgement of the need to change the way we travel where possible, as not all our carbon reductions can come from improved vehicle technology. The DCC submits that improving land use and transport integration and making our cities more attractive for people, with better public transport and options for walking and cycling, will be the key to achieve necessary carbon reductions. Increased mode shift to active transport will also deliver other benefits, including better health and increased vibrancy and cohesiveness of our communities.

Partnership with central government

4. The DCC welcomes a strengthened partnership between central and local government and the recognition of the need to work together with iwi, communities and businesses to reach the DCC's carbon zero target by 2030. The DCC submits that a proactive, system-wide response and collaboration across agencies, between local and central government, between transport and other sectors, is critical for achieving emissions reductions.
5. The DCC believes that the Government must empower, support and require local government to make changes to urban design and the infrastructure systems to encourage public transport use, walking and cycling, and create vibrant community spaces with healthy air quality. One of the challenges the DCC currently faces is the processes required to unlock Waka Kotahi co-funding. The process requires significant time and budget and is constrained by Waka Kotahi's values framework that underpins any funding decisions. In this context, changing the funding assistance

rates may not result in changes on the ground if councils are unable to unlock funding through Waka Kotahi's processes.

6. The DCC agrees with the aim to 'build back better' when undertaking street renewals and maintenance, appropriately enabled by the Government through guidance, clarification of the roles of delivery agencies, policy and funding. Local government is best placed to make many of the necessary changes to the local transport network. As there is a cost to making changes and to consulting with communities to achieve public support, the DCC recommends the Government consider the impact on council budgets and ratepayers of community engagement and provides funding support.
7. The DCC is supportive of a shift towards better integration of land use planning, transport planning and placemaking and better integration within the transport sector. For example, enabling city councils to manage state highways within core urban areas could enable a better balance to be achieved between the movement and place functions of these critical arterials. State highways bisect many town centres, and the DCC would like to see more emphasis on improved liveability for residents and safety for active travellers along these corridors than on reduced travel times.

Preferred pathways

8. Of the four pathway options to a carbon zero transport sector presented in Hīkina te Kohupara, the DCC prefers the potential pathways in 1 and 4 as these are more effective at reducing emissions. These two pathways offer ambitious and achievable goals. The DCC agrees that an emphasis on avoiding activities that produce emissions is a more effective strategy than minimising emissions from these activities. While noting the assumptions, omissions and uncertainties in the models presented, pathways 2 and 3 are dependent to a larger extent on technical solutions, which depends on considerable investment in transport and energy infrastructure, and on developments in international supply and innovation.
9. The DCC believes that meeting a carbon zero target requires transformation, and that transformation in the transport sector offers co-benefits and opportunities to improve the health and wellbeing of people in the Dunedin community. It could be helpful to have a principle around prioritising carbon reducing initiatives that also provide those wider benefits, aligning them with other strategies from other sectors such as health or road safety (Road to Zero - Te Ara ki te Ora).

Transport fleet

10. The DCC welcomes the transition of New Zealand's transport fleet to electric vehicles and sustainable fuels. The DCC notes that production of new clean cars and fuels and disposal of existing cars have environmental impacts at source. Any policy to decarbonise New Zealand's transport fleet is best undertaken with consideration of circular economies and alongside actions to reduce the overall number of trips by individual vehicles.

Demand management

11. The DCC considers that demand management and pricing have a crucial role in influencing behavioural change to reduce travel and move to lower carbon travel modes. Pricing tools can be very effective and have much shorter implementation timeframes than infrastructure or land use changes. For many households, the marginal cost of driving and parking is perceived as cheaper

than public transport, as well as more convenient than the alternatives. Revenue from FED (fuel excise duty) will fall over the coming years and having a conversation across society about how to pay for transport systems in the future is appropriately led by central government.

Freight strategy

12. The DCC welcomes the development of a National Freight Strategy and actions aimed at efficiency gains in the freight transport sector. Policies to encourage local production and manufacturing would decrease length of freight trips, as well as boost the Dunedin economy and support local resilience. These measures, in combination with methods to increase the efficiency of last mile deliveries, and shifting a greater proportion of freight from the Otago/Southland region travelling to Port Otago onto rail, would contribute to our carbon zero goal. The DCC recommends the Government consider identifying mode shift of a greater proportion of freight to rail and coastal shipping as a key action.

Rail

13. The DCC strongly encourages the Government to consider funding low carbon rail services to cities that do not currently have metro rail services. Through the recent 10 year plan consultation, the Dunedin community sought the introduction of commuter rail services to Mosgiel and possibly other locations in Dunedin.

Just transition

14. The DCC is encouraged by the discussion of just transitions and would like to see actions on this fully integrated with the plan to a zero carbon future. The needs of disadvantaged and low-income groups will have to be considered in any policies related to zero carbon. Some Dunedin homes are not located close to public transport or urban centres. This, together with the cost of electric vehicles, may disadvantage some groups as New Zealand moves to a zero carbon transport system. The DCC recommends support and incentives for those households and groups who need help in the transition to zero carbon, such as reduced bus fares and other funding for shared electric vehicle transport.

Other

15. In future modelling of transition pathways, the DCC would like to see consideration of potential changes in the New Zealand economy over the next 30 years and of changes in consumer desires and expectations regarding transport and climate change, as well as consideration of the cost of not taking action.
16. The DCC encourages the government to consider the role cycle trails and e-bikes can make to low carbon interregional travel and connecting communities. Submissions on the recent 10-year plan process were strongly supportive of more safe cycle routes linking communities.

Concluding remarks

17. Thank you for the opportunity to submit on the Hīkina te Kohupara discussion.

18. If the Ministry of Transport would like to clarify any of these issues raised in the submission, please do not hesitate to get in touch.

19. The DCC looks forward to working with the Government, partner agencies, mana whenua, businesses and communities on this important transition.

Yours faithfully,



Aaron Hawkins
MAYOR OF DUNEDIN



CYCLING ACTION NETWORK

PAI TE HAERE MĀ PAHIKARA

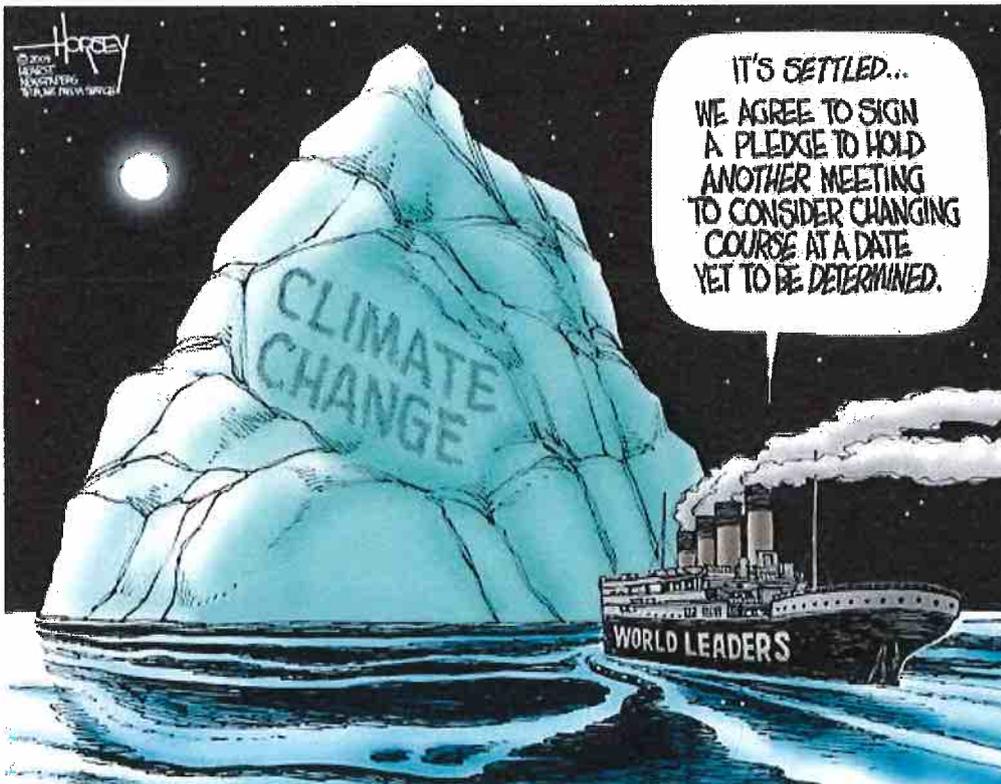
Hikina te Kohupara – Kia mauri ora ai te iwi
Transport Emissions: Pathways to Net Zero by 2050

Cycling Action Network – Submission, 25 June 2021

CAN (Cycling Action Network) is New Zealand's national network of cycling advocates. We work with government, local authorities, businesses and the community on behalf of cyclists, for a better cycling environment. We've been around a long time. We speak for more than a million people in New Zealand who love riding bikes.

<https://can.org.nz/>

We like the framework of Hikina te Kohupara. Now show us the action.



Source: David Horsey, davidhorsey.com, seattlepi.com

We like the emphasis on equity, inclusiveness, and just transition.

On climate, winning slowly is the same as losing. Use stronger language and commit to actions that will deliver a safe climate.

Global net anthropogenic CO₂ emissions must decline by 45 percent on 2010 levels by 2030, reaching net zero around 2050, to prevent overshoot of 1.5 degrees Celsius.

Be ambitious. Cycling is a proven way to cut emissions, with extra benefits for health, prosperity, decongestion and fun.

Aim high

Set ambitious targets, and fund them. We say the target should be 15 percent of all trips nationally by bike by 2050, against 1 percent today. This is the target in the report *Turning the Tide - from Cars to Active Transport.*

- Set a target of 8 percent of all trips by bike by 2035, on the way to 15 percent by 2050.
- Enable biking at a system level with infrastructure, training, programmes, and subsidies
- Boost the growth of e-bikes, making cycling viable for more journeys in more places and improving the equity of a transition to EVs.

“A climate appropriate response would be to rapidly roll a comprehensive network of safe routes in towns all across the country, backed up by low traffic neighbourhoods. Instead of, or at least as well as, suggesting incentives to switch to electric vehicles, the commission needs to recommend the government provide incentives to e-bikes – which could also be much cheaper for the government given e-bikes are magnitudes cheaper than buying even non-electric cars.”

Source: Greater Auckland

Crush the carbon curve

New Zealand's success so far at crushing the Covid curve proves that with the right advice, leadership, goals, and communications, a team of 5 million can transform habitual behaviours for the better. Let's apply those lessons to crushing carbon.

Change systems. Avoid preaching.

Let's get serious about driving behaviour change. It's a system thing not about individual choice. Climate-friendly behaviour like biking needs to be the easy default rather than a tough personal choice. Behaviour change will come from making biking more attractive, not from asking people to change their behaviour.

Increase investments in programmes that get more people riding, more often: For example, Low traffic neighbourhoods, Bike Ready, public e-bike and bike share schemes, and Bikes in Schools. Use trials like Innovating Streets to demonstrate success and kickstart projects.

CycleScheme is a proven way to get more people on bikes

Use both carrots and sticks to drive travel mode switch

Making cycling easier can benefit people who don't cycle too. For example, when someone switches from driving to cycling and leaves their car at home, it frees up road space and parking. Unfortunately, demand tends to increase to use up any 'spare' capacity generated. This is known as Jevons' Paradox - with a more dramatic example being the way new urban motorways quickly become just as congested as what was there before.

To avoid this rebound effect eating into the benefits, we must improve other modes like public transport and make driving relatively less attractive to cancel out any increases. Tools to achieve this include cutting road space, reallocating it to bus and bike lanes, and footpaths, and cutting space for on-street parking.

Improving travel choice helps everyone - the stick is not used to punish those who need to drive but to shift the balance towards those other choices. Car-free city centres and low-emission zones are popular and effective tools used in many cities.

Build park and ride at transport hubs for bicycles

Adding secure bike parking at train stations and bus stops is a good idea. Building carparks is less effective than improving public transport.

Reshape the city

Aim for the 15-minute city, where you can access most destinations you need within 15 minutes by foot, bike or public transport.

Consider equity and value for money

We welcome the emphasis on equity. Incentives that shift people to electric vehicles will favour those who can afford one. E-bikes are expensive compared to other bikes, but far cheaper than electric vehicles. Each dollar of subsidy would have far more impact used to support e-bike uptake than EV uptake.

This article sums up the issues of over-investing in EVs.

EVs are not and cannot be the primary answer: we must prioritise mass and active transport over EVs, and share EVs where we do use them, writes Jack Santa Barbara.

Overcome the barriers that Councils face in building bike lanes

Government funding is currently linked to fuel consumption. This incentivises adding road space and increasing fuel use. Move from a 'predict and provide' funding model to 'decide and provide'.

Reform the way land transport funding works so it's not dependent on increased fuel consumption. Solutions include (de)congestion charging and road pricing.

Focus on efficiency

With limited resources, we must focus on things with the best return. Cycling projects typically have much higher benefit-cost ratios than other transport projects.

A glimpse of what can be possible comes from Ireland: walking and cycling receive 20 percent of transport capital expenditure. Every local authority must develop a high-quality cycling policy,

Apply environment and equity principles to guide transport decisions.

Treat this as a public health emergency, because it is.

Consult, but not too much. There's a strong status quo bias in transport and city planning. Lengthy and exhausting consultation on transport plans is a major obstacle to change. Not everyone needs to be convinced. Apply public health emergency strategies: make the case for change, mitigate negative impacts, deliver change.

Support advocates

To build social licence for change, Government should support and resource advocates who can help build public support.

Focus on avoiding emissions

The Ministry of Transport should emphasise action on the **Avoid and Shift principles**. This will give everyone the best chance to achieve a net zero carbon future.

Making more trips by bike, foot, micromobility and PT possible is an effective way to cut emissions.

There are compelling co-benefits such as road safety and better urban form. Messages could align themes of protecting vulnerable road users, speed management, clearer road hierarchies, better amenity, and access, improved health outcomes and reduced vehicle kilometres travelled (VKT).

Systemic change is necessary

Low and zero carbon modes such as walking, cycling, and public transport must be prioritised, along with better land use so long trips can be avoided.

The way land transport is funded is broken. Waka Kotahi income depends on more people driving, further and more often. That's perverse. It runs counter to better equity concerns, road safety, lower emissions, and better cities. Fix that.

A low-carbon transport system is also an equitable one. It will achieve better outcomes for the most vulnerable in society.

Less driving

Reducing the use of motor vehicles reduces CO2 and other contaminants, creates health and wellbeing benefits. It is a modal shift that can be achieved more quickly and cheaply than other transport solutions. Planning for our cities and towns should make active transport a central priority goal replacing the current vehicle-centric designs.

CAN accepts the evidence on climate change and the goal of reducing CO2 and other gases to achieve a limit of temperature rise to 1.5C or less above pre-industrial levels. We agree with the Climate Commission's advice to government *Ināia tonu nei: a low emissions future for Aotearoa* on the need to centre the urban form of our cities and towns around people and accessibility for all.

One of the three areas recommended by the Commission in their policy direction for transport was:

Reducing the reliance on cars (or light vehicles) and supporting people to walk, cycle and use public transport. Government needs to support this change with clear targets, plans to meet those targets, and substantial increases to funding.

Local government plays an important role in changing how people travel, and it needs more support from central government to do the job well. This includes enabling them through legislation, removing regulatory barriers, and providing increased and targeted funding.

We need to **Shift** the way New Zealanders move from cars to public transport, cycling and walking. The report notes "*decades of underinvestment in infrastructure and services have often made these travel choices slower, less reliable, and ultimately less attractive than travelling by private vehicle*" and the need for "*making sure people have access to affordable, reliable, convenient and well-integrated public transport, and extensive, high-quality and safe cycling and walking infrastructure will be critical for achieving the scale of change required.*"

The Climate Commission recommendations on the need for active transport are aligned with our viewpoint.

According to the 2018 census around 48,000 people cycled to work (2.2 percent of commuters) and 31 percent of people (female 26 percent, male 36 percent) have cycled in the last year. Travelling by bike is increasing in a number of cities and towns, including Christchurch, Auckland and Wellington following increased investment in infrastructure.

Cycling infrastructure benefits many other forms of micro-transport including skaters, scooters and other mobility devices. Pedestrians also benefit from joint crossings across roads.

Changing the way we travel (Avoid + Shift)

Our experience advocating for cycling over decades has highlighted some key barriers to change.

Safety

Our vision is to create a safe environment for everyone to cycle. Safety is the number one issue for the "interested but concerned" who will, with their families, take up cycling if the right environment is provided. In most places this requires separated cycleways, reduction in traffic

speed, and safe ways to cross busy roads that give priority to cyclists and pedestrians. A simple way to measure perceptions of safety is the gender and age balance of cyclists. One busy road or intersection without a safe option to cross will be a big deterrent to cycling the whole journey.

CAN sees a continuing need to fund programmes like Bikes in Schools and Bike Ready. Make it mandatory for truck and bus drivers to attend training sessions on visibility, such as CAN's Share The Road programme, <https://sharetheroad.org.nz/>.

Require new trucks and buses to have cameras and collision prevention systems.

Require side under-run protection on all heavy vehicles.

Legislate for safe passing distances.

Penalise drivers who park or drive in cycle lanes, pass cyclists too closely, or use cell phones illegally.

Move freight off the roads into rail or shipping.

Make the standard urban road speed 30 kmh rather than 50 kmh, unless protected bike lanes are present.

Some businesses refuse to allow their employees to cycle in work time due to health and safety concerns. WorkSafe should be asked to clarify the legal situation and to actively promote the overall health benefits and safety of various active transport methods.

Research shows that the more people who cycle, the safer it becomes for all.

Minimising political risk

Resistance to change is strong, but can be overcome. While the majority of people support cycling, getting cycleways approved is frequently a battle. Even the most supportive councillors get tired of the negative, sometimes nasty, feedback. The issues continue during the building stage as local businesses may have a temporary downturn in revenue due to access issues. Media coverage is often predominantly negative. Government funding is critical to get many projects over the line in a timely manner and should continue at 50-75 percent, as it is easier for councils to support cycleways and harder to turn down funding when the rates burden is minimised.

Other policies or incentives to encourage local government to support accessible cities should also be investigated. Waka Kotahi should be funded to provide design and project support for smaller councils.

We support the setting of targets for councils to deliver active travel networks with appropriate central funding. This should be part of planned urban design, that provides convenience benefits for active transport above motor vehicles.

From a climate change perspective, the goal is to encourage people to bike (at least) one or two days a week. New York is considering implementing a scheme to subsidise 50 percent of the cost of an e-bike up to a maximum of US\$1,100. A similar scheme could be implemented in Aotearoa as part of the car feebate scheme. The use of cargo bikes should be subsidised through the car feebate scheme.

Cargo bikes can take freight off the road, particularly on the first and last miles.

Businesses and councils should be required to provide end-of-ride facilities at employment, schools, public transport stations/stops and public buildings and other high-use facilities, and add bike lockers to public transport stations and stops. It should be compulsory for all urban buses to have bike racks. All trains should allow bikes for free (as in parts of the EU) for all hours of service.

Funding

The [Government Policy Statement on Land Transport 2021/22-2030/31](#) says all the right things but the reality, found in table 3, is that the funding for walking and cycling for the next decade is expected to be between 2.2-3.0 percent (\$95 to \$180M) of the total budget. This funding is a significant improvement on the past but is insufficient to make a difference in the timeframes required to address global warming. The Climate Commission report recommends a substantial

increase to this funding. CAN believes at least 20 percent of national transport spend should be dedicated to active transport, and with funding flowing through to support local government. Only this will see transport emissions begin to be cut to meet goals.

The government should also fund upgrades to the most dangerous intersections for cyclists, particularly near schools, as part of their safety strategy.

All cycleways should have counters with the data available to the public, so that use can be measured.

Just transition

While biking is not for everyone, there are some groups who would benefit from additional support. Support community programmes to get people cycling. A programme of providing free bikes, helmets and locks for children in low-income areas would be beneficial. There are community groups teaching migrant women to cycle. A free bike on completion would be life changing for some people. Investigate options to provide financial support to purchase bikes for those that would benefit. Identify cycling advocates already doing good work within communities and provide financial support, particularly among deprived groups.

Legislative changes

Make cycling more attractive than travelling by motor vehicle for urban journeys.

Speed up changes to legislation that make separated cycle lanes part of the legal road, as it will make the infrastructure cheaper,

Introduce minimum passing distances as part of the Accessible Streets programme of rule changes.

Allow cyclists to turn left on a red light, and go through a T intersection at the top end, preferably by building cycle routes off the road or clear of other traffic.

Require high quality cycle parking at all major destinations including sports grounds and proportionate to cars. Note that one car parking space can accommodate ten or more cycles.

Require SOEs to take into account pragmatic climate change solutions, such as KiwiRail sharing their land and road crossings where appropriate, and put a compulsory mediation system in place when there is no agreement with other parties such as Councils.

Communication and Learning

Support research into best practice and provide free training and support for staff involved in planning for these new urban designs and cycle infrastructure. Often in small councils there is little expertise in this area and many planners have little or no cycling experience. Best practice evolves over time. Provide positive stories of change and challenge some of the misconceptions.

Thanks for the opportunity to have a say.

Hikina te Kohupara – Kia mauri ora ai te iwi / Transport Emissions: Pathways to Net Zero by 2050

Submission prepared by Wallace Rae

I am a senior associate at the Institute of Governance and Policy Studies, Victoria University of Wellington. I hold a Masters degree in Science with a major in chemistry and subsidiary subjects in physics and engineering. I have 46 years experience as an industrial chemist and have co authored 61 patents.

I would like to confine my submission to a single aspect of current policy, the clean car incentive specifically as it applies to BEV vehicles.

Policy Settings for a Reduction in Light Passenger Vehicle Emissions

From a completely narrow perspective, a battery electric vehicle using 20 KWh/100 km and a KWh requiring only 25gm of CO₂ to generate appears to have a high potential to reduce emissions.

That however is not the complete analysis of costs of ownership, government subsidies or even emissions.

Costs of ownership

1. Battery Life: The battery life of a Leaf is 5 to 8 years depending on the frequency of fast charging. This is because the Leaf relies on passive cooling. Other models such as the Telsa with advanced battery design and active cooling have a longer battery life. Current costs of battery at the manufacturing level are about NZD\$200/KWh which puts battery replacement with retail markup in the vicinity of NZD\$10,000 minimum. With 65% of the battery cost in raw materials there are limits to future cost reductions.

2. Capital costs: The current costs of a new BEV range from \$60,000 to \$85,000. Because the energy inputs are 40% greater for a BEV compared to a conventional ICEV, this margin without subsidy is unlikely to disappear.

Infrastructure

1. Charging facilities:

“We now forecast BEV sales to account for 80 per cent of New Zealand's EV sales by the end of 2025, up from our previous forecast of 67 per cent.” – Fitch Solutions report.

Climate Change Commission (CCC) has produced a draft consultation document with no further internal combustion engine (ICE) light vehicles imported after 2032. The CCC suggests this would mean over 50% of all light vehicle travel would be in EVs by 2035 and 40% of the light vehicle fleet would be EVs by 2035

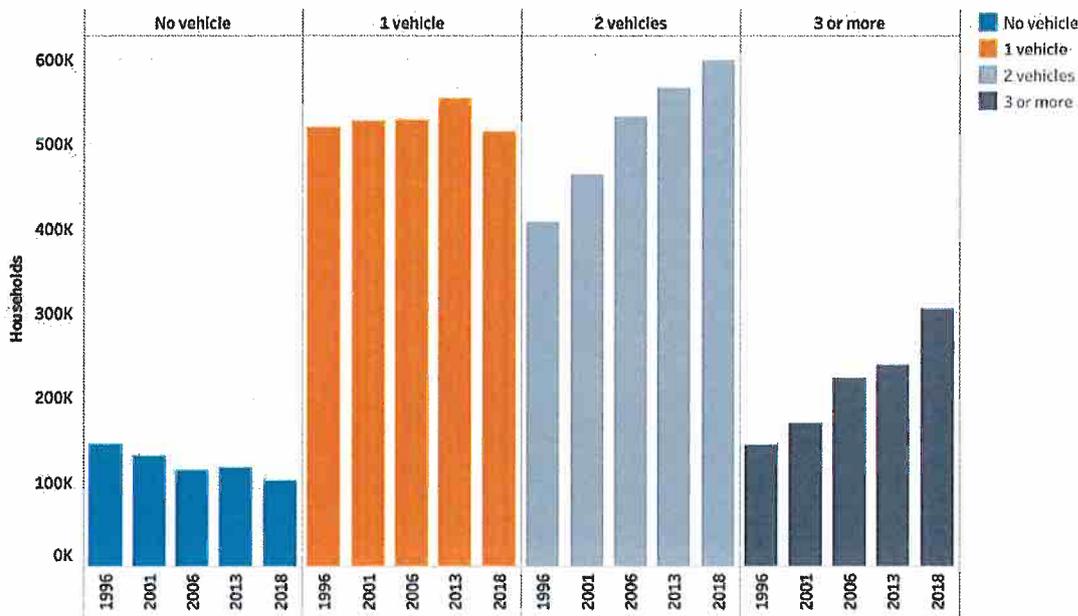
Unless there is a proactive expansion of rapid charging infrastructure there will be disenchanted queues of BEV owners at charging stations. The costs for a 50KW charging station are estimated to cost NZD\$30,000 to \$50,000 per unit.¹ It is not clear who will fund this infrastructure and if the power companies are involved what risk premium they will put upon that early capital expenditure. I would suggest that it might be in excess of the \$1/litre equivalent currently charged at a public charger.

2. Battery Recycle hazards: Although there may be some reuse options, we should be making provision in the form of a levy for the ultimate safe disposal at the end of life batteries which contain flammable liquids and dangerous amounts of residual energy. New Zealand has a poor record of recycling electronic waste, and we should be thinking of mandating a minimum recycle standard of at least 50%.

¹ <https://www.greentechmedia.com/articles/read/ev-charging-infrastructure-has-a-soft-costs-problem>

3. Roading: The “feebait” and the suspension of road tax is essentially an ownership subsidy for the better off, and is likely to increase the demand for new roading or more congestion or both.

RD036 - Households with access to motor vehicles



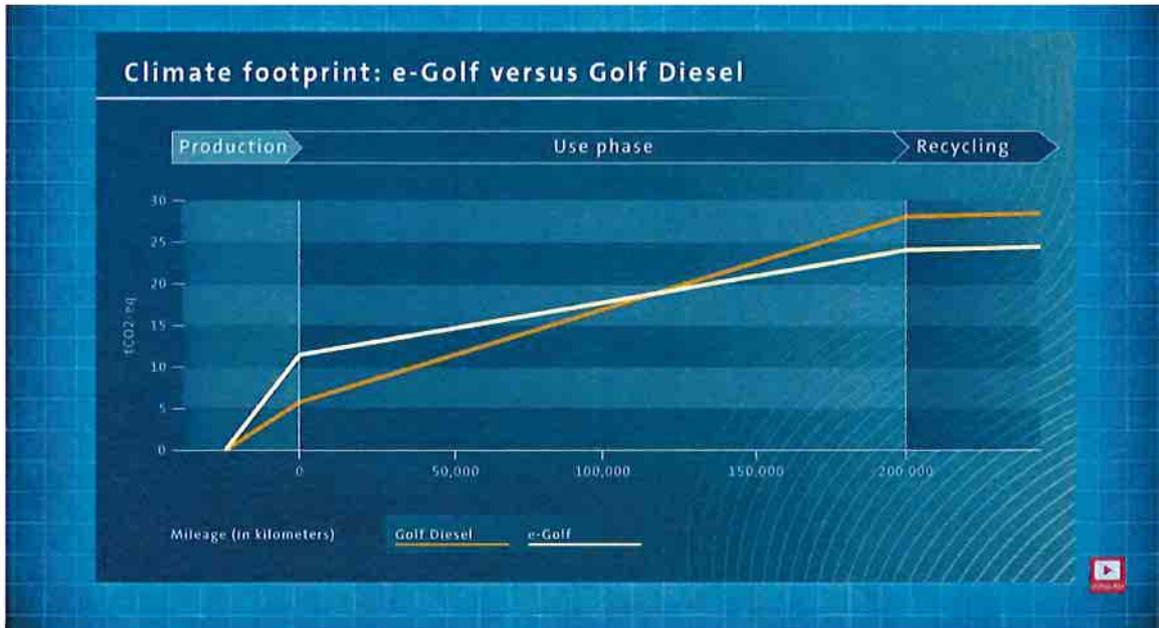
Source: 1996, 2001, 2006, 2013 Census, Stats NZ

Emissions

The current policy is blind to the amount of CO₂ required for vehicle manufacture. Estimates are: for a basic 1 to 1.5 litre car 6 tons; for a medium vehicle such as a Ford Mondeo 17 tons; and for a Landrover 35 tons. Currently we are importing 80,000 light vehicles a year. For BEV vehicles the emissions created by the battery manufacture are substantially higher – somewhere between 25% and 40% for an average European car². Now we could say those emissions are offshore – not our problem. Unfortunately the atmosphere knows no boundaries. If we are to take a lead in climate change remission it behoves us to acknowledge these emissions and take all practical means to reduce them. It is true over a whole of life the BEV is

² https://theicct.org/sites/default/files/publications/EV-life-cycle-GHG_ICCT-Briefing_09022018_vF.pdf

advantaged over an ICEV but only by about³ 20%. (Estimates are highly politicised by the various agencies depending on the boundaries chosen)

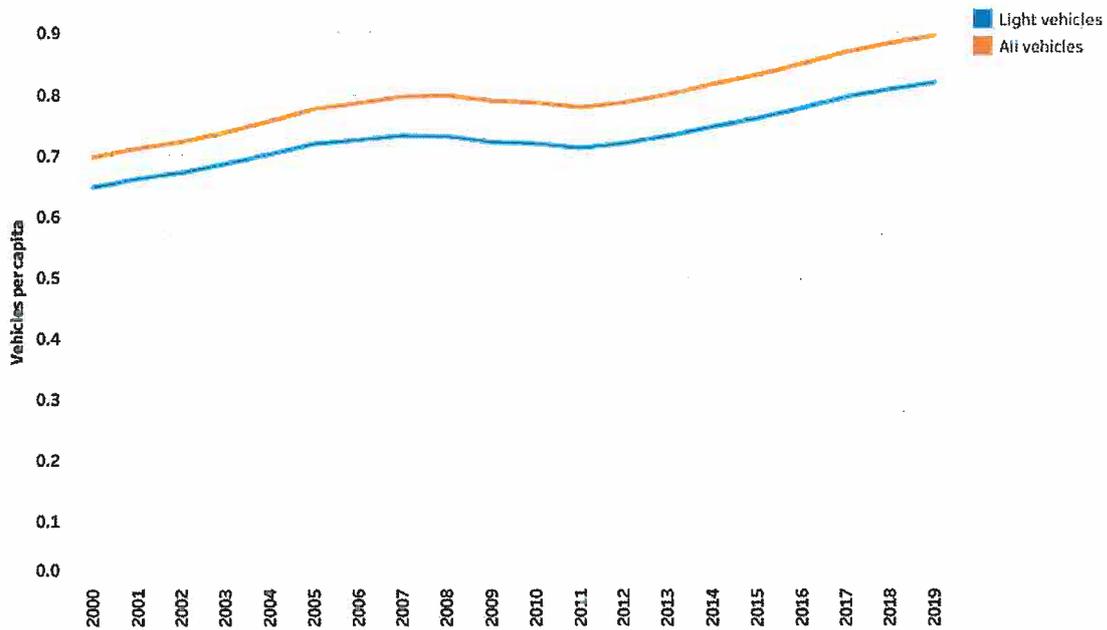


Alternative Policy settings:

1. Vehicle Ownership: New Zealand has one of the highest vehicle ownerships for cars in the world and it is increasing. What is surprising is the rapid increase of the number of vehicles per household. It is problematic how this trend will be reversed by subsidising BEV which is likely to be dedicated to short trips while the ICEV will be preferred for longer trips. I would suggest that this trend in vehicle ownership is inconsistent with climate change and unsustainable. Singapore by contrast has a vehicle ownership of just 100 per thousand, achieved by a substantial investment in public mass transport and severe restraints on vehicle ownership.

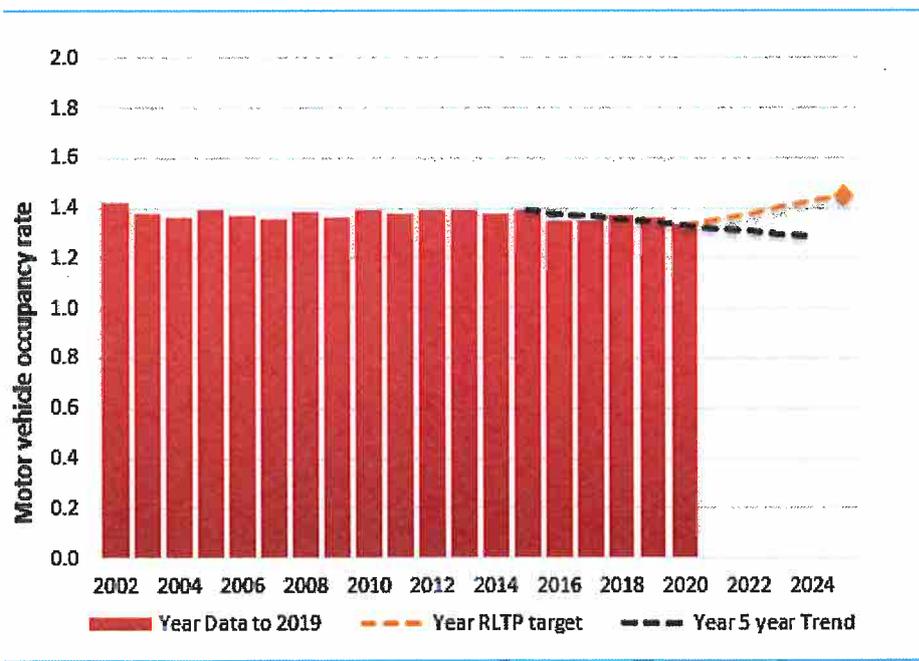
³ <https://www.volkswagen-newsroom.com/en/press-releases/electric-vehicles-with-lowest-co2-emissions-4886>

RD027 - Vehicle ownership per capita



Source: NZ Transport Agency Motor Vehicle Register, Stats NZ (population)

2. Vehicle occupancy: The corollary of the greater number of vehicles on the road is the falling rate of vehicle occupancy at 1.36.



It is clear from the above data that the policy might be better focused on the reduction of car ownership and the incentivizing of small car hybrids. Example: Jazz HEV, 1.5 L engine, 2.8 L/100 km and \$35,000 new. (65g CO₂ / km). Current average light vehicle 2.2 L engine ICEV, 7.6 L/100 km (176g CO₂/ km). The smaller lighter vehicles will also have a lower production carbon footprint of up to 10 tons CO₂. Unlike the BEV subsidy the policy for smaller hybrids and could be implemented in a more timely manner.

This correspondence from:
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25 June 2021

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Transport Emissions: Pathways to Net Zero by 2050 - Submission June 2021

The New Zealand Federation of Motoring Clubs represents 106 member clubs comprising more than 100,000 owners of motor caravans, and heritage and collector vehicles including cars, hot rods, trucks, military vehicles, motorcycles and tractors. This opportunity to contribute to planning the Pathways to Net Zero is appreciated.

Heritage motoring enthusiasts have been reassured by the confirmation that access to liquid fuels will be maintained. But we request acknowledgement that "going electric" is not an acceptable option for heritage vehicles and will not be imposed. We also seek assurances that compatible bio-fuels (specifically 'drop-in' synthetic fuels and e-fuels) will be developed and made available before fossil fuels are phased out.

Current Bio-fuels Not Compatible

The ethanol-based bio-fuels marketed in New Zealand are not compatible with a wide range of older vehicles. Even a blend as low as 3 per cent ethanol in bio-fuel can seriously corrode metal components and rubber parts in the fuel systems of older vehicles. Denial of access to 100 per cent petrol will seriously impact on classics, pre-2005 Japanese vehicles, motorcycles, hot rods, lawn mowers and chainsaws as well as marine transport and propeller aircraft.

If we are to be deprived of supplies of fossil fuels urgent adequate investment in the development of second-generation bio-fuels will be needed to create affordable carbon-neutral synthetic alternatives to petrol and diesel which are not yet available in New Zealand but can be used in all vehicles.

In the continuing absence of suitable replacements there will be ongoing requirements for non-blended 95 octane petrol but the practicalities of how those will be met are likely to prove difficult to resolve. When unleaded petrol was phased out local petrol companies could have but refused to invest in supplying a leaded option as was done in the United Kingdom. The consequence was multiple media reports of cars catching fire or suffering serious damage to engines and fuel lines as the fuel supply industry struggled to come up with a blend of the new fuel compatible with the New Zealand vehicle fleet.

Considerable Economic Loss Could Result

While the full extent of the heritage motoring community here in New Zealand is still being concisely measured, in the United Kingdom a survey by the Federation of British Historic Vehicle Clubs found there are 1.5 Million registered heritage vehicles owned by 683,967 enthusiasts. Their activities make a \$14 Billion contribution to the UK economy each year and provide jobs for 34,000 people. However, the average vehicular kilometres travelled by individual heritage vehicles is less than 2000kms, which equates to all registered historic vehicles accounting for less than 0.2% of the total distances driven on UK roads each year, so therefore making only a minimal contribution to total emissions.

On a proportionate per capita basis New Zealand has a much larger and more vibrant heritage motoring sector, perhaps even larger than a third of the number of enthusiasts in the UK. Based on comparisons of club membership numbers New Zealand heritage and recreational motoring is making an annual contribution of several billion dollars to the New Zealand economy. cursory surveys indicate our affiliated members alone own more than \$6 Billion worth of heritage vehicles which could become progressively valueless if access to fossil fuels or acceptable alternatives was ended. This would be a disproportionate outcome in order to achieve only infinitesimal reductions in emissions.

Generation Capacity Insufficient

Average households in New Zealand consume around 25kwh of power per day, which adds up to approximately 8,000 to 9,000 kwh per annum. The power consumption of an average EV is around 15kwh/100km, so assuming average vehicle kilometres travelled of 20,000 per year, they will use around 3,000 kwh per annum. So, homeowners converting from ICE to EV will increase their domestic power consumption by approximately 33 per cent.

According to Statistics New Zealand's last Energy Use Survey, in the eight years between 2010 and 2018 industrial sector electricity consumption effectively tripled from 7500 Million Kilowatt Hours to more than 20,000 Million. And this preceded the commitments to replace coal-fired heating in all schools and Fonterra's processing plants

Instigated by the then Minister David Parker, the report "NZ Energy Strategy to 2050" forecast a need for another 3900MW of generation to meet growth demands. But of the new generation projects listed in the report more than 1000MW are dependent on geothermal or gas, both of which have now been ruled out as energy sources by the Climate Change Commission.

On the basis of just our preliminary research it is clear any presumptions there will be sufficient generation capacity available in the foreseeable future to meet further increasing industry and electric vehicle needs will prove to be excessively optimistic. As the global supply of EVs is also likely to be limited in the foreseeable future permitting wider use of compatible bio-fuels by heritage vehicles and other users may offer a more sensible means of reducing overall emissions from the much larger existing fleet. The NZFoMC suggests the Pathways to Net Zero plan should include greater recognition of the role that bio-fuels and synthetic (or 'drop-in') fuels (including e-fuels) should be permitted to play in decarbonising transport.

Continuing access to alternative liquid fuels and ICE vehicles may be required to reduce costly or even unaffordable investment in upgrading electricity generation and supply. It will also provide alternatives for the increasing numbers of New Zealanders impacted by regulatory changes which deny them access to off-street parking and facilities to recharge their EV batteries

While FoMC members largely support the objectives of reducing emissions and carbon pollution we submit the value of maintaining our heritage fleet exceeds any benefits likely to result from blanket bans on the import or use of ICE vehicles and it should therefore be appropriately exempted from any restrictions.

Yours sincerely



Roy Hughes
Submissions Secretary NZFoMC
03 332 7500

Representing responsible special interest and heritage motoring enthusiasts

SUBMISSION to the Ministry of Transport

On Hikina te Kohupara : Transport Emissions Pathways to Net Zero

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PUBLIC INFORMATION STATEMENT:

We are happy that our submission is included in reports available to the public.

INFORMATION ABOUT NELSUST:

We are an incorporated society of 300 people who have wider sustainability interests as well as transport strategy. This submission is the result of committee consultation.

Net Zero 2050 compatible < 1.5°C Warming? There is a built in contradiction in Carbon Act - The purpose of the act is to enable us to do our part in keeping warming below 1.5°C, however it is questionable whether the targets for 2050 suggested in the act will actually be enough to be sure of achieving that. So I would suggest we need to do better than net zero CO₂ e emissions by 2050 to meet the purpose of the Carbon Act.

((1) The purpose of this Act is to—(aa) provide a framework by which New Zealand can develop and implement clear and stable climate change policies that—(i) contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5° Celsius above pre-industrial levels”)

Don't bother Increasing ICE efficiency (Page 6 Climate Commissions Table 3.1)- just ban their import from next year, except for those classes of vehicles for which there is not yet a good EV alternative (* see exceptions below). The high initial cost of EVs and the potential lack of supply of used EVs can be countered by government Hire Purchase scheme - use Govts cheap lending capabilities so people pay it back over time from fuel savings. The amount of lending per household should be proportional to household income - those with most income get very little. The thing is if we ban ICE cars, then the feebate scheme is over and its just a grant from the government - this is not a good outcome .

*Exceptions to ICE vehicle bans - Off road capable 4WDs until EV versions of these are available.

Consultation question 1 (p11)

Do you support the principles in Hikina te Kohupara?

No.

Principle 1 & 6 need to be revised to the goal of keeping the climate to no more than 1.5°C warming as stated as the purpose of the act. It is not clear that net zero CO2 e emissions by 2050 will guarantee we stay below 1.5°C warming. We need to do better than this 2050 target.

Principal 2 agreed with - The goal needs to be actual zero carbon emissions from Transport, not net, or at least very close to actual zero transport emissions. This will really help to focus our minds on the task.

Principal 3 & 4 agreed with

Principal 5 needs to be rewritten - Some people will be seriously affected by rapidly moving to a zero emission transport but this should not hinder our taking action. It simply means some people and businesses will need more support than others. However we should have little sympathy for those who have made investment decisions for the last 10 years based on being in denial about climate change happening.

Principle 7 needs to be rewritten to: Future technologies may help us meet our obligations but we should not be basing our emissions reductions on technologies that do not currently exist. If new technologies come along that help keep warming below 1.5°C, well and good, but it might equally well be that to keep warming below 1.5°C we need to get to zero transport emissions earlier than 2050: We need to leave ourselves room to reduce emissions further and quicker, counting on future technologies goes against this imperative.

Are there any other considerations that should be reflected in the principles?

Yes -

1. When looking at any infrastructure build, consider embodied carbon and if there is a lower embodied carbon way of achieving the same results. (eg Peak Hour Congestion Charge rather than building road capacity, 30kph shared traffic calmed zones for all modes rather than building protected cycle paths everywhere)
2. Recognise that we can't protect people from change. We need to make rapid change: big emitters need to quickly reduce emissions - it would be completely wrong to think we can ease gently into a lower emissions transport sector - this is a climate emergency, you don't walk to fight a fire, you run. We urgently need strong action. Use government media advertisements to help people understand government decisions. There is not enough communication on climate change at present.

Consultation question 2

Is the government's role in reducing transport emissions clear? Are there other levers the government could use to reduce transport emissions?

International Aviation - Discourage NZers Taking International joy-rides I don't think it is acceptable for you to ignore the emissions from this very large transport emission sector. What needs to be done is to radically reduce our international flights, as each international flight typically has as much greenhouse effect as the rest of a person's transport emissions for a year. We suggest that the first international flight a person takes attract a simple charge relative to the actual warming attributable to their emissions, but after that first one every year, every person has to pay a rapidly ramping up charge for each additional international flight - eg the first flight might be at \$50 per tonne carbon

emitted x3 for Radiative Forcing (see Appendix), the second \$100/tonne x 3RF, the third \$200/tonne x 3RF and so on.

While it might be tempting to consider some tightly controlled waivers to this charge for business people, such a waiver should be resisted to encourage increased use of virtual meetings and better use of fewer overseas trips.

Discourage Overseas Visitors For the sake of the climate we actually should be discouraging joy rides INTO this country from the opposite side of the globe. Tourism operators in this country that had, pre-Covid, been reliant on international tourists need to pivot into low carbon alternative jobs. To make serious emissions reductions we need serious action - we need to recognise that international tourism has a massive footprint and most of it is simply joy-rides. Unless and until these can be undertaken in a very low carbon way they have to stop. Just as we have to stop burning coal, we have to stop burning jet fuel: end of story.

Just as ignorance of the law is no legal defence so tourism operators claiming they didn't know about the massive climate change implications from doing long distance jet flights should be no argument against discouraging international tourism.

International visitors coming here should be charged an arrival charge of \$200/tonne x3 RF carbon charge on their flights into this country, from their starting point where they normally reside..

Domestic Aviation – The climate warming from Jet aircraft is significantly greater than Turboprops, but not mentioned. For some journeys, flying, particularly in a low flying turboprop might be the low emissions option (eg Nelson to Wellington) given how energy inefficient passenger ferries are (according to the the book Time to Eat the Dog?). However what does not seem to be widely recognised, is that not only do turboprops use considerably less fuel per passenger km than jets (see appendix for IPCC studies on this) but also they fly at lower altitudes so there is less radiative forcing (See references graphs etc in appendix). So flying a turboprop between Wellington and Auckland might use 30% less fuel, but by travelling at 2000 feet lower altitude would result in 20% less radiative forcing on top of that. This combined effect is really significant and we suggest that you should **ban domestic jets**. Please incorporate that into your suggestions, a ban on new domestic jets coming into the country from tomorrow (including importing used ones) and a rapid phase out of existing jets - suggest within 5 years. Arguments about this being too harsh, too soon, should be answered that airlines should have been aware of their carbon impacts and should have been choosing low impact alternatives decades ago.

Aviation and Water travel have zero embodied emission in infrastructure. It should be noted that with flying, like coastal shipping and ferries, no infrastructure is needed between the endpoints of the journey for aircraft or ships.

There are no carbon emissions from building or maintaining the infrastructure between the endpoints as there is with road and rail. This low carbon infrastructure needs to be taken into account when discussing the relative merits of flying to overland transport. - eg if all the people flying between Wellington and Auckland were to go by new high speed rail, that would require the building of a high speed rail line between the two centres at considerable embodied emissions in the building of that infrastructure, even if the resultant travel was zero emission.

End Date for ICE vehicle reregistration. There is currently no date when you won't be able to re-register an ICE vehicle for another year, why is that? There should a date for this and it should be set at 15 years form the date of the last legal import of ICE vehicles.

People with vintage or classic cars should be able to get a waiver but for only a very limited number of km per year (measured with tamper-proof hub odometers)

Clean Car Discount should include e-bikes This should have a special rate for e-bikes and a higher rate for e-cargo bikes as often these are replacing car journeys and they are much less resource intensive than car EVs, take up much less road space, contribute much less to congestion, place much less load on the grid for recharging per person conveyed.

Prosperity not GDP Growth We know that disasters are great for GDP growth but terrible for our wellbeing. Emissions normally increase in direct proportion to GDP and arguments that we might somehow disconnect this link are not convincing. Therefore we suggest that high GDP growth is incompatible with the need to radically reduce our emissions pathway. We therefore need prosperity without growth in GDP - **wellbeing growth, not growth in GDP.**

Embodied carbon in infrastructure must be less than emissions saved You say : “ *Hikina te Kohupara does not consider embodied emissions in transport infrastructure (such as roads, rail, ports etc.). This is because infrastructure emissions will be captured elsewhere in the Emissions Reduction Plan.*” This is unacceptable as everything we do in transport has to be looked at from a total carbon cost point of view - carbon emissions saved or increased through use of the infrastructure balanced against the embodied carbon of the infrastructure. If you build infrastructure with no thought of embodied carbon, you will end up building completely the wrong infrastructure, or building it in the wrong way. This is why peak hour congestion charging for use of arterials is such a good move - almost zero embodied carbon for a significant gain. Another example would be using an existing lane of the harbour bridge for walking and cycling (even if only for a trial initially) and seeing if the predicted de-inducing of traffic (ie traffic evaporation) actually occurs when you decrease the capacity for motor vehicles. This is a radically lower embodied-carbon measure in infrastructure than building a new road or a new bridge. You must show a net carbon reduction in infrastructure in every measure you propose when measured over 50 years.

Active and PT can be Traffic Inducing: We were horrified to find that providing a good bus service that enticed people out of cars would do nothing for congestion as the road space freed up from this only induces more traffic - in the absence of a mechanism for discouraging peak hour that congestion charging would provide. We need both sticks and carrots to nudge people into lower emission modes of transport - all carrots doesn't work. **Peak hour congestion charging is the perfect stick to go with the carrots of more attractive active and public transport** AND it provides the income for the provision of those carrots.

30kph speed limit wherever there are no Protected Paths - This is probably the most effective thing we could do to encourage mode shift and reduce emissions - a blanket 30kph urban speed limit wherever there are no protected paths for people on bikes and other mobility devices. Make this a National Policy Statement on Transport. This reduces emissions in two ways: it slows motor vehicles down which in itself reduces their emissions; it means that suddenly the whole urban area is a suitable transport network for cycling which will significantly increase the number of people on bikes. This mode shift

lowers emissions significantly . And secondly this jump in active mode users with 30kph comes with very little carbon cost for the infrastructure - a few trees planted in the roads, the odd planter box and you create shared zones where cars are not dominant, where everyone has a right to be, where cycling is encouraged and people who are at present too scared to cycle feel comfortable enough to give it a try.

Require every employee of NZTA and MOT to use only active and PT modes for 1 week twice a year - middle of summer, middle of winter - to continue to focus minds on what it is actually like out there.

RUC Exemptions for EVs misdirected. It is far better to tightly target what actually is the problem than to add a measure that is intended to help with it. Many people complain that EVs use the road and so should be paying for it and they are quite right. It would be far better if the EV encouragement was based on the actual issue: emissions. EVs still contribute to congestion. In fact they might make it worse as people are less likely to reconsider a short car journey in an e vehicle than one in a polluting ICE car.

RUC & Fuel Tax Changes - We ask for all vehicles to pay Road User Charges at similar rates to what diesels pay now; and that there also be a massive rise in Fuel Tax and dropping of the Fuel Excise Duties on petrol (currently Fuel Tax is only 9 and 10c/litre petrol and diesel). This rise in Fuel Tax is in recognition of the carbon emissions from the fuel. This charging regime would capture better the carbon emissions from off-road diesel vehicles and ships that currently are minimally responsible for their emissions; it would mean that EVs and hybrids pay their share for the road damage they cause. It would also provide both an incentive to move to a lower emissions vehicle and a disincentive for additional driving (and pleasure motor boating) that are lacking from free EV RUCs or feebate schemes. Both of these are flat rate schemes: having paid them there is no disincentive to driving. The RUCs need to be finer grained than the present diesel ones where a lightweight diesel car pays the same amount as a 3, 1/2 tonne diesel truck despite quite different road damage.

Company Car benefits and taxing should be changed so people are given the option of increased pay in lieu of a company car, and equal to the real benefits of that company car and the accompanying company car park.

Additionally, smaller low emission company vehicles should be encouraged. So the maximum amount able to be claimed for a company vehicle is only the amount for a minimum vehicle capable of being a company vehicle. Presently a lot of urban dwellers claim a double cab 4WD ute as a company car, when it is rarely used to carry more than one person, to drive off road or to carry much gear.(a small EV like an e-bike takes up a lot less city space than a small car EV which in turn takes up less space than a large SUV EV)

Company Car Parks charged as income at the rate that parking would otherwise be if it had to be purchased on the open market.

National Land Transport Fund overallocation a sign RUCs need to increase We would argue that the fact that the NLTF is all but already allocated for the next 10 years is a sign that Road User Charges need a significant review so they do actually cover new

infrastructure that benefits road users (eg getting road users onto buses and bikes frees up road space for those who insist on driving, getting freight onto rail frees up road space for those that insist on freighting by road - so these road users should pay for this virtual increase in capacity of the roads)

National Mandate on Preferential Parking for bikes and e-bikes We suggest that the government mandate preferential parking for bikes and ebikes nearest buildings.

Making Active and Public Transport the Most Attractive Option is actually the crux of the matter. If fewer people than is desired are using these low emission, low space-need modes then that is a clear sign that they are yet to be made the most attractive option. **Active and PT modes need to be the most convenient, the cheapest, the most efficient, the safest, the most enjoyable modes of transport or you haven't done your job.** And note that having everyone driving a large EV for a lot of their transport trips is a disaster for the climate in many other ways - it uses a lot more energy and carbon emissions to make large SUV EV than a small EV car and that takes more than an e-bike and that takes more than a conventional bike, it takes more energy and carbon emissions and generation assets (with their eddied carbon emissions) to power a large EV than it does a small EV like an e-bike and these take more than a conventional bike or well used EV bus: Having most people commute in EV cars is a climate disaster and that needs to be recognised.

Consultation Question 3: What more should Government do to encourage and support transport innovation that supports emissions reductions?

Carbon Charging - rather than distortionary effects of subsidising this, incentivising that, penalising the other, there is an argument for the government to surgically target exactly what the problem is: greenhouse gas emissions and that in itself will spur innovation. So we suggest the main thing the government could do to spur innovation would be to immediately bring in a floor to the carbon price that increases every year. We suggest start with \$200 next year and \$50 each year after that for the first 10 years before reevaluating. The income from these carbon charges from the ETS (including other greenhouse gases in their CO₂e form) should be ring fenced so that at least 3/4 of it was returned to every New Zealander as a carbon benefit. This would have a substantial redistributive and equity effect - Parents with young children would get a citizens' benefit for each child as well as each parent. People who had heavy carbon emission lifestyles would be hit hard, those who tread lightly on the planet would be rewarded. And innovation would thrive.

Consultation question 4

Do you think we have listed the most important actions the government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritised?

No. We congratulate you on this paper and agree with everything on it, however we think you have missed something. We think you have missed the potential of forcing councils though-out the country to allow "partitioning":

Immediate effect of allowing urban density We think you are underestimating the potential for very short term (but long lasting) effects of allowing density, in particular

allowing more than one dwelling per section. We currently have a lot of 3 and 4 bed roomed houses with just a couple rattling around inside them. Yet we have a shortage of 1 and two bed roomed houses. We suggest that just like the government coming out and saying councils could no longer require off-street car parking, the government could also say that councils can no longer impose minimum site sizes of greater than 100m² for sections within 5km of town or city centres. This would enable "partitioning" of houses very quickly, simply and cheaply creating another dwelling - no infrastructure changes needed as what is the difference between a 5 person family living in a 3 bed roomed house and it being spit into two and two couples living in it? Here in Nelson we have a complete missing middle density where a complete failure of urban planning has resulted in an inner city fringe zone on one side of the road where you can build up to 12 m right on the boundary and yet the other side of the street is a low density residential zone where you can only build 2.5m high at the boundaries and must have at least 600m² of land to partition a dwelling. This low density residential zone is less than 100m from the central city. We can provide a worked example of a fully costed actual house for less than \$120k all up. This has multiple other benefits in housing affordability, low carbon creation of additional housing stock, saving valuable farming soils being lost under houses on the outskirts of town, urban vitality etc. **We ask that the MOT pressure government to amend the NPS on Urban development to require density to be allowed - in all Tier 2 cities, not just Their 1 cities as it is now. So this would include cities like Nelson and towns like Richmond - not forced upon people, just allowed.**

Prioritisation of transport modes to change the way we travel:

1. Make Active and Public Transport the most attractive option for most people. It really is as simple as that. It is entirely insufficient to just make Active and PT better, they have to be the best. If not enough people are using it then you haven't yet made it the best. So these modes, particularly cycling have to be all 3 of: safe, pleasant and convenient (direct). There should be no on-road cycle lanes, only slow zones, max 30kph where there are no cycle lanes and bikes can be expected everywhere and otherwise protected cycle paths where there is a physical barrier so people on bikes don't get maimed by people in cars and perhaps more importantly, they don't feel they might be maimed each time they go out on their bike.
2. Congestion Charging - all carrots is not enough, we need sticks too. And the congestion charging money being ring-fenced to provide people good options to avoid paying the congestion charges - like better buses (more frequent, faster, going further and for longer, cheaper) and better cycling infrastructure (protect cycle paths everywhere there is a speed limit greater than 30kph and slow speed zones elsewhere)
3. Cars go the Long Way round - this has been crucial to active and public transport high mode shares in Holland - people on foot, on bikes and on PT can go through the middle of cities to the other side, but cars can't do that. They go out to a ring road, round the ring road and back in from the other side.
4. Better Public Transport - Faster (where not trains or trams, then buses in bus lanes ideally and priority traffic lights where that is not immediately possible), more frequent - so you don't need to look at a timetable - you know that there will be another one in 10 minutes max at peak times), cheaper (less than the congestion charge), longer hours so people starting work at 7am or finishing at 6pm can still use them, and weekends too running at least until midnight. Free Wifi and USB charging at each seat.
5. Modify NPS-UD to allow Partitioning of existing dwellings in all towns and cities (including simple extensions out into side or back yards) Do this by not allowing councils to set Maximum Site Coverage rules in areas within 10km of town and city

centres, but replace the site coverage with stipulations for an outdoor living court for each dwelling that has one North face.

6. Allow building 2 stories high on the boundaries within 5km of town and city centres

Simple Switch to EVs disastrous for city congestion, Urban Form. Note that simply switching from our present fossil car-centric transport system to an EV-car-centric transport system is a disaster in multiple respects:

1. Driving an EV makes no difference to congestion in fact may make it worse as you are less likely to put off a trip by car as you might have previously out of concern for emissions. With EVs being so cheap to run there is little incentive to not use them all the time
2. To make denser cities livable, they need to be radically less car dominated. EVs do nothing to help create good urban living environments just from the space they take up. They might be zero tailpipe emission and very quiet at low speeds, but just like fossil cars they are space hogs often taking up 10m² of space and 2 tonnes of weight just to transport a 60kg person around.
3. There are a lot of embodied carbon emissions in an EV compared to an e-bike, or a normal bike or taking public transport. It is really better if we have one less motor vehicle per family.
4. Electricity supply in the country would need to significantly increase if we all drive EVs as much as we drive our fossil cars. Much better if we use an e-bike as a car replacement, or use public transport, or walk or bike

Consultation question 5

Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?

All mentioned previously

Consultation question 6

Pricing is sometimes viewed as being controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour. Do you have any views on the role demand management, and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

Congestion Charging at Peak times is something of a Silver Bullet - While you list this as a method of reduction both congestion and emissions, we do not think you grasp the full benefits. We see Peak time congestion charging on arterials as an absolutely crucial part of any emissions reduction strategy as well as any congestion eliminating strategy. This is because:

1. It evaporates trips (this is often not recognised - it doesn't just shift trips it evaporates some), and yes it shifts trips to off peak times, encourages car pooling and active and public transport modes

2. Unlike increasing road capacity in the hope of alleviating congestion or simply improving active and public transport in isolation, all of which induce more driving, this measure reduces driving.

3. Low Carbon infrastructure - this is an advantage of congestion charging that is often missed - for very little carbon cost in infrastructure build, you have a pronounced and long lasting effect. Compare this to the massive carbon cost of building a new motorway in the hope of getting freer flowing traffic. This carbon cost of building the infrastructure must now be taken account of throughout our transport network

4. People hate CCs initially, then they love it when they see how it has given them road conditions like school holidays all year round.

5. Provides income, and this income should be strictly ring fenced for giving people options to avoid paying the congestion charge such as better buses (more frequent, cheaper, longer hours, going further to more places) and better cycling infrastructure (protected cycle paths wherever the speed limit is greater than 30kph)

6. Improves traffic flow so remaining vehicles on the road emit less (or use less electricity in the case of EVs) through less stop-start driving.

Charge on arterials not just entering the CBD - so people doing school drop offs, travelling to places other than the CBD still are influenced by it to change their behaviour.

Watch This 8 minute video (entertaining but very informative video on how Stockholm eliminated its congestion with relatively small charges (1 or 2 Euros) - congestion disappeared overnight but more than that it reappeared immediately after the trial ended and disappeared again immediately the charges were brought in permanently. Furthermore no-one knows where the traffic went - it didn't all go into buses, or active modes - essentially it evaporated. A final lesson from the Stockholm experience is that you don't need to plan exactly how much of each mode will increase, how people will travel. The system is self regulating. https://www.youtube.com/watch?v=CX_Krxq5eUI&t=15s

Fast Action Possible on Vehicle emissions? It depends how serious we are about the climate emergency.

Ban Internal Combustion Engine Car imports from the start of next year We could for instance ban import of any ICE vehicles from next year with the only exceptions being those classes of vehicles for which there was not a zero emissions alternative.

Government Hire Purchase EV Scheme EVs are initially dearer, but cheaper in the long run so we should institute a government hire purchase scheme - low interest, people paying it off with fuel savings each week. And that the amount you could get through the hire purchase scheme would depend on your household income - the lower income, the higher amount available to be borrowed. The thing is, if we stop ICE imports the feebate scheme falls over and it just becomes a grant to anyone wanting to buy an EV at big cost to the government. The Govt HP scheme would be much more targeted and not cost the govt money .

Infrastructure Needs of EV rollout overstated? Most people most of the time will be charging their cars up at night at home using a simple 3 pin plug using off-peak power. Government regulation might be needed so that we all pay for time of use power all the time to flatten out peak power demands. Currently for many people there is no disincentive to come home, plug the car in, turn on the heat pump, start cooking tea all at once during peak times. Whereas if there were time of use charging, people would wait until they go to bed to turn their cars (and dishwashers etc) on. Given that cars last on average 15 years in NZ, it is not like suddenly there will be a massive increase in load on the grid from an instant switch to EVs; this will take 15 years. Wind power which looks like a major contender to increase NZs power supply can be rolled out very quickly and there are a number of wind farms already consented ready to go.

Sure we need more fast chargers - we should be doing like Tesla - if you are putting in a fast charger you put in 4 in that one space so you can almost guarantee there will be one free. And we need more fast chargers in the country so for instance people can be relaxed driving across the Lewis pass and not have to try and get from Murchison to Culverden on

one charge as they do now (200km)

EV Priority Lanes not Supported as they'd have a perverse effect on congestion - people should be encouraged to take active and public transport not EVs for commuting.

Biofuels needed elsewhere shouldn't be squandered on light vehicle fleet Whereas there are already suitable EV replacements for most ICE cars, it is not so with heavy vehicles and coastal shipping. These users should have priority for the limited supply we will have available. We shouldn't be using valuable farmland to be growing biofuels as it has a really low energy return on energy invested.

Rolling Age Limit of ICE Vehicles not supported - Rather there should be a maximum emissions per person accommodated in each vehicle - there are some older smaller vehicles that still seat 4 or 5 people but are surprisingly economical. Conversely there are relatively new "sports" cars that only seat 2 adults that have poor fuel economy per adult accommodated. The emissions, not the age, are important.

Consultation question 7

Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition.

Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritised?

From next year, ban ICE cars for which there are good EV alternatives

Government Hire Purchase scheme to replace the feebate scheme as the ICE car ban will turn it into a costly grant scheme. And the HP available should depend on household income - the more income, the less HP available. This HP scheme should also be available to e-bikes as they are often a car replacement, yet cost very much more than a non-e bike.

Mechanics will be out of jobs with EVs and this needs to be allowed for. There is essentially zero maintenance on EVs, there are two orders of magnitudes fewer moving parts, much less to go wrong. You mention mechanics will need to be retrained to work on EVs. We don't think that is right - we will need only a fraction of the legion of workers currently replacing exhaust systems, changing engine oil, oil and air filters and even brake pad changes as these maintenance items are not required with EVs. Mechanics will need to be transitioned, perhaps into maintaining windmills, installing solar panels etc.

Consultation question 8

Do you support these possible actions to decarbonise the public transport fleet? Do you think we should consider any other actions?

Yes we support these actions, except RUC exemptions. We would add:

Electric rail Wellington to Auckland should be included. Most of it is done, the missing links need to be filled in, then we can again have low emission overnight trains between Auckland and Wellington replacing the high emission flights. We should be electrifying this route for freight, having done so we can run electric passenger trains on it.

RUC Exemptions should be replaced with significant fuel levy increases that reflect the carbon pollution from those fuels. It is inequitable to have RUC exemptions for motor vehicles that are using the roads; it is better to target more directly what the actual issue is and that is Carbon emissions.

Other E- Bus advantages should be emphasised too - lack of noise is a significant advantage to peoples health and wellbeing - this is often missed or only mentioned in passing but is significant in an urban environment. Secondly with regenerative braking there is less brake dust generated from stop-start travel characteristic of buses in an urban environment. This means there is less particulate pollution from this source in our urban environments - a useful advantage.

Christchurch Metro electric passenger network? - mentioned on page 75 must be a misprint. Unfortunately the development of the city post earthquake was on very car centric sprawling manner making it even more difficult to serve well with rail.

Consultation question 9

Do you support the possible actions to reduce domestic aviation emissions? Do you think there are other actions we should consider?

Aviation Emissions - Sustainable Aviation Fuel still has Radiative forcing You mention how we could replace half our fossil fuel used in planes with sustainable aviation fuel, but we don't think that would equate to halving global warming from jets in particular. Typically the radiative forcing from emitting combustion byproducts into the upper atmosphere is 2 or 3 times the carbon emissions. We are unclear if these SAF would have any less radiative forcing than fossil fuels and so therefore our efforts should be focused on reducing the number of air holidays that are not directly related to seeing family members or essential business trips.

ITEMS PREVIOUSLY MENTIONED BUT REITERATED HERE:

Focus on reducing flights as the most immediate cost effective way of reducing emissions. Pre- Covid people would take a "Quick Break" joy ride to Bali or an "escape the winter" emission splurge to the islands, or twice yearly massive emission deluge flights to the other side the globe. This really has to immediately stop until we have zero emission flights. There should be severe carbon costs imposed on people flying overseas after the first flight in a year as mentioned above.

Ban Domestic Jets - you seemed to have missed the fact that not only are Turboprops usefully less emitting per passenger - km, they also don't have the same radiative forcing as they fly lower. We suggest you ban domestic jets from next year. (See above for fuller explanation and Appendix for graphs and references)

Zero Emission Freight vehicles are available now You are quite wrong when you say "There is a high degree of uncertainty around the timeframe in which zero emission freight vehicles will be commercially available" (p80). We already have zero emissions electric rail freight and already have zero emissions delivery trucks. We don't have to wait, we just need to incentivise these things to happen. Ideally we would have electric container trucks picking up containers and taking them to rail sidings and doing the reverse at the end of the rail journeys: the use of containers all but nullifies the issues of double handling as transfers between modes are so quick and easy. As these electric container trucks need only be short range they are completely doable with present technology. Electric trains are

a mature technology but we have patchy electrification on our main trunk lines - this needs to be rapidly rolled out so it is unbroken Auckland to Wellington and Tauranga in the first 5 years and then the South Island after that.

Consultation question 10

The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritised?

Yes Mode shifting onto Low Emission Modes like Rail and Coastal Shipping needs to be top priority. We used to have a 30mile (The restriction, which applied to almost all goods, began at 30 miles and was increased to 150 km in 1977. <https://www.treasury.govt.nz/sites/default/files/2018-01/twp99-10.pdf>)

Limit for trucking when the goods could have gone by rail. We need to incentivise mode switching, perhaps with more significant fuel levies, so low emission modes naturally become the most price competitive option. You quote an almost 80% reduction in freight emissions is possible by switch road freight to (diesel?) rail and a 67-88% reduction by coastal shipping (p87). We see no reason why timeliness can't be done on rail. Rail needs to be the backbone of the freight movements in the country both from the inherent efficiency of steel wheels on steel rails but also the ease of zero emissions using mature technology. And fanning out from either end or nodes along the way we can have short range delivery trucks to take containers to and from destinations/origins.

Disagree that Decarbonising Road Freight is the best opportunity - We don't accept that the majority of the freight task is likely to continue to be transported by road (p89). We think the majority should be on the backbone of rail and coastal shipping.

Hydrogen has always been a smokescreen for inaction and still is. With its inherent inefficiency it is simply a chimera, a mirage, a road to nowhere.

Biofuels have been a disaster taking up food growing land We should not be relying on this unless we can get it from trees at a high rate of EROI (Energy Returned on Energy Invested)

Long Distance Electric Trucks not good option - they suffer inherent efficiency compared with steel wheels on steel rails and moving freight by water; they suffer the disadvantage of having to have massive batteries that limit the amount of freight they can carry, do not last nearly as long as electric rail and have issues with end of life recycling that electric rail doesn't have.

Consultation question 11

Decarbonising our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?

Simply increasing the fuel tax on fossil fuels rather than an array of incentives and bans. Some freight tasks might well disappear if the real costs of those transport emissions are made manifest - like taking Nelson milk to Christchurch to be bottled and then freighting it back again.

Consultation question 12

A Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?

Government EV Hire Purchase programme to aid just transition See details above, but by instigating a government hire purchase scheme so people can buy zero emission EVs that are very cheap to run but dear to buy - and pay for them over time out of fuel savings. And the amount available would be proportional to the household income. So this would not be a government cost, just a loan. Interest rates would be at government borrowing rates i.e. in low single digits. This would however have to be tightly managed so it didn't result in increased road congestion. Perhaps it should only be available for e-bikes, 2 per household.

Pathway 4, the only one that meets our climate objectives based on suspect assumptions? ie it assumes that supply constraints for EVs are not so significant. We don't think there is a good basis for this optimism. This means that we must do other things better.

Large Biofuel Demand Proposed is Dangerous in that biofuel has a really poor EROEI and normally uses up prime agricultural land that would otherwise be growing food. (p 114 "all pathways running the existing ICE light vehicle fleet on 10% bioethanol by 2023") In the recent past biofuel mandates have caused food price spikes and shortages.

Growth in GDP and Population questioned. We do not accept that GDP growth is a good thing or should be supported. We need growth in prosperity and happiness and equity, but that is not the same thing as GDP growth at all. In the past, emissions growth has been very hard to disengage from GDP growth. We need degrowth, not growth in GDP. We need growth in personal development, happiness, we need reduction of materialism. And the recent significant population growth was largely fuelled by immigration. I think in a post Covid world we are less likely to accept that. It was always a poor prescription for a healthy economy to be relying on immigration.

Prioritise EVs over Biofuels because of co-benefits While we suggest we should quite radically reduce the number of motor vehicles in the country, relying instead on active and PT made more viable by allowing density - not high rises - just 2 and 3 story houses, 4 and 5 story apartments. However with the remaining motor vehicles we suggest EVs are a better route than biofuels because of multiple benefits: Biofueled vehicles still emit particulate, Sox and Nox pollution, even if they are carbon neutral. They are also noisier than EVs and require substantial maintenance compared to EVs. Also the EROEI on biofuels is really bad compared to electricity from renewables.

Consultation question 13

Given the four potential pathways identified in Hikina te Kohupara, each of which require many levers and policies to be achieved, which pathway to you think Aotearoa should follow to reduce transport emissions?

We think we should follow Pathway 4. The reasons for this are that it is the one that includes the biggest reduction in light motor vehicle travel and that is important for livability of our cities, lowering embodied emissions in motor vehicles, lower potential energy demand for the country and for the multiple benefits of moving away from car commuting (personal health of the person driving, livability of cities not being filled up with commuter's cars, livability for people not in cars by not being intimidated by these big lumps of metal

hurtling through our cities, bringing people closer together because we aren't pushed apart by so much of our cities land taken up with space-hogging cars, and lastly less fear (real and imagined) of being maimed by a motor vehicle). However we don't think the 10% of light vehicle fuel being biofuel is a good way forward for the reasons mentioned previously. This element needs to be replaced by more people moving more quickly to Active and PT (including e-bikes) and earlier replacement of ICE vehicles with EVs due to the Government HP for EV initiative.

Consultation question 14

Do you have any views on the policies that we propose should be considered for the first emissions budget?

We think these have been covered above, but to focus on a few:

30kph (or slower) areas anywhere there is no protected path for cyclists - this is a silver bullet to revolutionise cycle commuting uptake. There are many "persuadables" out there who could be tempted to try cycling for many everyday trips (most in Nelson are less than 5km) if only they didn't feel they were endangering their lives.

Shared Paths not appropriate infrastructure for commuter cyclists and this needs to be recognised. Shared paths should only be used where there is a good alternative for fast cyclists adjacent. Shared paths are a disaster for commuters with people sprawled across the complete width and or dogs on one side them on the other and the dogs lead between the two, and they are also a disaster for elderly or info people walking being suddenly frightened by a person on a bike that they didn't hear coming and who is travelling at many times their speed.

Congestion Charging available in any town or city not just the biggest centres. Nelson has a peak hour congestion problem that could be entirely done away with by the implementation of Peak hour congestion charging on arterials. As mentioned elsewhere CC's encourage people into low emission modes of active and PT, make remains traffic flow more freely reducing their emissions and evaporate a remarkable number of trips.

Allowing Density in close in suburbs by NPS-UD updating - force councils to allow 2 stories high up the boundaries and a total of 3 stories high anywhere within 5km of city centres in any city centre - many want to do this and know its the right thing to do but are shouted down by a privileged minority who don't want to see their leafy suburbs changed from what it is now, but the government can over-rule local bodies to allow for this and it should. (This would mean doing away with existing recession planes into neighbours. We don't have to rely on winter sun coming across neighbours properties to have warm dry houses that need little heating or cooling. The Passiv Haus people have shown us how with insulation levels just a bit better than current code minimums, but careful attention to eliminating thermal bridging, airtightness, high performance windows and heat recovery ventilation systems any building can essentially be heated by alliances and body heat) This NPS-UD update should also include allowing more than 1 dwelling as of right on any section (ideally allowing 3 or 4 dwellings) with the only controls being a 35m² outdoor living court for each one that has a North face - why should we be forced to have so much un-used land around buildings when there is a movement to build tiny houses - In Nelson the minimum Section size is 400m² yet Tiny Houses are typically less than 30m². Why should you have to leave 93% more land than you need for the footprint of a dwelling? And why should you only be able to cover 30 or 40% of the land with buildings in our urban areas. As long as you have a Recreational Park every 500m (so you are never more than 250m away from one) even if only a pocket park, why do you need this moat of grass around each dwelling? While having vegetation around buildings may seem appealing in

the abstract, the cumulative effect of forcing us all do that has meant sprawling suburbs that are impossible to service properly with public and active transport. Big changes needed here.

Government Hire Purchase Scheme for EVs including e-bikes that is related to your income - the lower the household income, the more support available. Limit it to 1 per 4 people in the household. Because it is a loan paid back over time (through fuel and maintenance savings) at low interest rates that the government itself can borrow at, it is not a cost on government.

Government HP Scheme for Local Bodies for EVs Like the HP scheme for personal cars but for Local Bodies to buy zero emission EVs for staff use (including e-bikes)

Government HP Scheme for city buses, trams and railcars Like the HP scheme for personal cars but for Local Bodies to buy zero emission PT vehicles

Government Mandate to use rail or coastal shipping if possible eg if a load could be taken by rail for more than 100km, it should be, or a fine be paid (which is given to rail operators) This immediately saves 3/4 of the fuel on long distance freight and can be readily changed to 100% zero emission long-haul.

Government School Travel Mandate that all children in urban areas have to get to school by active or PT

Cash-out Clauses for any company car or company car park for any employee offered these - so Firms have to offer realistic cash alternatives to being provided with a company car and/or car park.

Government HP Scheme for city buses, trams and railcars Like the HP scheme for personal cars but for Local Bodies to buy zero emission PT vehicles

Company Vehicles Must be fit for Purpose - regulations that the most that can be claimed as a business vehicle expense, is the minimum size and type of vehicle for that business - eg we have have a lot of businesses claimed a double cab 4WD ute as their business vehicle when it almost always is just transporting 1 person with very little gear on the road. This is bad for emissions and intimidation in urban areas and is a rort so taxpayers are in effect paying for people's weekend boat towing vehicle.

Massive Fuel Tax Increases along with all vehicles (including EVs) paying Road User charges. The fuel tax needs to be at least \$100/litre by the end of next year - well signalled in advance and jumping up in two steps (not slowly ramping up because then people might not notice it). This will encourage active and PT use, EV uptake and trip evaporation as well as nudge people into living closer to where they work or working closer to where they live.

EVs not from Japan While we have in the last 30 years sourced most of our imported vehicles from Japan, this does not mean that it will be the same with brand new EVs into the future. The Japanese have really dropped the ball on EVs or at least got caught with their pants down - Toyota has only just emerged from complete denial on the potential for EVs, Honda has virtually nothing, Mazda has only just got its first EV out now, Nissan was an outlier with their Leaf. Meanwhile Korea has very good Hyundai and Kia EVs readily available, China has a lot of domestic EVs but their export MG is surprisingly good and cheap and may well be the forerunner of more Chinese EV imports. In Germany, Volkswagen has gone all-in on EVs, Mercedes a little behind that and BMW further back. But it is really the US that might provide us with quite a few EVs - Tesla's model 3 qualifies for the current EV rebate and there are some promising EV utes soon to be available. So while worldwide demand for EVs will be high, new EVs are and will increasingly be available from multiple brands in multiple countries. The Government HP for EV scheme could help people into brand new EVs that might be more readily available, than the second hand Japanese imports that they may otherwise have had to settle for.

NOT INCLUDED IN YOUR MODELLING

It is disappointing you haven't modelled some significant things:

Freight Rail Energy Saving - There seems to be a contradiction in the document; You say on Page 144 that Freight rail is not in the model yet for example you are showing that a 20% mode shift to rail has occurred by 2050 under pathway 1 (page 148). It is crucial you do include freight rail in the model as we see a major role for most long distance freight being on rail. This mode shift road to a rail backbone, with road just being the spurs off the rail lines is the future we see.

Working from Home - This is important as Covid has shown us how quickly how many of us can pivot to working at least some days a week at home. This is significant, because if those of use that can, do work half of our hours from home, that is a big chunk of commuting gone.

Aviation can be kicked down the road - We need to deal with elephants in the room - particularly international aviation. You can't just say its not covered by the Paris accords so you don't do anything about it. This is unacceptable when it is such a large part of many NZers' carbon footprint. Unless and until we can make this actually zero emissions (and biofuels isn't as it still has the climate forcing) then we simply need to fly less and not expect tourists to fly here either. This is an emergency. We need to use all emission reduction measures available.

PTO for Appendix

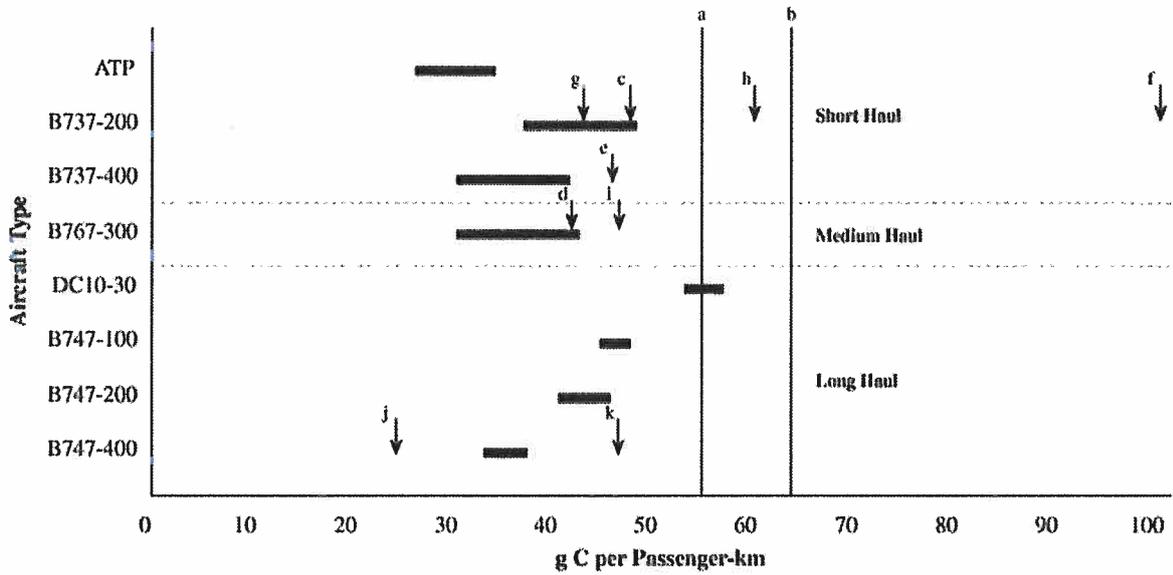
APPENDIX

Turboprop emissions compared to Jets

This is from IPCC (<https://archive.ipcc.ch/ipccreports/sres/aviation/126.htm#8332>)

ATPs are British Aerospace Turboprops and while it does overlap some of the jets, it is significantly lower than other short haul operation jets. This is without radiative forcing of course.

Figure 8-5: CO2 emissions for different aircraft types, based on British Airways fleet of 1997-98.



- a 1992 European average (European Commission, 1998).
- b Aero model base year of 1992 (Centre for Energy Conservation and Environmental Technology, 1997a).
- c Hamburg-Frankfurt/Frankfurt-Munich, B737-300/400/500 (Prognos AG, 1995).
- d Hamburg-Munich, A320-200, A310-200/300, A300-60 (Prognos AG, 1995).
- e Zurich-London, A310 (Hofstetter, P. and F. Melenberg, 1992).
- f Zurich-Munich, MD81/F-100 (Hofstetter, P. and F. Melenberg, 1992).
- g Amsterdam-Hamburg, 50-seat turbo prop (Centre for Energy Conservation and Environmental Technology, 1997a).
- h Amsterdam-Hamburg, 737-400 (Centre for Energy Conservation and Environmental Technology, 1997a).
- i Bucharest-London, Tupolev-154, 82% load factor (Tarom Romanian Air Transport and Societe Internationale).
- j B747-400D high-density seat configuration, 568 seats, 70% occupancy range, 7,400 km (Japan Airlines).
- k B747-400D long-range configuration, 262 seats, 70% occupancy range, 7,400 km (Japan Airlines).

Note: Aero model assumes load factor of 65%; British Airways assumes load factor of 70%.

This led me to this paper:

Aviation-induced radiative forcing and surface temperature change in dependency of the emission altitude

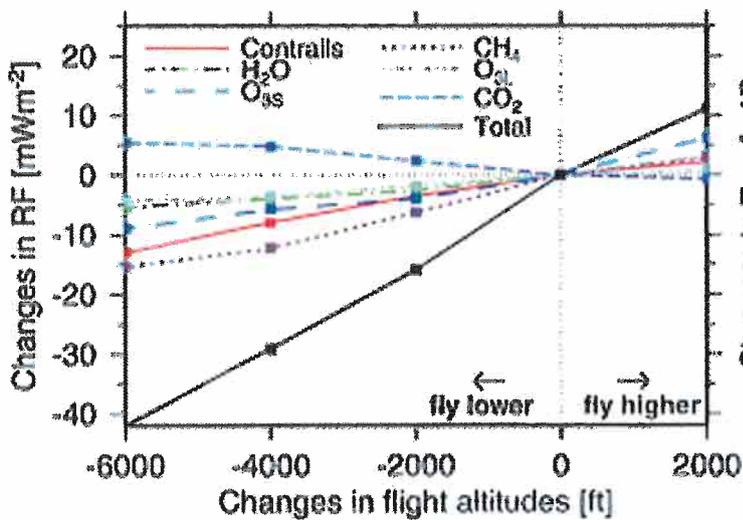
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2012JD018204>

Which I haven't got the time at the moment to look into properly but did find this:

Table 4. Global Annual Mean Net Radiative Forcing (mW/m^2) of Contrails, Water Vapor and Ozone for All TRADEOFF Scenarios With Flight Altitude Changes for the Year 2000^a

Scenario	RF_{cont} (mW/m^2)	$\text{RF}_{\text{H}_2\text{O}}$ (mW/m^2)	RF_{O_3} (mW/m^2)
+2000 ft	6.3 (+0.4)	2.1 (+0.6)	15.9 (+1.2)
Base case	5.9	1.5	14.7
-2000 ft	5.1 (-0.8)	0.9 (-0.6)	13.8 (-0.9)
-4000 ft.	4.1 (-1.8)	0.6 (-0.9)	13.4 (-1.3)
-6000 ft	3.0 (-2.9)	0.3 (-1.2)	12.7 (-2.0)

RF is radiative forcing and it is all less at lower altitudes when looked at in totality, even if CO2 does go up slightly with flying lower:



These I am sure are all for just pure jets, whether there is something different about turboprops jet engine emissions needs to be checked. But it would seem like banning jets for domestic flights could be a good start.

END

Hikina te Kohupara – Kia mauri ora ai te iwi

Transport Emissions: Pathways to Net Zero by 2050

Submission from Low Carbon Kāpiti, June 2021

Who we are:

Low Carbon Kāpiti (LCK) is a grassroots community organisation made up of local people who want to see more action to reduce the causes of the climate crisis. Established in 2017, we have a current membership of 230 based across the Kāpiti Coast. Our focus is both national and regional.

We appreciate this opportunity to submit our views on Hikina te Kohupara: Kia mauri ora ai te iwi, Transport Emissions: Pathways to Net Zero by 2050.

LCK believes that:

- The climate crisis poses an existential threat to humanity.
- All countries need to do their part to combat this threat.
- The industrialised nations, having already contributed 70% of all greenhouse gases in the atmosphere, have an additional responsibility to cut their emissions hard and fast to provide non-OECD countries a share in these cuts to allow them to develop their economies.
- For Aotearoa to do its part in getting to net zero carbon emissions, transport must make significant cuts in its emissions. Transport is one of our two biggest emitters, producing 47% of our CO₂ emissions. In Kapiti it is 57%.
- It is essential that we change our behaviour in relation to transport by significantly cutting the amount of travel we do.
- Simply replacing our present fleet of vehicles with electronic versions is only part of the solution. EVs on their own will not be sufficient because:
 - ❖ Replacing the entire fleet of light vehicles with EVs will cost billions of dollars.
 - ❖ EVs still have a carbon impact. On average, they produce some 80 grams of carbon per kilometre if the whole lifecycle of the vehicle is taken into account
 - ❖ By continually growing our vehicle fleet, we will still need to build roads and other infrastructure that cars need which is costly in both dollar terms and the greenhouse gases produced.
- A significant part of the solution is mode shift to less polluting forms of transport, with EVs for situations where there is little other choice. This means public and active transport will need to play a far greater role.

The relationship between Government and Local Councils

Much of the planning for transport issues happens at the local city and district council level. The various councils throughout Aotearoa have differing understandings of climate change and each one is developing policies that vary significantly from one council to another. The Kapiti Coast District Council, for example, has a very different approach from neighbouring Porirua City Council which

only recently, after community feedback on its LTP, came to realise the need for rapid action on climate change.

The KCDC is viewed as being amongst the better performing councils in terms of reducing its own emissions. However, LCK feels that it is still failing to address the issue with the urgency that is required. We feel that KCDC's recent Long Term Plan has not put climate change at the heart of everything it does, even though it has declared a climate emergency. For example, a substantial portion of the Council's transport budget is going to roading projects. It should be significantly rebalancing its funding towards walking and cycling

Equally, KCDC is fully supportive of keeping the local Kāpiti Airport open, even though it is not economic and requires on-going financial support from the Council. The airport comprises 110 hectares of open land very close to the urban centre, an ideal site for densification of housing which, as Hīkina te Kohupara points out, is an important method of reducing emissions.

Therefore, we feel that it is essential that central government provides local councils with all the necessary guidelines, support and resources so that they can make the necessary decisions and actions to minimise not only their own greenhouse gas emissions but also those of their wider communities. This needs to be done in a consistent manner by all councils throughout Aotearoa. LCK supports the contention of Dr. Paul Callister in the KCCAG submission that all local authorities in New Zealand should be required to rewrite their transport plans so that they align with the recommendations of both the Climate Change Commission and the MOT.

Our response to Hīkina te Kohupara

LCK finds much to be recommended in this report.

We agree with the seven principles. We are especially supportive of:

- Principle 1, that the transport sector will have to take a leading role, making early and deep reductions in emissions.
- Principle 2, that we need to move to a zero carbon system rather than off-setting emissions.
- Principle 4, that we will need multiple and coordinated actions.
- Principle 5, that we will need a just transition. Without fairness people will not accept their need to cut emissions.
- Principle 7, that although innovation and technology will play an important role, people and their behaviours are the key to reducing our emissions.

We find the report comprehensive in its scope. It suggests a wide range of potential policies that would put Aotearoa on the road to reduced emissions. These include "everything from additional fuel taxes, congestion charges to parking management reform, tactical urbanism, electrifying the rail network to phasing out imports of internal combustion cars between 2030-35." It is essential that as many of these policies as possible are implemented if Aotearoa is to have any chance of achieving its required emission reductions.

LCK considers that:

- 1) Pathway 4 should be implemented:
 - It is the most ambitious pathway, achieving the greatest amount of carbon emission reductions. It is the only one coming close to achieving adequate emissions reductions.
 - It places a strong emphasis on “avoid and shift” initiatives, this reducing the number of EVs required.
 - Ideally, we should be even more ambitious than Pathway 4.
- 2) Action on implementing these potential policies needs to happen urgently. The report envisages emissions increasing until 2024 then flattening out. We need to be making reductions in transport emissions rapidly and deeply, moving emissions onto a downward trend as soon as possible.
- 3) The government needs to be making a massive investment in public and active transport infrastructure, making these modes more convenient, comfortable, economic and reliable than private car transport and thus encouraging mode shift. It should be taking investment away from roading projects which only encourage the use of private vehicles and keep us on the never-ending spiral of more cars, more congestion, more roads, more cars...
- 4) The bus system needs to be improved, with regular, reliable and increased services using electric buses, along with more bus shelters, electronic timetable information and integrated ticketing with trains. Long distance buses need to be more comfortable, with on-board toilet facilities.
- 5) We need a better train system. For example, on the Kāpiti Coast this would require more frequent and reliable local trains, double tracking, an up-graded and more frequent Capital Connection, and electrification to Ōtaki and ultimately Palmerston North. More room for bikes on trains and better toilet facilities for train users will also encourage train use. Eventually, the whole train network will need to be expanded with a night train to Auckland, services to Hawkes Bay and more goods trains to replace trucking on the roads.
- 6) A better public transport system would have other benefits such as a reduced demand for new roads, less traffic congestion, and a reduction in the need for car parks. Health outcomes would also improve as people use active transport methods more regularly.
- 7) Active transport needs to be encouraged by building more footpaths and cycling tracks.
- 8) To increase the number of cyclists it is essential that we improve safety. For example, on the Kāpiti Coast, the Council needs to prioritise safe crossings for cyclists and pedestrians on major paths which intersect with busy roads.
- 9) Denmark and the Netherlands are examples of countries that have significantly higher rates of cycle use than New Zealand. In the city of Utrecht in the Netherlands 60% of all city centre journeys are made by bike. We see no reason why Kāpiti should not reach the same levels of bike usage.
- 10) We need to explore other, less traditional modes of low carbon transport. These could include much more extensive use of electric scooters, mobility scooters for older citizens, electric cargo bikes for the last kilometres of cargo supply chains, and electric “tuk-tuks” for the final kilometres of commuter train trips. Electric carts, similar to those used by Kiwi Post could fulfil similar functions, also providing protection in bad weather. The necessary infrastructure would have to be built to incorporate these different forms of transport safely into the roading network.

- 11) Urban sprawl caused by the availability of cheap fossil fuels is a major contributor to our energy intensive lifestyles. Therefore, we agree with the report that “shifting urban development towards quality, compact mixed-development urban form is critical.” Town planning decisions that direct us towards a more compact way of living will significantly reduce our carbon emissions. In Kāpiti, Council should consider incentivising medium-density housing along public transport spines, in particular the Waikanae and Paraparaumu train stations. An easing of the regulations around infill housing and tiny houses would provide additional options for densification.
- 12) Aotearoa needs to encourage mode shift away from flying. An Auckland/Wellington overnight train service could be one alternative, especially if the entire main trunk line is electrified. “Fast” trains have achieved this in other countries (South Korea, China, France). The viability of fast trains should be explored, for example between Auckland, Tauranga and Hamilton, and the length of the South Island. While New Zealand may not be able to build a network of very fast bullet trains, trains that can operate at 160km per hour on narrow gauge lines are already operating overseas. Decarbonising of aviation is also important.
- 13) For freight, LCK supports mode shift to rail, away from trucking, as a means of reducing emissions. Shortening supply chains could also play a role in reducing kilometres travelled. For example, at present, fruit and vegetables are trucked long distances before they reach the final consumer, being delivered to a centralised distribution centre in Auckland, from where they are repacked and trucked to supermarkets long distances away. Localisation of distribution could change this. All trucks would need to be decarbonised.
- 14) LCK supports the use of pricing to reduce our emission. This pricing will need to be applied more broadly than NZ ETS, which on its own will not be adequate to achieve the emission cuts necessary. Incentives include reducing the costs of public transport by introducing a wide range of travel concessions for groups such as students and beneficiaries. Disincentives include parking and congestion charges, and charges on highly polluting vehicles.
- 15) We need to restrict the importing of new high carbon vehicles as soon as possible. These vehicles will still be here in 20 to 30 years time, just when we will need to be achieving a zero carbon transport system.

Conclusion

Low Carbon Kāpiti finds the Hīkina te Kohupara to be comprehensive, with many detailed and excellent ideas on how transport could reduce its carbon footprint. The key now is to start implementing these ideas with urgency, to get Aotearoa’s transport emissions heading in a downward direction as soon as possible. Pathway 4 is the one that is most likely to achieve this.



Submission on Hīkina te Kohupara – Kia mauri ora ai te

iwi, Transport Emissions: Pathways to Net Zero by 2050

Maritime Union of New Zealand 25 June 2021

Craig Harrison, National Secretary, Maritime Union of New Zealand

Contact: communications@munz.org.nz

Introduction

The Maritime Union of New Zealand (MUNZ) was formed in 2002 and traces its origins back to the formation of the New Zealand Seamen's Union in 1872 – to an era of sailing ships before the existence of private motor vehicles or planes.

MUNZ represents seafarers, waterfront workers and related groups of workers in the New Zealand maritime industry.

MUNZ is an affiliate of the New Zealand Council of Trade Unions and endorses the 'Just Transition' documents of the NZCTU.¹

MUNZ is an affiliate of the International Transport Workers' Federation (ITF), representing 700 trade unions from 150 countries and the voice for nearly 20 million working men and women across the world. The ITF is playing a leading role in promoting a just transition to a post-carbon future amongst working people.²

¹ See Just Transition – A Working People's Response to Climate Change (2017) and Next Steps on just transition to good, green jobs (October 2019), New Zealand Council of Trade Unions <https://www.union.org.nz/just-transition/>

² <https://www.itfglobal.org/en/focus/climate-justice/climate-justice-activities>

Consultation question 1.

Do you support the principles in Hīkina te Kohupara? Are there any other considerations that should be reflected in the principles?

The Maritime Union supports the general principles stated in this discussion document.

Consultation question 2.

Is the Government's role in reducing transport emissions clear? Are there other levers the Government could use to reduce transport emissions?

The main lever to reduce transport emissions in the freight sector is the immediate promotion and development of the lowest emissions per km freight mode – coastal shipping.

Consultation question 3.

What more should the Government do to encourage and support transport innovation that supports emissions reductions?

The Maritime Union supports innovation and new technology in the shipping industry but we believe this should not be the primary immediate focus with this mode.

The reality is even with current technology the amount of emissions from shipping freight are far lower than other modes, especially road and aviation.

The Maritime Union urges that the immediate focus with shipping be to *simply expand the capability of this mode*: by rebuilding a New Zealand flagged coastal fleet. The Government is currently investigating opportunities to build New Zealand's domestic shipping fleet.

While shipping will become more sustainable over time, the most cost effective way to reduce total emissions is by mode switching freight from trucks to coastal shipping, which would instantly slash emissions per tonne/km.

In terms of the electrification of ships, this needs to be viewed in terms of the current shipping services on the New Zealand coast.

Due to the “open coast” policy under the current Maritime Transport Act, international ships can carry domestic cargo between New Zealand ports. This legislation needs to be amended to allow New Zealand flagged vessels priority to moving coastal freight by sea between New Zealand ports.

Large trans-oceanic vessels are unlikely to move to alternate energy sources in the near future. Due to the lack of regulation or oversight of overseas vessels, which are often flagged to ‘Flag of Convenience’ registries, the ability of New Zealand to promote or enforce emissions standards on international vessels is limited at best, despite international agreements.

However, smaller New Zealand flagged coastal vessels moving freight on a “hub and spoke” port model would be easier to adapt to electrification or low emission technology. There would be much greater scope to promote low emission technology through regulatory methods and Government support for the industry.

Consultation question 4.

Do you think we have listed the most important actions the Government could take to better integrate transport, land use and urban development to reduce transport emissions? Which of these possible actions do you think should be prioritized?

Outside scope of MUNZ submission.

Consultation question 5.

Are there other travel options that should be considered to encourage people to use alternative modes of transport? If so, what?

Outside scope of MUNZ submission.

Consultation question 6.

Pricing is sometimes viewed as controversial. However, international literature and experiences demonstrate it can play a role in changing behaviour.

Do you have any views on the role demand management and more specifically pricing, could play to help Aotearoa reach net zero by 2050?

Outside scope of MUNZ submission.

Consultation question 7.

Improving our fleet and moving towards electric vehicles and the use of sustainable alternative fuels will be important for our transition.

Are there other possible actions that could help Aotearoa transition its light and heavy fleets more quickly, and which actions should be prioritized?

The MUNZ view is the most obvious route to transition its road based transport is simply to mode shift road freight onto coastal shipping.

While fully supportive of the development of new technologies in this space, the MUNZ view is the straightforward solution is to focus on existing coastal shipping technology and infrastructure.

This is available now or can be brought online within a short time horizon to deliver major reductions in emissions without major investment or disruption.

Most of New Zealand's main cities have immediate port access. Despite claims about the efficiency of road freight, the increasing stress on the supply chain shows that this is no longer a given. Congestion issues at ports have been exacerbated since COVID-19 and the development of complementary modes is now urgent, both for reducing emissions and building the resilience of our supply chains.

Given the growth that is still occurring in New Zealand's freight volumes, this would not even amount to a "sinking lid" on road transport, but it would at least start to stabilize the volume of freight being moved by high emission methods.

It would also reduce the effects of congestion, improve road safety, and alleviate the vast and unsustainable cost in road construction in favour of the "blue highway."

Consultation question 8.

Outside scope of MUNZ submission.

Consultation question 9.

Outside scope of MUNZ submission.

Consultation question 10.

The freight supply chain is important to our domestic and international trade. Do you have any views on the feasibility of the possible actions in Aotearoa and which should be prioritized?

A National Freight Strategy needs to include a National Ports Strategy and a National Coastal Shipping Strategy.

The New Zealand supply chain is currently dangerously stressed and vulnerable. There is a pressing need for a restart of the entire sector to focus on resilience and sustainability.³

The efficiency and effectiveness of New Zealand ports has a major impact on our emissions. The development of network connections and freight hubs (inland ports) will determine the mix of transport modes.

Reduction in emissions requires a clear national strategy with strong, pro-active Government leadership.

A key example of this is where New Zealand ports currently operate on a parochial, competitive basis rather than serving overall New Zealand's transport needs. The sector need to see a more co-ordinated approach with clear priorities: emissions reduction, supply chain resilience and social responsibility. This process has to be driven by Central Government.

There is a growing international body of work around the role ports can play in emissions reduction – to quote one OECD report, 'port-based incentives for GHG [Greenhouse Gas] emission mitigation could provide an important supporting role.'⁴

MUNZ does not agree that the present "market led" nature of the supply chain system is an automatic positive or a natural default setting. In fact it is a relatively recent development which in a short space of time has proved to be sub optimal in a range of areas.

One major operator is KiwiRail, who have a major presence in both rail and coastal shipping (ferries). KiwiRail is a Government owned enterprise operating in spaces where there is limited potential for private operators, and it is both sensible and rational to consider using this asset to accelerate reduction in emissions.

Changes in legislation governing KiwiRail and the judicious use of direct capital investment by the Government (rail upgrades, coastal shipping services) could bypass

³ [Deepening supply chain crisis requires action](#) (Maritime Union of New Zealand, 21 June 2021)

⁴ [Reducing Shipping Greenhouse Gas Emissions – Lessons From Port-Based Incentives](#), p.5 (OECD International Transport Forum 2018)

the constraint of short term profit that exists on private freight companies in other modes, in favour of long term goals.

Consultation question 11.

Decarbonizing our freight modes and fuels will be essential for our net zero future. Are there any actions you consider we have not included in the key actions for freight modes and fuels?

MUNZ stresses that while the goal of “decarbonizing” through technological advances is entirely appropriate, it involves large costs and a lengthy time scale especially in the heavy freight sector. Thus we urge that *currently existing coastal shipping technology* be prioritized to reduce emissions in the short to medium term.

Consultation question 12.

A Just Transition for all of Aotearoa will be important as we transition to net zero. Are there other impacts that we have not identified?

MUNZ endorses the views of the New Zealand Council of Trade Unions that a ‘Just Transition needs to also ensure that opportunities for decent work in sustainable industries are available for all working people – and that the transition does not repeat existing patterns of inequality.’⁵

⁵ [Next steps on a Just Transition to Good, Green Jobs](#), p.2 (New Zealand Council of Trade Unions, 2019)

Consultation question 13.

Given the four potential pathways identified in Hīkina te Kohupara, each of which require many levers and policies to be achieved, which pathway do you think Aotearoa should follow to reduce transport emissions?

MUNZ supports Pathway Three 'Supporting a more efficient freight system' as having the greatest potential to reduce emissions in the short-medium term while avoiding many of the costs associated with uptake of new technologies.

There needs to be a focus on immediately moving to low emission modes (coastal shipping) which will make a difference even before technological developments such as low carbon fuel or electrification are introduced.