The New Zealand Infrastructure Commission, Te Waihanga: Infrastructure Strategy for Aotearoa New Zealand Submission

Submissions will be open from 12 May to 24 June 2021 (now July 2nd 2021) and you can provide your feedback at www.infrastructure.govt.nz/have-your-say

From: The Nelson Tasman Climate Forum (NTCF) Transport Group (excluding members from TDC and NCC) June 25 2021

PUBLIC INFORMATION STATEMENT:

We are happy that our submission is included in reports available to the public.

INFORMATION ABOUT NTCF:

The Nelson Tasman Climate Forum is a community-led initiative open to everyone. We aim to get everyone in our climate change response waka paddling quickly in the same direction.

Our mission is to weave individuals, households, civil society organisations, businesses, councils and iwi together around urgent, strategic action on climate change in the Nelson-Tasman region.

Our Climate Declaration sets out a programme of action to achieve climate stability based on economic fairness and democracy. It is not a petition to Government. The organisation's key roles are to disseminate up-to-date information on how the energy needs of the future will be met and to promote a no-growth system of economics that operates within planetary boundaries.

See our Charter and Climate Action booklet here: https://nelsontasmanclimateforum.ning.com/

Format of document:

Questions to be answered in relation to transport are in **bold**. Extracts from the Infrastructure for a Better Future document and in normal text but reduced font. Our replies to the questions that refer to the text before the reply are in *italics*

Introduction

In this submission we will only focus on transport related issues - transporting goods and transporting people.

For the questions not related to transport we refer to a parallel submission from another branch of our organisation (NTCF) - the Science, Technology and Research group.

While the overall direction of the Infrastructure paper is good, its major short comings are that it moves far too slowly with the proposed actions leaving most of the "heavy lifting" too close to the 2050 deadline for zero emissions. We have to start much sooner and much more aggressively to get our

emissions down so that we are not stuck with impossible emission reductions in the last decade before 2050. For the sake of the planet we cannot afford to make excuses if we don't meet our targets in 2050.

While there is some focus in the document on the reduction of activities (eg transport), there is still an over-riding focus on economic **growth**. Economic growth is not sustainable. Reduction of business as usual is already parts of the document where the focus is on more effective use of existing infrastructure rather than building more infrastructure. It is our belief that this should be pursued more forcefully as not only does it make for a healthier lifestyle (eg active transport) but it also results in considerable savings that can then be channeled into thriving rather than growing.

Key points from the introductory sections (before Q1)

We whole-heartedly support :

• Congestion pricing or road tolling to reduce congestion in our cities and make them easier to access.

But this needs to be more than just in the CBD but also those clogged arteries around the CBD. A big advantage of working around the edges of the city with congestion charging is that buses and essential services will be able to move more freely rather than being caught in the congestion.

• Increasing coverage of on-street parking charges to make the best use of our urban spaces.

If one considers the area taken up by a car parked all day while people go to work – then the charges should be very much higher than now. Here in Nelson we have two huge car parks in the centre of the city that could easily be put to a more wellness focused use – either people living in apartments in the inner city and so not needing to commute, or green space for people walking or cycling through the city.

• Electrification of transport and greater use of public transport and active travel (walking, cycling and micro-mobility) will be essential in cities.

Electric cars are NOT the solution because if people just migrated to electric cars, then congestion would not reduce resulting in pressure to build new roads or widen existing roads. Not only does this cost money, but materials used to construct the roads produces significant GHG (ref needed)

• The planning system must be enabling of the infrastructure necessary for climate change mitigation and adaptation.

Yes, but the key solution to this – less travel – needs to be further promoted in the document.

Discussion question Q1. What are your views on the proposed 2050 infrastructure vision for New Zealand?

• Reliable, affordable and accessible travel options powered by renewable energy.

We are looking to a future where our infrastructure keeps pace with population and economic growth and gives New Zealanders the services they expect. Infrastructure isn't the only contributor to a better future, but it's a cornerstone that underpins our collective wellbeing

*This has the underlying theme of economic growth. Economic growth is not sustainable. The quicker the better that we accept that if everyone on the planet lives like we do then our current standard of living is already well past sustainability. The paper needs to focus much more on **reduction** rather than growth. And to make reduction more palatable to the current population, there needs to be a shift to supporting wellness so we can thrive rather than grow. What is missing from this document is a **strong** focus on whanau and a pleasant, healthy, natural environment for people, flora and fauna. We strongly recommend that the word "growth" is searched for in the document and replaced by sustainable concepts.*

*The vision statement in the document makes statements that are not compatible. On the one hand it states the vision: "*Infrastructure lays the foundation for the people, places and businesses of Aotearoa New Zealand to thrive for generations", *and on the other it states that:* "We are looking to a future where our infrastructure keeps pace with population and economic growth and gives New Zealanders the services they expect."

These statements are incompatible for a number of reasons. If the people, places and businesses of Aotearoa are to thrive for generations into the future we cannot have infrastructure based on what people currently expect. Unfortunately, current public expectations are woefully out of line with biophysical realities of what is possible. We are overconsuming both renewable and non-renewable natural resources at an unsustainable rate. (https://www.footprintnetwork.org/; https://www.eea.europa.eu/soer/2020/soer-2020-visuals/status-of-the-nine-planetary-boundaries/view; Resources Extracted From Earth (theworldcounts.com)

Humanity's experience with fossil fuels over the last 100 years plus has given us expectations that cannot endure beyond the fossil fuel age, yet both governments and the public have yet to grasp the consequences of a transition to mostly renewable energy sources.

(https://www.springer.com/gp/book/9783030703349; https://www.researchgate.net/publication/323532150_Energy_and_the_Wealth_of_Nations).

Discussion question Q2. What are your views on the decision-making outcomes and principles we've chosen? Are there others that should be included?

A digital future Technology will dramatically alter how we design, build and use infrastructure in the future. It's not possible to predict with any degree of certainty the extent of the technological advancement-that will occur in the next 30 years.

What we do know is that people are resistant to change unless they are forced to change (eg COVID-19 partial lockdowns effect on traffic). Strong leadership at government and local government level is required to make these changes happen.

Transport related items to be added to decision making outcomes

1. ***Decision making principles have to be followed by pre-set targets** on the way to the long term goal to ensure decisions are made in a timely manner. We hope the proposed decision-making principles you list are adequate to make change happen. We feel that the approach recommended is too "nice" to people and we fear that the hard necessary decisions to keep global temperature increase below 1.5C will not be taken.*

2. ***Minimize Natural Resource Use**. Another related issue is the amount of natural resources consumed in infrastructure projects((PDF) Possible Target Corridor for Sustainable Use of Global Material Resources (researchgate.net). NZ has one of the highest global material footprints and needs to reduce its material footprint by at least one half to two thirds, to approach sustainable levels. With less energy available our material footprint will also decline. This is something we need to plan for – minimal use of natural resources to achieve the wellbeing goals prioritized. What is the minimum infrastructure required to meet basic human needs well into the future? What existing infrastructure should we abandon?*

3. ***Carbon Neutral.*** *Add the principle of carbon neutrality. Establish a carbon budget specifically for infrastructure over the next three decades that is compatible with the goals of the Paris Agreement. Any emissions associated with an approved infrastructure project should be accompanied by an equivalent reduction in emissions elsewhere. Ideally, this should involve actual reductions in emissions rather than emission offsets, but offsets could be used as a last resort. A further consideration is whether the project will increase or decrease future emissions. Only projects that have a high probability of actually reducing future emissions should be approved.*

   Consideration should be given to requiring substitutes for cement and steel that involve less greenhouse gas emissions whenever feasible.

Discussion question Q3. Are there any other infrastructure issues, challenges or opportunities that we should consider?

Transport

- Electrification of the light-vehicle fleet and use of alternative fuels to reduce carbon emissions.
- Use of technology such as driverless cars and artificial intelligence to manage demand and improve road safety.
- Congestion pricing measures in cities to reduce peak traffic demand.

We believe that the first two measures miss the point as they will not help in reducing congestion and there is no account taken of the GHG emissions in the manufacture of these vehicles nor of their disposal. There is no account taken of the extra electricity these changes will require so limiting the availability of this (non-abundant) resource from other areas. Further the cost to our health care system and an impediment to our wellness from vehicle accidents is unlikely to change. The main focus should be on reducing traffic which congestion pricing could well achieve unless car owners simple come in before or after the "peak traffic" time in which case there would be minimal reduction in GHG emissions

We strongly concur with the following ideas from the 23,00 people responding to the digital engagement

- People are showing a clear preference for improving public transport as a potential solution.
- Across all areas, New Zealanders see the environment as the top priority when it comes to making decisions.

We do not concur with these statements from the 23,00 people responding to the digital engagement

- The time it takes to build new transport infrastructure was an important transport issue for New Zealanders.
- The time it takes to get around cities is close behind.

We should NOT be building new transport infrastructure – we should be using the current infrastructure for busses and other essential services and minimizing their use by other vehicles. Once the majority of cars are off the roads and replaced by public transport, bikes and foot traffic, then people will be able to get around our cities more quickly.

Opportunities: NZ and the world's consumption of natural resources greatly exceeds sustainable levels. Regardless of what levels of energy are available in the future we need to learn how to live well with less material resources. Nowhere in the document is this reality acknowledged. Appreciating this limitation directs us to consider how to make maximal use of renewable resources (without depleting them beyond their regenerative capacities), and optimizing our use of recycled and nonrenewable resources

in planning infrastructure. Nowhere in this document are these issues considered. This includes materials for infrastructure builds and rare earth minerals needed for renewable energy technologies.

Discussion question Q4. For the 'Building a Better Future' Action Area and Needs:

• What do you agree with? • What do you disagree with? • Are there any gaps?

The areas in which we believe change will be needed for Building a Better Future are as follows:

• Prepare infrastructure for climate change.

• Transition energy infrastructure for a zero-carbon 2050.

• Adapt to technological and digital change.

• Respond to demographic change.

• Partner with Māori: Mahi Ngātahi.

• Ensure the security and resilience of critical infrastructure.

These change areas are hard to fault and make a lot of sense – but they big picture ideas and the devil will be in the detail. For example:

Not only should we prepare infrastructure for climate change but we should also build infrastructure so that it does not aggravate climate change. For example, cycle way extensions could be constructed from timber rather than concrete.

What do you regard as critical infrastructure? Is a road closed once every year for a few hours due to wave splash over the road in a storm "regarded as "critical infrastructure" even when an alternative route is available?

The key component that is missing is to change the mindset of people who believe they can drive a car anywhere are any time to one of being very careful in minimizing trips and taking the least polluting form of transport (eg bike or walk). This needs to start early by education in schools, but if we start now, that will only capture up to 30 year-olds by the time we reach 2050. We need also to mount an education campaign to the current post-school population.

Acknowledging the inevitability of using fossil fuels and significant material resources for the infrastructure build (pg 47) is good. But planning needs to go further and calculate what the actual emissions would be and identify where equivalent savings could come from. The same goes for material resource use.

To suggest that the ETS is not fit for purpose (pg 49) is done diplomatically. A fossil fuel rationing regime would be a much more effective and efficient means of reducing emissions with much greater certainty (http://tradableenergyquotas.net/). It would also facilitate infrastructure planning in that it would provide clarity regarding what the acceptable carbon budget for infrastructure can realistically be.

To suggest that reducing the demand for urban transport (pg 50) is admirable, but inadequate. ***Demand reduction of the need for new transport infrastructure should be the main theme of this long term planning exercise****. We should be asking what minimum sustainable infrastructure is needed to ensure wellbeing. If we can achieve this within our carbon budget and material footprint, then we can always add to it to satisfy wants as well.*

Note that Wales has recently decided to suspend all new road building plans [Welsh government suspends all future road-building plans | Wales | The Guardian](#).

Discussion question Q5. How could we encourage low-carbon transport journeys, such as public transport, walking, cycling, and the use of electric vehicles including electric bikes and micro-mobility devices?

The challenge for the transport sector is significant.

Transport makes up 36 percent of New Zealand's long-lived emissions,[20] with most emissions arising from fossil fuels used to power vehicles.[21] Emissions from domestic transport have continued to rise in recent times. Electrifying the transport system will play an important role in decarbonising the transport sector, alongside increased levels of active and mass transport, and mode-shift to reduce the carbon impacts of the domestic freight network. There are a number of non-built solutions that need to be considered in the transport sector. Pricing options can ease demand for infrastructure by smoothing peaks (through congestion charging, for instance) or incentivising alternatives (through efficient public transport and parking prices).

The effect of emissions on climate change has been known for years (eg IPCC report of 2018 and earlier), so why has nothing been done with emissions continue to increase? No wonder we are skeptical that this will be an effective tool in reducing emissions from vehicles. There needs to be strict targets set in the near future eg starting 2022 so one can be convinced that the stated action is working. It is very easy to determine what proportion of the reductions need to be achieved by 2022 if we are heading for zero carbon emissions in 2040. Why 2040? – with such a dramatic shift in infrastructure thinking it will be inevitable that there will be considerable slippage on the way and setting a target of zero emissions in 2040 means that this target is much more likely to be achieved in 2050.

Incentivizing alternatives is only one way of reaching the desired goal and it is our opinion that this will not achieve the desired cutback in emissions so disincentivizing alternatives like the congestion charging and a suitably high carbon tax will also be needed. While this is only our opinion, by carefully tracking how effective the changes are year by year – the governing bodies will quickly learn whether to ramp up the disincentivizing alternatives.

In our recent submission to the Ministry of Transport, we were impressed by a Smart Road User Charging System, that involves higher charging for higher emission vehicles and increases with distance travelled to all road users. Many other items could be included, with monthly charging to every vehicle owner. More on this below, but we believe this one System could make a huge difference to all transport related emissions and high road usage requiring more and road infrastructure costs. Please see Appendix to this submission related to a Smart Road User Charge that was submitted by us to the MOT Green paper submission.

Local government could also prioritise options to increase the use of public transport by making better use of existing urban space, or implement density targets that significantly up-zone areas that are in close proximity to employment and other amenities in some cases. This could reduce demand for transport infrastructure altogether.

This is a great idea as it is cost saving and does not add to the GHG emissions from infrastructure build and it will reduce vehicle emissions – but will it happen? Houses have over a 70 year life so many of the buildings standing now will still be standing in 2050. This makes the average density targets even more difficult to reach, and so far there has not been a great track record in building high density housing. Indeed, in many parts of Tasman high density housing is discouraged with minimum section sizes being

470m^2. Again annual audits should be taken to see if governments and councils are meeting their target, and if not, then further drivers need to be put into place.

Discussion question Q6. How else can we use infrastructure to reduce waste to landfill?

Again the response to this question is focused on the transport sector.

There should be durability standards for all transport vehicles sold. Things can be designed to be considerably more durable than they currently are. Given the energy embedded in products, as well as the energy needed to recycle materials, the more durable the products are, the less infrastructure will be required to recycle them. The use of imported tyres needs to be looked at and the cost of carbon neutral tyre disposal built into the cost of tyres. Consider the burial of used tyres which would sequester the fossil fuels used to manufacture the tyres.

Discussion question Q7. What infrastructure issues could be included in the scope of a national energy strategy?

F1.4 Ensure non-built transport solutions are considered first

To decarbonise existing transport networks, require non-built solutions to be considered first. In the case of existing roading networks, alongside transitioning to electric vehicles, non-built solutions could take the form of:

- Charging to reduce demand.
- Lowering the cost of public transport at non-peak times.
- Real-time parking pricing.
- Making better use of existing space to speed up public transport.
- Density targets and supply requirements through zoning policy.

We whole-heartily support the initiative to obtain more benefit from existing infrastructure with behavioral and regulatory changes. Again, "benefits" from infrastructure should be considered from a basic human needs/wellbeing perspective first and foremost, and not from an economic perspective, or meeting unsustainable wants.

Given that increasing electrification is critical to transitioning away from fossil fuels, reducing demand for energy use across sectors would seem a logical first step. Why build unnecessary energy infrastructure if similar benefits could be obtained with demand reduction? Considerably more emphasis should be given to transport reduction before any additional infrastructure is considered.

Modelling (or a trial) is needed to determine the effectiveness of transport reduction options. (https://www.renewableenergyworld.com/energy-efficiency/whats-a-negawatt/). EECA's report on Energy Efficiency First https://www.eeca.govt.nz/assets/EECA-Resources/Research-papers-guides/EECA-Energy-Efficiency-First-Overview.pdf confirms that enough electricity could be saved, at a half to two thirds the cost, to drive a third of today's light vehicle fleet.

All these ideas in this section are good, but their worth will be in the effectiveness of their implementation. Annual reporting needs to be in place so changes can be tracked and options that are

not working, aggressively promoted. For example by raising costs on charging options and parking costs then using the revenue gained from these to lower public transport costs.

F1.5 Enable active modes of travel

Improve the uptake of low-carbon transport options by increasing the density of housing (up-zone) areas within a cycling catchment of all major employment areas

This comes with the proviso that inner city housing is reduced in cost so that the bulk of the work force can afford to live there and not be forced to live in cheaper out-lying suburbs.

Discussion question Q18. For the 'Enabling Competitive Cities and Regions' Action Area & the Needs:

• What do you agree with? • What do you disagree with? • Are there any gaps?

Infrastructure can contribute to the success of New Zealand's cities and regions by enabling:

• More affordable and abundant housing that improves social, economic and health outcomes.

• Higher levels of economic productivity and improved inter-regional and international connectivity to enable higher incomes and living standards.

• Better quality of life due to better performing infrastructure.

• Urban environments that provide greater connectivity with employment, social services and recreation opportunities. Success in these areas can create a virtuous cycle, attracting more residents and businesses that contribute to the ongoing prosperity and liveability of cities and regions.

Connectivity is a measure of how easily goods, people, ideas, data and capital can flow around an economy and to and from the economy's global trading partners.

The main fallacy in the above discussion points is the idea of needing growth and higher incomes for improving living standards. The main issue in NZ is the inequitable division of income and wealth and if the people with more than comfortable lifestyles spread their income among the poorer people in NZ then we would not have to raise living standards for a thriving life-style for everyone.

What is the problem?

Our cities currently face several problems that constrain their ability to deliver high living standards and compete for global talent. These include [Only the transport option is listed]:

• Comparatively high levels of traffic congestion, poor availability of public transport and walking and cycling options, and urban design that leads to poor quality-of-life outcomes.

Cannot agree more. The major focus should be on wellness and a thriving community rather than growth. European cities where growth is not a priority are good models of thriving communities making maximum use of existing infrastructure (eg areas of Greece excluding Athens).

Discussion question Q19. What cities or other areas might be appropriate for some form of congestion pricing and/or road tolling?

A national (NZ wide) Smart Road User Charging system would be able to be tweaked in many ways, targeting congestion and high use/emission vehicles, and would work using GPS everywhere, tracking every vehicle with its Vehicle ID rather than the driver.

Discussion question Q20. What is the best way to address potential equity impacts arising from congestion pricing?

Transit-oriented development can reduce the traffic impacts of growth.

There is limited space to expand transport corridors in existing urban areas. A move towards higher-occupancy vehicles, public transport, walking and cycling is needed to manage significantly increased transport demand. Integrating land use, transport

and transit-oriented developments (TODs) is an important way to achieve this.[69] The benefits for the efficiency of the transport network can be large, but achieving them requires attention to detail.[70] Simply increasing overall urban population density is unlikely to work.[71] Large reductions in vehicle travel, and corresponding increases in the use of public transport, walking and cycling, can be achieved by developing in areas that are close to jobs and designing developments and transport networks that make it easy to walk and use public transport. Reducing the quantity of residential and on-street parking has been shown to reduce vehicle ownership and, as a result, the traffic impacts of new development.[72] There are many low-level barriers to achieving an effective TOD. These include poor street connectivity that hampers walking trips and access to public transport, and historical street design standards that result in unsafe or uncomfortable walking environments.[73] Postimplementation reviews are needed to understand whether New Zealand has implemented TOD policies successfully, and to identify any changes that may be needed to ensure better outcomes from future developments.

Agree with the above statement – a very good analysis of what we see are important issues. The key issue is affordable housing in the areas where increased population density will help keep infrastructure costs down. For example in Richmond, it has come to our attention that the cost of each of four "Tiny" houses on a section that used to occupy one house was only marginally less than the cost of one house on that section. Council regulations have not progressed rapidly enough to include a reduced compliance fee for "Tiny" houses that reflect the lower cost of the infrastructure needed.

C2.4 Conduct post-implementation reviews of transit-oriented development opportunities

Many existing urban strategies highlight the importance of transit-oriented development (TOD). To understand whether strategies are translating into on-the-ground implementation, undertake a postimplementation review of recent TOD opportunities in New Zealand cities. This review would cover the performance of developments against international best practice, the scale and pace of housing and commercial developments relative to planning projections, transport outcomes for people living or working in the areas, broader wellbeing outcomes and barriers to achieving better outcomes, and provide recommendations for policy and delivery changes to improve outcomes for future TODs.

While an excellent idea we cannot wait for yet more reviews. Lets get on with starting on this journey and making processes flexible enough so that feedback (specifically from what is happening in NZ) to allow us to modify the process as we go.

Traffic congestion and a lack of housing limit access to higher-wage jobs.

Employment that offers high wages tends to be clustered in large, dense employment centres. This applies equally to those working in the finance sector and those in the service sector. It is driven by the economic benefits that firms and workers realise from locating close to each other.[79]

New Zealand cities are small by international standards, and city centres tend to be the only places that offer large, reliable wage premiums. For instance, Census data shows that, after adjusting for industry mix, wages in the Auckland and Wellington city centres are almost 30 percent higher than the national average. Other locations in Auckland and Wellington offer wages that are similar to the national average.[80]

However, access to opportunities for high-wage employment is limited by three factors:

• The availability and price of housing near city centres. Many people cannot afford to live near a city centre or must sacrifice living space to do so.

• Traffic congestion and the limited supply of alternatives such as rapid transit and safe cycling infrastructure, which makes commuting to a central work location slow and unreliable, particularly for those people who can't afford to live close to a city centre.

• The capacity of the transport network and parking in the city centre to cope with an increased number of commuters.

People are happy to live in smaller cities (eg Nelson) with lower wages because the improvement to their lifestyle wellness. We should not assume large cities and higher wages are what people strive for to live a comfortable and fulfilling life. Why have so many retired successful USA business people moved to Tasman? The "economic benefits that firms and workers realise from locating close to each other" has been much reduced with fast broadband (as demonstrated during the Covid-19 lockdowns). This is old style thinking should not be used to develop an infrastructure policy looking toward the future. We wish

the Infrastructure group to seriously consider whether increasing populations in our larger cities benefits wellness and thriving populations.

Congestion pricing is the best way to ease traffic congestion.

Historically, transport agencies have attempted to relieve peak-period traffic congestion by building more road capacity. This strategy has not been successful because increasing road capacity encourages people to drive more.

However, congestion pricing and road tolling are effective in relieving congestion. For instance, an analysis undertaken for The Congestion Question (a recent study of congestion pricing options in Auckland by Auckland Council and the Government) found that comprehensive congestion pricing would reduce peak-time traffic volumes by 8 to 12 percent and significantly improve average travel times.[82] There are opportunities to improve access by:

• Progressing the implementation of congestion pricing in Auckland and progressing investigations for Wellington.

• Outlining a plan for expanding congestion pricing or road tolling to other fast-growing cities that might otherwise experience worsening traffic congestion.

In addition, other transport pricing measures could be considered, such as reforms to enable a more efficient pricing of on-street parking to mitigate localised congestion impacts.

We strongly agree with the above comments but congestion charging should not be limited to larger centres. In smaller centres there is also congestion on main arteries into Richmond and Nelson (and even Motueka). The solution still seems to be to build more roads to minimize this congestion and in smaller centres this is easier because of less expensive develop land. However the infrastructure costs and the GHG release from building bypasses is still as great in smaller centres as in larger centres. If congestion charging can be implemented in these locations then there will be considerable savings. And the savings could go into cheaper bus fares and so addressing potential equity impacts.

New transport infrastructure will still be needed to increase mobility.

If congestion pricing is implemented, it will need to be progressed alongside improvements to public transport networks and walking and cycling facilities.

• Congestion pricing will increase demand for non-car transport modes. Improving public transport networks and walking and cycling facilities will make it easier for people to change their travel behaviour.

• Improvements to non-car alternatives can lower tolls for remaining drivers and increase the public acceptability of pricing.[84]

• By optimising the use of existing transport networks, congestion pricing may allow some costly infrastructure projects to be deferred. However, in the long-term investment will still be needed to provide for rising demands for mobility.

• If congestion pricing is implemented, signals from congestion pricing should be used to help optimise the timing and delivery of new multi-modal transport infrastructure.

• Different solutions may be needed to increase transport capacity in different places. For instance, dense employment areas may be most efficiently served by rapid transit infrastructure that can move many people in a space-efficient way, while lower-density areas might be most efficiently served by road infrastructure.

Again whole-heartedly agree with the above points. Except that the infrastructure costs of cycleways and walkways is considerably less than the high standard and width now needed for new road construction. These costs need to be costed and put into perspective before these strong statements are made in the policy. Also cycleways do not need to be build of concrete or tar but can have large sections constructed of timber at the Mapua Drive cycleway/walkway shows. Using timber helps sequester carbon and hence is not only neutral but helps to reduce GHGs.

Increased roading infrastructure does not serve low-density areas better – an efficient bus service with smaller busses made to fit the transport needs being more efficient. Again this should be properly costed – bus services in low density areas are deemed to have far too high fares to make the service viable. But

have the reduced cost of no extra roading infrastructure ever been factored in the make bus fares much more palatable? Unfortunately such ideas often don't work because the saving in one departments budget (from reduced infrastructure costs) rarely ends up in council budgets to keep fares low.

Discussion question Q21. Is a 10-year lapse period for infrastructure corridor designations long enough? Is there a case for extending it to 30 years consistent with spatial planning?

C4. Plan for lead infrastructure

Planning for new infrastructure ahead of a new housing development can provide many benefits.

This is known as 'lead infrastructure' and it can shape a new growing area, make it easier to provide enough infrastructure capacity, and give certainty to developers. Arterial road networks and rapid transit networks are key examples of lead infrastructure.[87,88] If these networks are not protected or provided for in advance of housing development, it can be difficult if not impossible to provide them later. This increases the likelihood of future problems such as traffic congestion, a lack of good public transport and a lack of walking and cycling options.

Yes this is important in relation to cycleways and walkways. If these do not go unimpeded from housing areas to business/shopping areas then they will not be used. This is especially the case for encouraging students travelling safely to schools via active transport. If there are busy roads to cross without pedestrian/cycleway lights, then parents will not risk their children walking/riding to school.

Discussion question Q22. Should a multi-modal corridor protection fund be established? If so, what should the fund cover?

Lead infrastructure planning provides for all transport modes and enables future choices.

Planning for lead infrastructure should be comprehensive rather than focused on a single type of infrastructure or a single mode of transport. There is a need to consider:

• The provision of rapid transit networks in existing and future urban areas, noting that the full delivery of these networks may not be needed in the near future.

• The reservation of corridors that can adapt to uncertainty in future needs. For instance, a long-term rapid transit corridor should be viable to deliver as a busway or railway line, or convert to other uses.

• The design of street networks to provide for current and future needs. For instance, street grids that distribute traffic across many routes lead to better long-term outcomes than street layouts that feed all traffic into a small number of major roads.[89]

These issues are not important if the shift is to active transport and public transport. It is important to restrict these infrastructure developments and having lead infrastructure funding available just makes funding for these large builds more accessible. The exception should be for modern electrified rail service.

Discussion questions 23 onwards

Many of these questions make the assumption that we need economic growth. This is completely non-sustainable and will need to be halted at some time. Why not now?

With that in mind the idea of infrastructure (including transport) required to promote GROWTH is a non issue. So our response to all further questions is: lets halt economic growth and instead replace it by increased wellbeing allowing future populations to thrive rather than having to compete for ever-limited planetary resources.

Discussion question Q35. What could be done to improve the productivity of the construction sector and reduce the cost of delivering infrastructure?

Lets reduce GHG emissions rapidly in both travel and infrastructure build. Clearly the use of concrete and steel needs to significantly reduce, not by 5% but by 70% or more. We have plenty of timber, which mostly we seem focused on exporting. Concrete construction needs a sinking-lid quota system. And we can't just replace all our vehicles with EV's either because that will not help with congestion and the subsequent demand for roading infrastructure. Travel expectation must change completely.

Appendix: National Smart User Charging system as submitted to MOT Green Paper. Submission to the NZ Ministry of Transport on the Green Paper - Hikina Te Kohupara. **From: The Nelson Tasman Climate Forum (NTCF) Transport Group (excluding members from TDC and NCC) June 25 2021**

On a national Smart Road User Charging system.

This is the most leading-edge consideration for reducing traffic flows. The innovation capacity is almost ready, and already widely used in a different guise. Simple carbon tax added to excise duty is a blunt instrument and likely to be unpopular. Removal of subsidies, effectively the same thing, in other countries has often resulted in riots, as everyone is affected negatively on the same day, as would happen with a big petrol/diesel price jump. Smart charging can be brought in gradually as vehicles are upgraded, and the charging can be stepped for distance bands, engine emission rating (car type), included carbon taxes, fines and congestion charges, monitored continuously with GPS (becoming compulsory with time), and are all adjustable at source with time. Charging itself can be monthly to the registered owner of every vehicle, and itemised like a power bill now. EV's and fuel-cell cars may be exempt for distance charging for a while, but they cannot remain exempt. With one eye on the Just Transition, every vehicle could have a small free mileage per year, say 5km/day or 1500km per year. Average car mileage per year is known already via the WoF system, so squeezing the "average car mileage" down is a matter of Road Distance Charge bands, with high mileage getting charged very highly. This charge is also linked directly to the vehicle emission rating (engine type size and age), which could be very high for large ICE engines, and not small for hybrids with large ICE engines. The smart system would track every vehicle using it's digital ID and GPS, as already happens with traffic jam management in cities using cell phone movements. No need for number plate cameras beyond the short term. This system already tells the driver about the vehicle's speed and location, and the speed limit, in most new cars, so no need to identify the actual driver, just the vehicle. Congestion charges near urban centres or school zones would be simple to add and vary. Every private, business or govt vehicle journey would become directly chargeable, depending on many factors run by a simple algorithm, or App. We have the technology already. Currently RUC runs at about 7c/km for private vehicles. It is way too cheap, evidenced by the congestion in so many cities, and carbon tax can be included. This does not need to cost the Earth to bring in, but could cost the Earth not to. It could also easily become standardised worldwide. Existing RUC included in petrol would be taken out and separated into the App, and diesel

for all off-road use would have running hours chargeable to every engine by rating - construction, farming, industrial, mining etc. Off-road enforceability is a different question that needs attention. The system would need a functioning GPS system in every vehicle which includes the vehicle ID, and older vehicles can be brought in gradually and tested at every WoF. All the chargeable information would be held in a central system, accessible or held slave by each vehicle's App. Vehicles would need a zero or low balance to achieve a WoF. Old vehicles will also need exhaust testing at WoF time, with failures automatically written off. Any vehicles on the road strongly out of WoF for certain reasons would be impounded and scrapped, as scrapping older ICE vehicles will become a priority for this country. Given that transport emissions reduction will become more urgent very soon, involving necessary rapid public behaviour change, we think this system of smart distance charging etc, is the golden key to "45% reduction by 2030". This of course will be followed by "Net Zero (or even ZERO) carbon emissions by 2035". EV's are not the answer either, we cannot just replace all our ICE's with EV's. Soon there will be limited need for more roads anyway, just bus and bike routes and perhaps electric delivery vehicles.