

Submission by Transition Town Pt Chevalier on the Low-Emissions Economy Report 2018

General Comments

Transition Town Point Chevalier was established ten years ago to support a transition to a low carbon emission lifestyle. During this time, we have been active in establishing cultural practices, organising parallel economies, and providing education through workshops to help citizens make this transition. Meanwhile, we have witnessed the increasing carbon emissions within our suburb as mainstream culture has become more car dependent, more wasteful of resources, more engaging in air travel. We have discovered cultural, institutional and regulatory barriers to the transition we are trying to encourage.

This report may bring some a little way towards understanding the issues, but there is further work to do. A cross-party approach to the issue is critical, and so is a set of targets and pathways that will leave future generations with as many options as possible. We hope that the general direction of our following comments can be extrapolated to other parts of the 500-page report, and look forward to being able to comment on work from the Interim Climate Change Committee, including a new 'Zero-Carbon Act'.

In general, we seek action to reduce our carbon emissions, above and beyond how that reduction is reflected in NZ's ETS and international GHG agreements. There will always be flaws in schemes and agreements, but where, for example, international aviation eludes the schemes and agreements, that is not an excuse for excluding it from our action plan. New Zealanders, through aviation for travel and trade, contribute significantly to climate change, and many changes are required to reduce this. Similarly, improvements in land-use such as bringing native bush back to health, and implementing holistic grazing methods, are not recognised in international agreements for the carbon sequestration they provide. Yet NZ still needs to make these improvements.

We request that the government finds ways to consider the economy without focusing solely on the current agreements and schemes but more fundamentally: we have no economy if climate change is not checked. Therefore, we request that the strategy around climate change directly addresses the following points:

1. Export by air freight of New Zealand's produce is fundamentally polluting. Mechanisms must be established to make this uneconomic, even if it proves impossible to directly include international aviation in the ETS.
2. Export of raw materials rather than adding value first is a lost economic opportunity. At least for those products which are more efficiently shipped once they have been processed, laws and regulations must be established to require adding value before export.
3. Production of quality timber needs to be promoted; too many industries here are having to import good quality timber products while we export lumbar.
4. International tourism must be reduced, and while it is reducing, it must provide more government revenue than is planned. Air travel contributes to climate change, and short holidays are a big waste of scarce resources. Future oil prices will cause this industry to contract, so we need to prepare for its demise with cross-industry resiliency rather than relying on its income. Tourism in New Zealand is not supporting, through its profits, the environmental care needed to mitigate the intense use of the natural environment. In short, the government also needs to stop promoting tourism; one of the biggest barriers we have encountered to reducing air travel has been the relentless advertising and affordability of it. New Zealanders can be connected to the rest of the world via technology, and start showing respect for all the people in the world who cannot afford air travel and those already

suffering from the effects of climate change, by treating air travel as a once or twice in a lifetime treat.

5. Consumerism is a major factor in carbon emissions and pollution in general. We must directly address the issue that our negligent waste of resources does not provide a higher standard of living; instead it provides a more polluted environment and an unstable climate.
6. We must decouple the growth in production of material stuff from measures of 'success'. This means disposing of GDP as an economic measure.
7. We must restrict advertising of material goods. Advertising is the biggest contributor to unnecessary consumption. Its presence directly impacts our environment. With the digital age, it is now possible to find information about services and products easily, so the age of advertising for material goods can now end.

Terms of Reference

p i: "New Zealand's domestic response to climate change is, and will be in the future, fundamentally shaped by its position as a small, globally connected and trade-dependent country. New Zealand's response also needs to reflect such features as its high level of emissions from agriculture, its abundant forestry resources, and its largely decarbonised electricity sector, as well as any future demographic changes (including immigration)."

This paragraph reflects the unambitious targets set by the National government. While the targets cannot be changed in this report, mindset can be. Recognition of our privilege and responsibility to future generations is required to focus our response to climate change. We would suggest, for future reports, a statement more like:

"New Zealand's domestic response to climate change is, and will be in the future, fundamentally shaped by its position as a small, rich, naturally well-endowed country, that has already contributed to climate change with fossil fuel use, and with forest and soil destruction, and benefited economically in the process. New Zealand's response needs to focus on where we can make the most difference: in land-use, transport and consumerism."

p ii: "d. whether there are any barriers in New Zealand to undertaking domestic investment to reduce net emissions, and what the government could do to reduce or remove these barriers ((e.g. green bonds, public private partnerships, risk-sharing finance, climate-related disclosure requirements))"

We disagree that 'public private partnerships' and 'risk-sharing finance' should be mentioned here: If it's worthwhile doing, it's worthwhile that the NZ government and taxpayers invest in it. Profits to private investors add to the total cost to NZ taxpayers in the long run. PPP's also work to reduce the cost to NZ taxpayers today, putting those costs onto future NZ taxpayers. This is irresponsible. Future generations will face many costs due to climate change and our continued environmental degradation; reducing those costs needs to be a core principle of our Low Carbon Emissions Economy.

Government could also act to remove barriers to investment through legislation, taxation and coordination of research. Domestic investment to reduce net emissions will occur when the playing field is levelled. Legislating against carbon-emitting practices, taxing of polluters and emitters, and ensuring that research is widely available to all parties – not limited to key commercial stakeholder groups - is critical to enable low-carbon emission innovation to survive and low-carbon practices to compete fairly.

p ii: “f. how to maximise New Zealand's comparative advantages in a carbon constrained world, including the timeframes for any relative advantages from market premiums or market access risks.”

Does the government really want to include a statement about ‘relative advantages’ in an international crisis? Future generations may not judge so favourably. For future reports, we request balance: either remove mention of relative advantages or add points such as:

“how to contribute economically to assist other countries: those that have not benefited from carbon emitting activities to the same degree that we have, and those that do not have the same level of carbon sequestering options that we have.”

p iii: “Exclusions: This inquiry should not focus on the suitability of New Zealand's current, or any future emissions reduction target.”

We understand the need for this exclusion. However, we note that NZ has consistently failed to achieve any previous carbon emission targets, and that the National Government set the NZ carbon emissions targets at an irresponsibly high level. Given this situation, it is critical that the pathways to achieving any targets are rigorous, relying on certainty rather than technological optimism, with feedback mechanisms to change the scope, legislation, and specific details of the pathways at least on an annual basis. These poor targets must be the upper bound on carbon emissions. (The present Government must also take the first opportunity to alter the targets to a level that gives more options to future generations.)

Chapter 2 Climate change, emissions and the New Zealand context

Successive governments have decided to use an Emissions Trading Scheme instead of a Carbon Tax. We have yet to see the logic of this, nor have we seen any significant behaviour change or carbon emissions drop as a result of the ETS. The market value for carbon credits does not reflect the cost to the environment and society that carbon emitters are imposing, which must in turn reflect that the market has no expectation that real carbon emissions reductions will be imposed by regulation or pricing. One way that this impacts decision-making is in the use of the current carbon credit price in working out the costs of a project in its business case. Behaviour-modification and wise investment decision-making needs to consider the cost of carbon emissions correctly, and that is not happening. This is ‘politics by another name’; it strengthens the case for polluting industries to continue polluting, by allowing them to say, “Yes, we have included the cost of our carbon emissions” when they have not done so.

A carbon tax scheme puts far more power in the hands of the government to direct behaviour. Whether ETS or Carbon Tax, the government must be able to establish a feedback mechanism. They should set carbon emissions targets, measure, and adjust the ETS or Carbon Tax immediately, to ensure the carbon emissions targets are reached.

p40 “Allocations of NZUs differ depending on activities of each participant firm and are determined under the Climate Change Response (Moderated Emissions Trading) Amendment Act 2009. Emissions-intensive, trade-exposed (EITE) industries receive free allocations of either 60% or 90% of their requirements as determined by the Climate Change (Eligible Industrial Activities) Regulations 2010. Requirements are determined by multiplying the output of each EITE firm by the average emissions intensity of its industry based on data collected between 2006 and 2009. This system is designed to maintain the international competitiveness of New Zealand production and to prevent emissions leakage.”

A system designed to maintain international competitiveness of NZ production by free allocations of carbon credits is fundamentally wrong, and involves subsidy to polluting industries. NZ's climate change response is failing to provide a level playing field for innovators in low carbon emitting industries. They cannot compete against subsidised polluters. If NZ does manage to lower its emissions despite this inequity, it will only be because the general tax-payer and low emissions industries are subsidising the big polluters. This cannot continue.

If big polluters are so very important to our economy, then that is because they are generating income. From that income, they can pay fairly for the costs of mitigating their pollution, not be given free allocations. By saying that we must subsidise them with free allocations, it is an admission that they are not important to our economy; rather we, the current taxpayers and future citizens impoverished by climate change and pollution, are financially important as subsidisers of their business.

This must change. Show us an ETS scheme that is fair, and we will consider it. Until then, simple taxation of carbon emissions and of pollution, adjustable with feedback mechanisms so we can meet targets and clean up our environment, seems worth the cost of switching systems.

Chapter 10 Land Use

Urban sprawl is a poor use of land, vastly reducing the carbon sequestration potential of farmland to that of suburbia. All of our cities and town are too sparsely populated and too ecologically damaging, and a big mindshift needs to happen to reduce their ecological footprint. The first step, is putting in place solid boundaries around our cities to prevent further sprawl. Any policy that allows Waikato and Pukekohe farmers to develop their farmland into suburbia is a bad policy. This land is doubly crucial to remain as productive farmland simply because of its proximity to the city and markets. Food must be grown close to where it's consumed to reduce carbon miles. We have enough brownfields sites in our cities to provide for ecologically-minded growth.

Chapter 10 is missing this important aspect of land use and how land use is intricately connected with transport, while Chapter 15, The Built Environment, skims over the issues.

p 244 Carbon sequestered in soils

This section is well written. The ideas of Allan Savory, Stan Parsons and many others in holistic grazing techniques that sequester carbon (and that improve the world's capacity to produce food by improving soil), need to be adopted more widely here. The report raises the important point that

p 244 "No credit is given in international GHG accounting, or in the NZ ETS, for increasing soil carbon within an existing land use"

We see three possible responses to this:

1/ Use these techniques, if possible, by changing the land use category from pasture to mixed use. This is ideal, in any case, as best land-use practices involve dovetailing agriculture, forestry and horticulture, so that the outputs from each can be the inputs of the others. The nitrogen-heavy outputs from agriculture are only an emission or pollution problem because the agriculture has been treated as a stand-alone operation. Tied with forestry and horticulture, the nitrogen is a resource.

2/ Work at an international level to achieve change in the GHG accounting policies to properly reflect the best evidence: carbon-sequestering improvements can happen within pastoral land-use.

3/ In any case, international GHG agreements should not preclude the use of good carbon-sequestering methods, so NZ needs to promote holistic grazing anyway.

p 245 “Agricultural emissions have risen, mostly due to dairying and use of nitrogen fertiliser. Between 1990 and 2015, agricultural emissions rose by about 16%, largely driven by the intensification and growing overall volume of dairying as well as by the increasing use of synthetic fertilisers. With a larger number of dairy cows and more intensive production, emissions from dairying rose by 130% over this period. This increase was partially offset by lower beef and sheep emissions, mainly due to herd numbers dropping. As a result, CH₄ emissions from enteric fermentation only rose by 5%, between 1990 and 2015 (Figure 10.8). A fivefold increase in the use of nitrogen-containing fertilisers helped contribute to a 51% rise in N₂O emissions (MfE, 2017f). Increasing fertiliser use has contributed to gains in farm productivity. But it has also generated greater nitrate leaching (section 10.8).”

Yes, and the effect of importing fodder for cows, such as palm kernel, from off the farm, is that it treats the farm as a ‘factory on grass’ instead of an ecological unit. A traditional farm involves cycling of resources within the ecological limits of the land and water systems in that location. Any economic suggestions that depart from this traditional farm approach, in order to ‘increase productivity’, need to work within the ecological limits of the land and water systems. This is what has been lacking in NZ agricultural planning. The government must not support, and must disincentivise through penalties and tax, any land-use that requires off-farm inputs (beyond trace elements), whether that is irrigation, fodder, imported fertilisers or chemicals. Similarly, the government must not support, and must disincentivise through tax and penalties, any land-use that produces emissions and pollution into the wider eco-system.

p 248 Other farm practices to lower emissions
Applying nitrogen inhibitors, such as dicycandiamide (DCD), to pasture has the potential for minor N₂O reductions in aggregate. The cost of emissions reductions, at roughly \$650 per tonne of N₂O, makes DCD use economically viable for only a small proportion of dairy farms (Reisinger et al., 2016). In any case, DCD sales ceased after traces of the compound were found in milk product. The product is currently unavailable in New Zealand. Given its high price, if DCD was reintroduced to the market, it would be more likely used to mitigate both emissions and nitrate leaching rather than for emissions alone.

The use of nitrogen inhibitors takes the human impact on ecological systems to a new level of abuse. There is no place for it in appropriate land-use decisions. It is a block to receiving feedback from nature. If there is excessive nitrogen runoff from pasture, that is a signal to reduce nitrogen production and increase natural nitrogen uptake through natural mixed-use land uses. The government must outlaw DCD and any product designed to inhibit nitrogen. Poor agricultural practices must be stopped, not mitigated with worse practices.

p 251 “Mature native forests cover 29% of New Zealand’s land area, while a further 8% is planted in commercial forests. 94 For the purposes of GHG emissions accounting, mature forests that replenish themselves naturally, and commercial forests that are harvested and equivalently replanted, are carbon neutral (on natural forests see Holdaway et al., 2016).”

Forests may sequester carbon but clear-felling can result in such erosion damage that a lot of that soil carbon is then lost. NZ native forests could sequester much more carbon if they were nursed back to health, and the biodiversity benefits of doing so are as important as the climate change benefits. Much of the current forestry or marginal land could also be returned to native bush with selective felling. Clear-felling also contributes to storm damage. We support the call of NZ Forest and Bird’s Chief Executive Kevin Hague:

“Our forests are an incredible resource. By getting rid of pests like possums and deer, which are destroying our forests, we could increase the amount of carbon being stored both in our trees and in the forest soils. Healthy native forests and their soils are also our best protection against some of the impacts of climate change,” says Mr Hague. “By slowing the movement of water across the land, and soaking up greater amounts of water before it runs off, forests and their soils help reduce peak flood levels, and support river flows in periods of drought.”

<http://www.forestandbird.org.nz/what-we-do/publications/media-release/native-forests-and-land-use-changes-necessary-low-carbon-econo>

Conservation work to help sequester carbon, improve biodiversity, reduce flooding susceptibility, recharge aquifers, and provide resilience to climate change is required because of human activity that causes pollution, environmental degradation and carbon emissions. The government needs to find a way to fully fund the conservation work required, and to charge this work to polluters and carbon emitters rather than the general public, in order to bring about behaviour change.

p 256: “Exempting agriculture from an emissions price also places a disproportionately (and inefficiently) high emissions reduction burden on other sectors in the context of meeting New Zealand’s emissions targets, especially since agriculture accounts for such a large proportion of total emissions.”

Yes, agriculture must be included in the scheme. And so must housing development on greenfields sites, given its contribution to carbon emissions through both soil carbon sequestration opportunity lost and the carbon emissions produced through poor urban form and transport consequences.

Chapter 11 Transport

p 281: “New Zealand’s transport system is dominated by private road transport. Compared to other developed countries, vehicle ownership rates are high, public transport use is low, and the vehicle fleet is old with poor fuel economy. Rapid population growth and a decline in prices for fossil-fuel vehicles has caused the vehicle fleet to greatly expand.

As a result, New Zealand’s transport emissions have risen more than any other emissions source since 1990. Road vehicles were the primary driver of emissions growth and contribute the vast majority of transport emissions. While significant scope exists for reducing transport emissions, the development and uptake of transport technologies is uncertain.”

This is incorrect. Increases in road capacity, and poor transport planning, has been the cause of our rise in carbon emissions in the transport sector. In other cities, population growth has not been accompanied by a rise in traffic volumes, eg Seattle grew 21.3% in population since 2006, traffic volumes decreased by 3.3%, and transit ridership increased by 41.8%. Similarly, between 1993 and 2017, Vienna’s population increased by 22%, while its private vehicle mode share dropped from 40% to 27%.

It is incorrect to say that population growth is the cause, and it directs the report to the wrong conclusions. Duranton and Turner have established that vehicle kilometres travelled (vkt) rises proportionally with road capacity. Adding road capacity and failing to invest in other modes is where NZ has failed. The report needs to acknowledge this, so that the logical consequences in terms of our options now are clear.

These paragraphs should be amended to say something like:

“New Zealand’s transport system is dominated by private road transport. Compared to other developed countries, vehicle ownership rates are high, public transport use is low, and the vehicle fleet is old with poor fuel economy. Investment in road-building, poor urban planning, under-investment in other transport modes including rail freight, public and active transport mode infrastructure, has resulted in increased vehicle kilometres travelled (vkt).

As a result, New Zealand’s transport emissions have risen more than any other emissions source since 1990. Road building was the primary driver of emissions growth, and road vehicles contribute the vast majority of transport emissions. Significant scope exists for reducing transport emissions through good planning to reduce vehicle kilometres travelled, largely through road capacity reductions. The development and uptake of transport technologies may also assist, but as it is uncertain, it cannot be considered a reliable opportunity.”

“Adoption of electric vehicles (EVs) represents the most significant opportunity to reduce transport emissions in New Zealand. EV uptake is rising, though price remains a key barrier, as well as the limited travel range of EVs. Fast uptake will be critical to achieve a low-emissions economy. For the bulk of light vehicles to be electric by 2050, nearly all vehicles entering the fleet would need to be EVs by the early-2030s. To encourage the uptake of low-emission vehicles, the Government should introduce a price feebate scheme, lead on procurement, and continue to support the development of the charging network.”

For heavy vehicles, aviation and shipping, electrification is more challenging. Hydrogen vehicle technology is developing and could provide a useful alternative to EVs. Biofuels have the potential to deliver significant emissions reductions for these modes. Yet, commercial, technology, and coordination barriers pose challenges to the large-scale production of biofuels.

Measures to reduce emissions from fossil-fuel vehicles are important since a transition away from these vehicles will take decades. New Zealand is one of the few developed countries without vehicle emissions standards. Introducing standards is warranted, and will reduce the risk of New Zealand becoming a dumping ground of high-emitting vehicles from overseas. The Commission also seeks feedback about how New Zealand should achieve a widespread transition away from fossil-fuel vehicles.”

Reduction in emissions due to a shift to EV technology is a nice-to-have bonus, but has few co-benefits. The rise in emissions has come about because of investment in roads and underinvestment in public transport, rail, cycling and walking. Accompanying the rise in emissions has been the rise in deaths and serious injury (DSI), poor urban form, poor access, safety, and perceived safety, car dependency, social and public ill health, waterway pollution, etc. Reallocation of road space and investment to bring about mode shift is the best approach to reduce emissions in transport, because it reverses ALL these negative trends.

The uptake of EV technology is also uncertain. Our climate change response must not rely on optimistic reliance on new technology uptake. During the time that adoption of EV has been a mainstay of NZ’s transport policy for reduction of carbon emissions, bus companies in Auckland have made almost no shift to electric vehicles, and Kiwirail has decided to replace electric vehicles with diesel locomotives.

Here is an alternative we support:

“Adoption of electric vehicles (EVs) represents an opportunity to reduce transport emissions in New Zealand, but a minor one. Reduction of carbon emissions through the reduction of vehicle kilometres travelled is far more important than a strategy to increase EV’s, as the former is

accompanied by a corresponding reduction in deaths and serious injuries, car dependency and improvement in access, safety and perceived safety, social and public ill health, urban form, etc. The adoption of EV is not accompanied by these co-benefits.

Moving a vehicle requires energy: if this is electricity and there is no reduction of vkt, more of NZ's electricity production will be used in the transport sector, which may result in other sectors not being able to shift to using renewable electricity. Our carbon emissions policy must have robust pathways based on proven technology. Hoping for EV uptake without a serious focus on reduction of vkt could very easily lead to the demand for more power stations. EV uptake may be a 'nice-to-have' bonus, but must not form the backbone of transport policy to reduce carbon emissions.

EV uptake is rising, despite price remaining a barrier, indicating the public's willingness to adopt the technology. For the bulk of light vehicles to be electric by 2050, nearly all vehicles entering the fleet would need to be EVs by the early-2030s. It is important there is no investment in private vehicle EV-uptake by the government, as carbon reductions via reduction of vkt is a more valid recipient of government funds, due to the multiple co-benefits involved.

Heavy vehicles provide another obvious opportunity for reduction in carbon emissions. A priority is replacing NZ's diesel buses with electric buses as soon as possible. The government must provide roading authorities with the power to direct operators to change to electric buses. Similarly, Kiwirail must reverse its de-electrification decision and complete electrification of the entire network. At the same time, a comprehensive shift for freight from road to rail will justify the complete electrification of the network, while providing massive safety and access co-benefits for New Zealanders.

For aviation and shipping, electrification is more challenging. The relatively low carbon emissions from shipping compared to aviation dictates policy that favours shipping for our trade.

Uncertain and emerging technology such as hydrogen vehicle and biofuels cannot be a part of NZ's Low Carbon Emission Economy strategy. We have failed to meet previous emissions targets due to reliance on such optimism.

Measures to reduce emissions from fossil-fuel vehicles are important, but a transition away from these vehicles does not need to take decades. New Zealand is one of the few developed countries without vehicle emissions standards. Introducing standards is warranted, and will reduce the risk of New Zealand becoming a dumping ground of high-emitting vehicles from overseas. By introducing stringent standards for vehicle emissions while also investing in public and active transport mode infrastructure to ensure a significant mode-shift occurs, New Zealand can quickly reduce the numbers of fossil fuel vehicles on its roads."

p 281: "Inadequate pricing of vehicle externalities (including emissions), and the land transport funding system skewing investments towards roading, stifles the potential for mode shifting and leads to excessively high vehicle travel and inefficient vehicle choices. Levelling the playing field for infrastructure investments and more cost-reflective pricing of vehicle externalities, would help to better support low-emission modes of transport. A key recommendation is to focus the Government Policy Statement (GPS) on Transport more on reducing emissions."

We agree with this statement, but would go further. At this point in time, NZ's transport infrastructure has been over-allocated to the use of private vehicles. A transport network that supports a low carbon emission economy will be characterised by infrastructure for public and active transport modes. To achieve this, our choice is clear: there must be no more investment in

roads for the use of private vehicles. Every transport investment must involve reallocation of road space to public and active transport modes.

p 285: “In addition to producing GHG emissions, the use of road vehicles has led to several other costs not fully borne by the user (section 11.8). External costs from road transport include traffic congestion, air pollution from harmful exhaust gases (eg, carbon monoxide), noise pollution, and road fatalities and injuries.”

Yes, plus the external costs of poor access, poor urban form, poor land-use (eg space inefficient cars require wide roads and much land given over to parking), poor public health due to lowered activity levels, poor social health due to less social connection during travel and less connection due to the sprawl-related poor urban form.

p 286 The potential for autonomous vehicles to transform New Zealand’s transport system

While autonomous vehicles could reduce parking requirements for vehicles, they will most likely induce increased ‘vehicle kilometres travelled’. Amongst wealthy private owners they are likely to double vkt, or even more, as the owners would return the vehicles to their parking spot at home after each use. For other users who use the vehicles like a taxi service, the vkt will still be increased as a simple trip will now include the trip for the vehicle to reach the client and later to find a parking spot, potentially at a distance. Public and active mode transport forms the backbone of an effective transport policy of a Low Carbon Emission Economy; autonomous vehicles are superfluous or destructive to such a policy.

p 317 Levelling the playing field for transport investment

“... Any assessment method will involve important values judgements. Transport infrastructure can have a strong effect on location choice for people and businesses over time, which poses a challenge to conventional economic assessment methods that focus on short-run impacts and put heavy emphasis on travel time savings”

We appreciate this being raised in the report! Let us be quite clear: the NZTA process for calculating travel time savings for new road projects is flawed. We can back this up: Analysis of the Waterview Connection revealed that new trips due to the increased roading capacity were not put into the “project” scenario, the “project” and “do minimum” options were loaded with the same number of “person trips”. This means that the analysis cannot reflect the increased travel times in the “project” scenario due to the induced ‘newly created trips’. NZTA have confirmed in an OIA response that this is what they always do:

“It is industry standard that newly created trips are the least likely response to new infrastructure and it is not normal practice to include them... The Transport Agency is not aware of any models or projects that include newly generated trips in addition to other induced traffic.”

There are multiple problems with the NZTA modelling process, but this is a major one. Until it is fixed, no economic assessments should be allowed to consider the travel time impacts. In addition to being calculated from erroneous traffic models, the saving of a few seconds or minutes of travel time is irrelevant to most people. Breathing fresh air, having a socially healthy commute, being able to swim in water not slick with road runoff, feeling like it’s safe to send the kids off to the shops by bike, and of course, not contributing to climate change, is far more important. Travel times could be a useful factor in a good economic model, but only when they are calculated well, and only when all the externalities are included.

NZTA's poor modelling has been 'politics by another name'; it has severely skewed the business cases and resulted in massive road building projects that have, in turn, resulted in induced traffic and car dependency, creating the carbon emission problems in transport that we now face.

To balance NZ's transport infrastructure for the different modes, it is now important that no increase in road capacity is made, whether by public or private investors. Catch-up is now required for public and active transport modes, including safety for vulnerable road users, and investment needs to be targeted towards the road reallocation that is required for this.

Reallocation of both road space and funding to other modes is the biggest opportunity for carbon emission reductions in the transport sector.

Chapter 14 Waste

p 364 "New Zealand has the highest waste emissions per person in the Organisation for Economic Co-operation and Development (OECD)"

p 372 In comparison to other developed countries, New Zealand is unusual in not reducing its waste emissions over recent decades. For example, between 1990 and 2016, UK waste emissions decreased by 70% ... and in Germany, waste emissions reduced by 72% over the same period ... Waste emissions also fell by 46% in Australia between 1990 and 2015"

We must conclude, then, that our legislation (Resource Management Act (1991), Climate Change Response Act (2002), Local Government Act (2002), Climate Change Response (Emissions Trading) Amendment Act (2008) are insufficient. The report then comments on Europe's waste emissions reductions:

p 372 "Much of this reduction can be attributed to policy intervention. In the European Union (EU), waste emissions are not included in the European Union Emissions Trading System (EU ETS), but are instead managed through the Waste Framework Directive. This framework establishes a waste-management hierarchy where prevention is the preferred option, followed by re-use, recycling and other forms of recovery, with disposal such as landfill being the last resort."

Yet the report then completely ignores using a similar mechanism, and limits our opportunities:

p 374 "this section outlines the six most important opportunities to reduce emissions from waste in New Zealand. The first addresses the substantial uncertainty regarding waste-related emissions data in New Zealand. The following three opportunities relate directly to specific types of waste disposal facilities, while the final two are more cross-cutting opportunities across multiple types of waste. These opportunities also recognise that New Zealand is unlikely to radically move away from landfill as a waste disposal method in the near future. As a result, prioritising mechanisms to reduce landfill emissions is important."

Of course New Zealand is unlikely to radically move away from landfill when proven strategies from overseas are ignored. Strategies to reduce waste at source could have formed an entire 500 page report in themselves, yet here are less than 100 words of no import. Also, where are the sections on re-use, recycling and other forms of recovery?

p 365 "The correlation between economic growth and the amount of waste generated is well-known, despite attempts internationally to "decouple" this relationship"

Where, then, in the report is the suggestion that economic growth be reduced? Despite the “Limits to Growth” being well understood, economic growth continues to be considered a public good. It is not. Resource use, waste volumes, water pollution, carbon emissions all rise with economic growth. A responsible strategy requires the removal of GDP as a useful measure of economic health.

p 383 14.6 The future of waste

“The three key principles of the circular economy are to design out waste and pollution, keep products and materials in use, and regenerate natural systems ... [this] requires a comprehensive examination of policy frameworks so that regulatory barriers can be removed ...[including] legislative gaps, incomplete implementation or enforcement of legislation, and conflicting legislation (such as hygiene issues in relation to food waste) ... [in New Zealand] it is unclear whether any significant legislative conflicts as regards the circular economy require policy attention in New Zealand. A lack of knowledge of circular economy business models has also been identified as a barrier ... Establishing a stable climate policy regime will help to overcome this market failure”

Despite the benefits of a circular economy, and these barriers to its establishment being mentioned, there are no recommendations in the report to remove these barriers and establish a circular economy. In short, Chapter 14 on Waste is substandard.

Our landfills, resource wastage and carbon emissions will sink future generations into poverty and misery. We welcome a complete change of direction from the new government in terms of waste strategy. This must include:

- Immediately setting up pilot schemes for waste minimisation that build connected, sustainable and resilient communities.
- Establishing recycling facilities for all our recyclables in New Zealand, and stopping all shipping of waste to other countries. Given the recent changes in China’s acceptance of waste materials, this is urgent. We need to work towards high-quality recovered materials by minimising contamination.
- Establishing super-local composting, and stopping the trucking of organic waste to landfill or industrial-scale anaerobic digesters.
- Establishing repair and re-use facilities.
- Legislating for container deposit schemes (CDL).
- Legislating to require cradle-to-grave production, product stewardship, and minimal secondary packaging.
- Legislating to require recycling of demolition materials and industrial waste.
- Incorporating Te Ao Maori teachings and participation of manawhenua/mataawaka in waste minimisation planning and initiatives.
- Phasing out landfills within 10 years.
- A NZ-wide all-sector education campaign about strategies for reducing economic growth while improving happiness and health, reducing consumerism, waste minimisation, the need for recycling strategies, and why landfills are not part of a sustainable future.

Waste has been ignored too long in New Zealand. Our descendants deserve much better.

Chapter 15 The Built Environment

p 394: “Increasing the density of urban areas, combined with good public transport and accessibility, can reduce vehicular travel and emissions. But intensification of this nature

has proven difficult to accomplish and runs counter to the living preferences of many New Zealanders. Urban planning policies are likely to take many years to achieve significant increases in density. By then, reductions in vehicle emissions may have already been achieved through advances in low-emissions transport.”

Chapter 15 seems to exist to rationalise the National Party’s roads-first priorities. It pits research into ‘preferences’ (which is irrelevant in a country where options have been extremely limited) against robust research, and dismisses good input from submitters to the inquiry too quickly. It reads as a political opinion piece.

NZ’s statistics of car dependency, car ownership, vehicle kilometres travelled and transport-related carbon emissions can be traced back to the core concept of poor urban form, but it appears the writers of this report wanted instead to rely on new technology in low-emissions transport. That doesn’t make all the other problems associated with sprawl disappear.

“While there is evidence that links higher density urban areas with lower vehicular travel, policies that seek to encourage higher-density development can involve significant costs. For example, the Commission’s inquiry into Better urban planning showed that urban limits used in Auckland to contain development within city limits have created an artificial constraint on land supply leading to higher land prices and less affordable housing. Zheng (2013) showed that residential land inside Auckland’s urban limit is almost 10 times more expensive than land outside the limit.”

What the report has failed to mention here is that the reason for the artificial constraint on land supply has been NIMBY restrictions to intensification. It even highlights the problem:

“The Commission’s inquiry into Using land for housing (2015) found that the largest contribution to intensification in Auckland between 2001 and 2013 occurred between 10km and 20km from the city centre. Inner city suburbs made a relatively subdued contribution toward intensification.”

but doesn’t delve into the reasons for this. Herne Bay’s high land costs would have led to intensification there had planning restrictions not intervened. Similarly, building small residences and co-housing is often economically unviable or simply too difficult in our planning system. Change to our planning policies must happen swiftly to allow intensification in our inner suburbs, more sustainable housing alternative like co-housing, and the addition of many smaller residences within the city.

Auckland’s 40 km of new roads each year (AT’s figures) increase carbon emissions through increased car dependency and vkt. We’re already finding it difficult to provide quality PT options to the existing low-density suburbs of Auckland. Providing even more suburbs on the outskirts instead of intensifying just makes this job more difficult. All those houses on the outskirts could have been provided within existing suburbs, increasing value-for-money in public transport provision there and making it much more feasible.

Only by ceasing greenfields developments and road capacity increases will planners and developers put effort into identifying the barriers that exist to brownfields development, and work to remove those barriers. The reduction in carbon emissions that would result from this mindset change could be massive.

Meanwhile, our own suburb, Pt Chevalier, is seeing increased vkt each year due to both commuters from further afield and increased car dependency here. Our children need safer streets, not streets

filled with traffic resulting from poor urban planning policies. Our suburb needs young adults living here, not just driving through as commuters.

Thank you for the opportunity to submit on this report.