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Low-emissions Economy
New Zealand Productivity Commission
PO Box 8036
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Via email: info@productivity.govt.nz

Low-emissions economy : Toyota New Zealand Submission

Attached please find Toyota NZ's submission on the draft report.

Our brands represent 25 percent of the New Zealand vehicle fleet. Toyota has been the market leader for 30 years in New Zealand. We take our responsibilities to customers and the environment, in New Zealand and globally, very seriously. This submission reflects our desire to play a leadership role, working with the Government, to shift New Zealand to a low-emissions economy.

We would be happy to meet with the committee to discuss any aspect of our submission.

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Yours sincerely

Alistair Davis
Chief Executive Officer

NEW ZEALAND PRODUCTIVITY COMMISSION
LOW-EMISSIONS ECONOMY DRAFT REPORT
Submission From Toyota New Zealand
June 2018

1. Toyota New Zealand welcomes the Productivity Commission's Low-emissions Economy Draft Report. We congratulate the Commission on what we think is a very comprehensive and sound report on the subject. Our submission is largely confined to suggesting some enhancements to the suite of proposals currently considered in Chapter 11 on Transport. We would be pleased to meet with the Commission to discuss our submission.

Toyota New Zealand

2. We are a wholly owned subsidiary of the Toyota Motor Corporation of Japan and have been operating in the New Zealand market for over 50 years. There are now nearly one million registered Toyota and Lexus vehicles in New Zealand. Our brands represent 25 percent of the vehicle fleet. Toyota has been the market leader for 30 years in New Zealand. Last year we had 33,000 new vehicle sales, the highest sales of any brand by a very significant margin. Toyota vehicles also represent a significant share of used vehicle imports entering the New Zealand fleet each year.
3. We take our responsibilities to customers and the environment, in New Zealand and globally, very seriously. We are a company that believes a better tomorrow starts today, and that if you can dream it, you can do it. We also believe in trying to make a difference and going the extra mile. This submission reflects these beliefs.
4. Toyota Motor Corporation has made a commitment to sustainability which establishes six challenges, including one to eventually produce all new vehicles with zero CO₂ emissions. In pursuit of this, by 2050 Toyota aims to reduce CO₂ emissions of its vehicles by 90 percent in comparison with 2010 levels. This, together with the other five challenges demonstrate the company's very strong global commitment to sustainability.
5. In New Zealand, we seek to be recognised as an environmentally responsible company and are actively pursuing the achievement of the Government's COP 21 target of a 30 percent decrease in the 2005 GHG levels by 2030. With transport emissions accounting for nearly 20 percent of New Zealand's profile, it is critical that the transport sector be part of any future solution. Both Toyota and Lexus brands are tracking to achieve this challenge through the availability of lighter, more aerodynamic vehicles as well as more energy efficient powertrains (including petrol electric hybrids, plug-in petrol electric hybrids and fully electric vehicles).
6. The pursuit of a low-emissions economy in New Zealand is consistent with Toyota's own strategic intentions and beliefs. We want to work with the Government, our customers and industry partners to be part of the solution rather than a source of the problem in New Zealand.

Long-term clarity and stability will be a key to success.

7. We strongly endorse the Commission's call for stable and enduring laws and institutions. Clear, sound and long-term policy and regulatory stability will be critical to achieving the

government's goals and its global commitments. This will also be critical to the business sector's ability to contribute effectively to these things.

8. The vehicle industry is a case in point. Our product life cycles are 30 to 40 years from when product planning commences to the point at which a vehicle model will have effectively exited the fleet. Product planning decisions being made today will consequently have implications for several decades to come. A clear and stable policy environment is therefore more likely to secure alignment between government and business, and in turn, to achieve our shared goals for a low-emissions economy.
9. We agree with the Commission's recommendation 7.2 that the Government should seek to achieve a high level of political support and consensus for new climate change legislation, and the associated policy and regulatory settings. Without such consensus, long-term clarity and stability is unlikely to be achieved. We believe this recommendation needs to be emphasised as a critical foundation for success of any initiative in this domain.
10. As the Commission has noted, there are other areas where substantial political consensus has been achieved and endured over several decades, accepting that there may be changes at the margins between different governments.
11. *Toyota New Zealand encourages the Commission to consider how the issue of political consensus can be highlighted more strongly in its final report. One possibility would be to address this imperative as a separate chapter at the start of the report.*

A framework for thinking about transport emissions

12. For the purposes of our submission, we have thought about a framework for the transport system to achieve low-emissions as needing to address:
 - a. Strategies for ensuring low-emissions vehicles enter the fleet.
 - b. Strategies to influence demand and use of vehicles that are in the fleet.
 - c. Strategies to encourage the exit of high-emissions vehicles from the fleet.
13. In our submission we comment on the proposals included in the Commission's report, and suggest some other possible interventions having regard to this framework. We think there are policy interventions that the Government should consider which are currently not explored in the draft report.
14. We also note the need for a long-term road map that reflects a comprehensive and complementary suite of policy interventions. Care is needed to manage the risk of short-term and ad hoc expediency, and to minimize unintended effects on the most vulnerable in society. The design of future public policy settings needs to reflect the unique features of the New Zealand vehicle market, and to ensure comparative ease and simplicity in their application to minimise the risk of non-compliance. These are all factors we have had regard for in preparing this submission.

Incentives for ensuring vehicles entering the fleet have low-emissions

15. The Commission's report accurately reflects the unique nature of the New Zealand vehicle market. More than half the vehicles entering the fleet each year are used imports. In 2017 there were 177,634 used vehicles registered for the first time in New Zealand compared with 159,872 new vehicles. Used imports have played a critical role in driving up vehicle ownership levels in New Zealand over the last three decades, arguably making safer vehicles

more accessible to lower income households. Our low urban density and geography is also responsible for our comparatively high level of private vehicle ownership.

16. Addressing the ongoing impact of the imported used vehicle market must be a critical consideration for the Government. On the one hand, it would be difficult to now stop consumer access to such imports without having a serious and detrimental impact on lower income households. Toyota New Zealand would not support such an outcome. However, this feature of our market means that policies and incentives for vehicles entering the New Zealand fleet need to be designed quite differently to countries where only new vehicles typically enter their fleet.
17. Vehicle selection or purchase is a decision made by the consumer, having regard to a range of factors that influence their choices. In recent years we note that Ministry of Transport statistics show New Zealand consumers have tended to buy larger vehicles as they have become more fuel efficient. Vehicle choices could be influenced by supply or demand side interventions. We believe a combination of both will be required to reduce the emissions profile of the transport system. We also believe that policies that influence demand side (consumer) behaviour are more likely to lead to enduring change.
18. Toyota New Zealand contends that:
 - a. A feebate scheme like that outlined in the Commission's report is best suited to our market. It should be applied to all vehicles entering the fleet (i.e. including used imports) and because of our unique market conditions, should be used in place of emissions standards that are common in other jurisdictions.
 - b. A maximum age for imported vehicles would be a simpler and more easily applied supply side intervention to encourage importation of newer (lower-emissions) vehicles. It would be a comparatively simple way to change the emissions profile of used vehicles entering the fleet, provided it is applied with other interventions to influence consumer preferences for lower-emissions vehicles.
 - c. Fuel prices may be a more significant determinant of consumer behaviour than the Commission concludes and further consideration should be given to ensuring these prices reflect the true cost of their environmental impacts.
19. In this next section of our submission we address each of these points. We also consider the Commission's question 11.1 about whether to explicitly aim to phase out the importing of fossil-fuel vehicles by some specified date.

A Feebate Scheme is preferable to an Emissions Standard

20. We think there is considerable merit in a feebate scheme as the means of sending a clear signal to consumers about the merit of buying low-emissions vehicles. Such a scheme is more likely to generate the desired outcomes than an emissions standard would, in a New Zealand context.
21. While emissions standards are applied in most other developed countries, their markets typically have only new vehicles entering the fleet, supplied by a small number of companies connected to the original vehicle manufacturers. We think it would be problematic for New Zealand to have such a scheme without it also applying to imported used vehicles (which make up over 50% of the annual additions to the nation's vehicle fleet). Consumers would otherwise be incentivised to purchase imported used vehicles in preference to new ones, resulting in a perverse outcome for New Zealand.

22. The suppliers of new vehicles import a range of models that allow them to achieve a weighted average of emissions over time. This type of scheme is likely to be much more difficult to apply with the large number of smaller businesses who import used vehicles (as noted in the Commission's report), often supplying to target segments of the New Zealand market. The Commission's report acknowledges that suppliers could overcome these issues by grouping together in a pool, but this would increase the complexity and cost of such a scheme.
23. We believe administering such a scheme with used imports would also have significant compliance and enforcement difficulties (and costs). A scheme of this type would be hard to apply to low volume importers, or 'one-off' imports. It's conceivable that such difficulties could see commercial practices or arrangements emerge to avoid capture of used imports by an emissions standard.
24. A feebate scheme could, however, be designed to achieve the same objectives that emission standards are used for in other countries. It would reflect the unique nature of our market and avoid some of the difficulties and complexities of an emissions standard. Such a scheme, if applied to both new and used imported vehicles, would incentivise suppliers and consumers to adopt lower-emission vehicles. Consumers would also not be able to buy near new used imports as a way of avoiding the fee that might be payable on the same new (higher emissions) vehicles purchased in New Zealand.
25. A feebate scale and emissions benchmark could be applied over time, in much the same way that a limit curve is applied with an emission standard. That is, the scheme could be designed to increasingly incentivise lower-emission vehicles as manufacturing standards progressively improve. The comparative simplicity of a feebate scheme means that all vehicles would be captured at their point of import to New Zealand. So, such a scheme is likely to be simpler, more effective, and less costly to apply than an emissions standard.
26. We also believe that a feebate is more likely to shift consumer attitude and influence long-term preferences for lower-emissions vehicles.
27. *Toyota New Zealand encourages the Commission to reconsider its recommendation 11.1 proposing that the Government should introduce CO₂ emissions standards for light vehicles. We recommend that a feebate scheme is designed to reflect the unique nature of the New Zealand market and to achieve the same objectives as an emissions standard.*

A maximum age for vehicles being imported to New Zealand

28. A complementary measure to a feebate scheme would be to establish a mandatory maximum age for used vehicles that can be imported. This is relevant because used vehicle imports are such a significant proportion of vehicles entering the New Zealand fleet, and they have such a significant impact on the age and mix of our fleet.
29. As the Commission's report notes, the average age of the New Zealand light vehicle fleet is growing older. Ministry of Transport statistics¹ show that in 2016 the average age was 14.1 years, up from 11.8 years in 2000. Seventy five percent of the light fleet was manufactured before 2009. The aging of the fleet has been largely caused by used imported vehicles, with the average age of these vehicles when they enter the fleet steadily getting older. In 2016

¹ <https://www.transport.govt.nz/assets/Uploads/Research/Documents/Fleet-reports/The-NZ-Vehicle-Fleet-2016-web.pdf>

the average vehicle age of imports entering the fleet was over nine years old. This was the oldest average age since 2000. In 2016 there were more imported used vehicles manufactured in 2005 (i.e. 11 years old) than vehicles imported for any other year of manufacture.

30. Newer vehicles of an equivalent size and engine capacity to older ones will tend to have lower CO₂ emissions. The risk of being injured in older vehicles is also higher² as they typically have fewer safety features. There are potentially significant benefits from reducing the average age of the fleet over time, provided the size or mix of vehicles being purchased is not larger. We note Ministry of Transport analysis³ suggests that lowering the age of the fleet would not reduce CO₂ emissions because New Zealand consumers have tended to buy larger vehicles as they have become more fuel efficient. The Ministry's position appears to assume that past consumer preferences will not change over time. We don't agree with that assumption.
31. One way of influencing the age of used vehicles entering the fleet is by setting a maximum age at their time of importation. That maximum age could be set and periodically adjusted if the government sought to progressively lift the expectations (in relation to emissions) for used vehicle imports. Again, such a policy would be easy to administer, but would need to be carefully managed with the used vehicle import sector and consumers to avoid perverse outcomes, especially at any stage where the maximum age is reduced.
32. A maximum age for imported vehicles may not change the size or mix of vehicles entering the fleet, but when combined with other potential policies (like a feebate scheme) to influence consumer preferences, the effect on the emissions profile of the fleet could be significant.
33. *Toyota New Zealand encourages the Commission to recommend a maximum age for imported vehicles be adopted with the objective of progressively reducing the average age of the New Zealand light vehicle fleet.*

Fuel prices should reflect true cost of their environmental impacts to influence consumer behaviour

34. Based on international patterns we have observed, consumer choice about vehicles is influenced by fuel prices more than is acknowledged in the Commission's report. We believe New Zealand consumers would make different choices if the price of fossil-fuel more accurately reflected its full cost including the environmental impacts of emissions, and if there were complementary measures to encourage the purchase of lower-emission vehicles.
35. It is interesting for us to note the global trends in the uptake of Toyota and Lexus hybrid technology. In Japan 47 percent of sales are now hybrid vehicles. Europe is 30 percent. New Zealand is only four percent, and the USA is ten percent. Many factors are likely to have influenced consumer choice in these markets, but we believe relative fuel prices is an important factor.
36. The Commission's report notes the apparent level of price inelasticity for fuel in New Zealand and that meaningful changes in price could in turn drive changes in vehicle choice. The Commission could, we believe, adopt a firmer stance in its report on the importance of

² www.transport.govt.nz/assets/Uploads/Research/Documents/NZ-Vehicle-fleet-fact-and-fiction-2017.pdf

³ www.transport.govt.nz/assets/Uploads/Research/Documents/NZ-Vehicle-fleet-fact-and-fiction-2017.pdf

pricing transport emissions. When combined with the complementary measures mentioned in this submission, we think consumer choices would be different and this factor could significantly impact the mix of vehicles entering the New Zealand fleet, particularly over the next decade or so until a national road pricing scheme could be fully implemented (we will discuss this below).

37. Sixty five percent of new vehicles entering the fleet are purchased by companies that will hold the vehicles for around three years before reselling them. Companies will be interested in the full cost of ownership. These newer vehicles tend to travel more kilometres per year, so fuel costs will typically be an important factor in the decision for a company. Many larger fleet buyers are now also more likely to be concerned about environmental sustainability, so appropriate fuel pricing will help incentivise their decision to acquire lower-emission vehicles.
38. Imported used vehicles are more likely to be purchased by smaller businesses or people for their private use. In these instances, we accept that the initial capital price is more likely to be the key determinant of their choice rather than the full cost of ownership. However, when combined with a feebate scheme, a stronger fuel cost signal is likely to significantly influence consumer choices in similar ways to those we observe in other markets.
39. We acknowledge that higher fuel prices may have a disproportionate impact on lower income households and that distributional equity policies should be considered to ensure adverse impacts are avoided for the most vulnerable in our society. This consideration demonstrates the importance of careful and comprehensive policy design before such policies are implemented. Further research on these issues would be desirable to support well informed policy design.
40. *Toyota New Zealand encourages the Commission to recommend further research and consideration of how fuel prices could be used to encourage the uptake of lower-emission vehicles and how the effects on low income households could be mitigated.*

Explicitly mandating a date to phase out the importation of fossil-fuel vehicles

41. As mentioned earlier, the Toyota Motor Corporation has set itself a challenge to build new vehicles that have zero CO₂ emissions. By 2050 we intend to reduce emissions by 90 percent compared to 2010. The idea that an equally significant challenge should be adopted by the New Zealand Government has merit. Such a challenge might encourage longer-term planning and engagement with industry, consumers and citizens about how the challenge will be achieved. Such a challenge needs to engage and inspire citizens if it is to motivate changes in behaviours.
42. The difficulty in mandating a specified date at this time will be knowing whether the date is both feasible and realistic, especially as New Zealand is heavily dependent on technology developments in other countries. The current level of uncertainty about what is achievable may result in a specified date being controversial. So, some care is needed in designing an appropriate national challenge based on a sound understanding of what is feasible.
43. The ability of electric vehicles, for example, to help New Zealand meet the challenge of the fleet becoming totally fossil-fuel free is currently quite unclear at present. While we are very supportive of the Government's push to drive the uptake of electric vehicles, it would take several decades for such vehicles to become a potentially significant proportion of the fleet. For the foreseeable future, there are likely to be some real challenges in sourcing sufficient

volumes of new vehicles for the New Zealand market because of the pressure to supply other markets with limited global production of these vehicles. There are also significant challenges with infrastructure and whether battery technology has been developed to a level that will meet the needs of many vehicle users in New Zealand (for example, to power SUVs that are widely used for commercial and recreational purposes). Electric vehicles will be an important part of the light vehicle fleet mix in future, but the technology may not yet be sufficiently developed to allow confidence in mandating a date for phasing out fossil-fuel vehicles.

44. We think there may be lessons from other areas where the Government has worked with industry and consumers to affect transitions to new technologies. One example is the switch over from analogue to digital television which was made in the last decade. In that case, the Government worked with industry to incentivise the uptake of digital television through the public funding of the Freeview platform. The Government also signalled the ‘threshold’ of digital uptake that would trigger a decision about the timing and approach to analogue switch-off. Once a decision was made to proceed, a campaign called ‘Going Digital’ was launched to assist remaining consumers to transition. The evaluation concluded that this transition was successfully managed.⁴
45. The parallel for fossil-fuel vehicles could be to explicitly agree a target for the vehicle fleet to be zero emissions before a decision is made to mandate only zero emission vehicles. In this regard, it will be important to adopt a target that reflects the fleet mix rather than the annual sales going into the fleet. This would recognise the real uptake of technology and the practicality of mandating the phasing out of fossil-fuel vehicles. Government should engage with industry to determine the target and the policies and long-term plan that will support its achievement. The Commission’s comments on stable laws and institutions (as we commented on earlier) will be critical to achieving something that works for New Zealand.
46. *Toyota New Zealand proposes that a target percentage of the light fleet be set as a threshold for when the Government would then consider mandating a date for the phasing out of fossil-fuel vehicles, and that policies and plans be developed incentivising the achievement of that target.*

Incentives to influence demand and use of vehicles in the fleet

47. The real determinant of whether low-emissions goals can be achieved will be the extent to which future demand and use of vehicles in the fleet can be influenced. The nature and extent of vehicle use in New Zealand is heavily influenced by a range of characteristics that the Commission’s report acknowledges, both in relation to light and heavy vehicles.
48. While on the one hand, light vehicle use reflects past policy settings that have favoured private vehicle use, it also reflects the nature of New Zealand’s geography, urban density and urban design. Unlike smaller, more densely populated countries, New Zealand has evolved a transport system that has required private vehicle ownership, rather than the use of shared public transit services. This partly reflects the reality that public provision of services to meet citizen needs outside of the larger cities (and even in larger cities outside key transport corridors) would be uneconomic. Daily travel needs of citizens and businesses

⁴[https://mch.govt.nz/files/Post%20Implementation%20Review%20Going%20Digital%20Mar%202014%20\(D-0534166\).PDF](https://mch.govt.nz/files/Post%20Implementation%20Review%20Going%20Digital%20Mar%202014%20(D-0534166).PDF)

often depend on the use of private vehicles. Much of this demand will be difficult to meet through the provision of public transport or by active modes.

49. According to the Ministry of Transport⁵, over 30 percent of daily travel is associated with shopping or personal appointments and nearly a quarter is on social visits or entertainment. Fifteen percent is associated with travelling to work. Policy interventions to influence demand and vehicle use therefore need to reflect a sound and clear understanding of the characteristics of the travel and mobility requirements of citizens and businesses in this country. The Foundation Report⁶ for the Auckland Transport Alignment Project in 2016 is a good example of this. The Government and Auckland Council released a study that sets out the transport problem for Auckland, using jointly agreed analysis. That report was designed to ensure a shared understanding of the transport issues and problems facing Auckland as a basis for evaluating the merit of future policy and investment decisions.
50. We acknowledge the Commission's report addresses the need to increase the use of public transport, cycling and walking, and a related shift in investment settings through the National Land Transport Fund. We believe there is scope to be far more ambitious about shifting demand and vehicle use, especially beyond the mid-2020's.
51. Toyota New Zealand contends that the Commission should give further attention in its final report to interventions that could influence future demand and use of light vehicles, including:
 - a. The eventual use of road pricing to reflect externalities for all vehicle users. Technology now makes road pricing increasingly feasible and for prices to reflect the time of day, location, as well as other potential factors like vehicle occupancy or fuel type.
 - b. Interventions that drive mobility as a service and encourage greater use of vehicle and ride sharing. The National Land Transport Fund could be used to further incentivise innovation and development of such initiatives.

Road pricing

52. Earlier in our submission we talked about the importance of long-term clarity and stability. The nature of the time horizon for shifting New Zealand to a low-emission economy means that there will inevitably be solutions that become more viable with the development of new technology and shifts in public awareness and acceptance of certain types of policy intervention. Road pricing is one such example. While the Commission's report deals with pricing of transport services and externalities (including mention of road pricing), we believe it would be desirable to go further than is currently reflected. We propose a plan should be developed to provide for the implementation of a nation-wide road pricing scheme that would eventually replace the focus and dependence on fuel prices to manage demand, and to fund public infrastructure and services.
53. A road pricing scheme should be designed and implemented as part of a long-term plan to better manage travel demand and vehicle use to achieve several public policy objectives. Pricing could obviously be used to help address congestion in cities by using 'surge pricing' in periods of high use. Pricing could also be used to incentivise use of low-emission vehicles

⁵ <https://www.transport.govt.nz/assets/Uploads/Research/Documents/Household-Travel-Survey-intro-Dec2017.pdf>

⁶ <https://www.transport.govt.nz/assets/Uploads/Land/Documents/Auckland-Transport-Alignment-Project-Foundation-Report.pdf>

and to encourage increased vehicle occupancy. Technology will make it increasingly feasible for road pricing to operate efficiently, with very low transaction costs. Access to and use of the roading network will then be managed in the same manner as we are accustomed to with other utilities.

54. We acknowledge that it is unlikely a national pricing scheme will be feasible to implement for technical and political reasons in the next decade. It may take some time for citizens and road users to be convinced about the merit of such a scheme, especially if they believe the prices are associated with paying for roads they have already funded through their fuel taxes. It will, however, be important that the vehicle fleet and transport system is well positioned for such a transition when it does become politically feasible to adopt. This suggests it would be desirable to have a long-term road map for this transition.
55. *Toyota New Zealand encourages the Commission to recommend a broader consideration of the merits of road pricing, including the value of a plan to implement a nation-wide scheme. Recommendation 11.5 should be amended to reflect a more ambitious long-term transition to road pricing.*

Mobility as a Service

56. There is already an emerging global pattern of change with ride and car sharing. This change is enabled by technology, but it is as much a reflection of changes in social attitudes especially in larger cities. People are increasingly choosing to buy their mobility as a service (MaaS) rather than own a vehicle. This is a very sound economic decision for many people – they have more choice, it's cheaper and more convenient than owing a vehicle. This change coincides with a change in social attitudes where people also seem to be more willing to share their rides, especially if this reduces costs without significantly impacting on their convenience. The emergence of Uber, Lyft and other ride share apps reflects this social change, along with the steady reduction in the number of young people securing a driver's licence.
57. We think that the Commission's report should include more extensive consideration of these developments as one of the key ways of shifting travel demand in the coming decades, especially in New Zealand. We acknowledge the importance of modal shift and the role that public transport, walking and cycling must play in the mix of choices and investments in the future transport system in New Zealand. It seems likely, however, that light vehicle use (whether they are owned by an individual or not) will remain a dominant modal choice in this country because of the nature of citizen mobility needs where other modal choices may not be viable. For example, there will always be people and businesses that require the use of their own vehicle for work or because of special needs.
58. The combination of both low-emissions vehicles, and reduced travel demand through ride sharing could be significant. Changes in vehicle occupancy through ride sharing could have significant impacts on the transport system in much the same way that sharing on public transit is designed to. Work done by the Ministry of Transport and the Auckland Council in 2016⁷ showed increased vehicle occupancy had positive outcomes on congestion and worthy of further development in the suite of solutions for Auckland's growing congestion.

⁷ <https://www.transport.govt.nz/assets/Uploads/Land/Documents/Auckland-Transport-Alignment-Project-Interim-Report.pdf>

59. Typically, cars are currently only used 5 percent of the time (i.e. they are parked 95 percent of the time). MaaS will likely see fewer vehicles being used more extensively. These vehicles are therefore likely to be replaced more frequently, resulting in faster turnover of the fleet. The average age of the fleet will progressively become younger under this scenario, allowing new low emission vehicles to be introduced more quickly than might otherwise occur. MaaS is also likely to create stronger incentives for consumers to demand low emission vehicles, especially if fossil fuel prices reflect the cost of externalities. Consumers will focus on the price, quality and other preferences for the service they are buying, rather than the capital cost of the vehicle (as is currently the case).
60. We believe that incentives to increase MaaS and vehicle occupancy should be a critical component of any mix in policy interventions for New Zealand. The uptake of these and other developments that may emerge from technologies and social change could contribute significantly over time, to reducing emissions from the transport system. The National Land Transport Fund could be used to encourage such innovations over the next decade in much the same way it is used to subsidise modal shift to public transport.
61. *Toyota New Zealand encourages the Commission to give more emphasis to mobility as a service in its final report and to look more closely at how the National Land Transport Fund could be used to support such innovations.*

Strategies to exit high-emissions vehicles from the fleet

62. The Commission's report notes that the average age of vehicles in the New Zealand light fleet is 14.2 years and that vehicles are scrapped on average after 19 years. This is old by comparison with other developed nations. Our own product life cycle (as mentioned earlier) is 30 to 40 years from when product development commences to the point when a model has effectively exited the fleet. These things mean that we can expect high-emissions vehicles already in the light fleet to be with us for some time yet.
63. We think one of the key policy challenges for shifting the transport system to a low-emissions profile is how to encourage the exit of high-emissions vehicles from the fleet earlier than might otherwise be expected. This is especially challenging because older vehicles are more likely to be owned by people on lower-income. Other policies, like a feebate, are likely to benefit those on higher incomes who can afford to buy a new (or near new if imports are included) vehicle. People on lower incomes are more likely to buy a cheaper and older second-hand vehicle. In this regard, it is interesting to note that in New Zealand, around half the changes of ownership of vehicles each year are private transactions of second hand vehicles.
64. A key consideration in the design of policies to exit vehicles from the fleet is to ensure the overall costs do not outweigh the benefits. Ministry of Transport data⁸ shows that average CO₂ emissions is better with equivalent newer cars, but that older vehicles on average travel fewer kilometres each year than newer ones. The data also shows that scrappage rates have slowed in the last decade with ongoing improvements in mechanical longevity. This means such vehicles may remain on our roads longer. While we acknowledge the earlier exit of older vehicles from the fleet may not have as material an effect on our emissions profile as other changes we have canvassed, we consider there is nonetheless merit in encouraging this, especially as older vehicles become more reliable and are likely to stay in the fleet

⁸ www.transport.govt.nz/assets/Uploads/Research/Documents/Fleet-reports/The-NZ-Vehicle-Fleet-2016-web.pdf

longer. There would also be safety co-benefits from removing these older vehicles from the fleet earlier. We therefore think the Commission's report should explore opportunities to incentivise the scrappage of older vehicles much earlier than is currently experienced in New Zealand.

65. Toyota New Zealand contends that the two main interventions worthy of consideration are:
 - a. A scheme to help fund the scrapping of vehicles, often referred to as 'cash for clunkers'. When linked to the suggested feebate scheme, this could help incentivise the removal of older vehicles from the fleet as new low-emissions vehicles enter.
 - b. A change in policy settings that increase the costs of annual licensing and maintaining a warrant of fitness as vehicles get older.
66. Policies to exit vehicles could adversely impact on lower income households who are more likely to own these older vehicles. Care would be needed to design the policies to ensure they did not have unintended effects on their welfare.

Cash for Clunkers

67. The main barriers to exiting older vehicles from the fleet are the cost of scrappage, together with the cost of a replacement vehicle. Owners may be more likely to continue to use an older vehicle for much longer because of these costs. This is particularly true given the owners of older vehicles are more likely to be on lower incomes.
68. A subsidy or incentive payment to scrap a vehicle would be one way to help overcome one of these barriers, although it may have little impact unless these are other incentives or support to buy a newer vehicle. The Ministry of Transport ran a vehicle scrappage trial for a few weeks in 2007 and 2009 and concluded⁹ the costs outweighed the benefits at the time, largely based on the small numbers of vehicles that were scrapped. The conclusions of that trial point to some of the challenges in designing a scheme, including a large enough payment to incentivise earlier scrappage.
69. Recognising the distributional effects, one option would be to design a scheme where the costs of scrappage are included in the price of a vehicle when it is first registered, and that the funds held in trust to be available to the final owner when the vehicle is scrapped. It would obviously take around two decades for such a scheme to be fully implemented. In the meantime, the National Land Transport Fund could be a source of funding for vehicles not covered by such a scheme, especially if emissions reduction becomes a stronger strategic focus as the Commission proposes.
70. For lower income households, the greater barrier for scrappage is more likely to be the cost of a newer lower-emissions vehicle. Schemes were used in many countries in around 2009 as economic stimulus initiatives at the time of the Global Financial Crisis. In the USA payments of US\$3,500 or US\$4,500 were made to US citizens to trade older vehicles and buy more fuel-efficient cars. It proved hugely successful at shifting people to smaller more fuel-efficient vehicles, although it was costly and did not have all the effects intended.¹⁰ Such schemes were typically short lived, partly because they were introduced as stimulus to support local vehicle manufacturers and were fiscally very expensive. This highlights the importance of care in the design of such a measure as part of a more comprehensive suite of initiatives.

⁹ www.transport.govt.nz/assets/Import/Documents/Scrappage-Report-FINAL.pdf

¹⁰ www.brookings.edu/wp-content/uploads/2016/06/cash_for_clunkers_evaluation_paper_gayer.pdf

71. *Toyota New Zealand encourages the Commission to consider the merit of financial incentives to scrap high-emissions vehicles from the New Zealand Fleet and to recommend to the Government that such schemes be considered as part of an overall suite of transport policy interventions.*

Annual vehicle licensing and warrant of fitness requirements

72. Another way to incentivise the exit of older vehicles from the fleet would be to increase the cost of keeping them on the roads. Other countries like Japan see their vehicles exit the fleet much earlier because of such costs. They have far more stringent requirements, in relation to harmful exhaust emissions, and in relation to vehicles that fail these tests. The result is that older vehicles in those markets are either scrapped or exported because the cost of maintaining them often makes continued ownership uneconomic.
73. Two ways of increasing the cost of keeping older vehicles on the roads would be to consider changes to the annual license fee and more stringent annual warrant of fitness checks on older vehicles. These costs might desirably be increased in conjunction with financial incentives to scrap vehicles (discussed above).
74. The current annual license fee for a light vehicle is \$52.11 to which the AAC Levy is then added. The policy rationale for the license fee appears to have been lost in the mists of time. Fuel taxes have progressively become the primary means of funding transport infrastructure especially since the establishment of the National Land Transport Fund. The annual licensing fee could be reconceived as a charge for higher emission vehicles if other pricing mechanisms are not already being used to reflect these externalities. It may be that such a fee could, for example, be used in the next decade as part of a pathway to implementation of a comprehensive road pricing scheme.
75. The annual warrant of fitness testing in New Zealand is currently focussed mainly on road safety issues. A significant reform of the New Zealand regime was undertaken five years ago with changes made to the frequency of testing for newer vehicles. The regime is still, however, mainly focussed on safety roadworthiness of all vehicles.¹¹ If the regime were to apply more stringent emissions testing (focussed on harmful toxins), and if there were rules requiring the removal from the roads of non-compliant vehicles, this would likely see vehicles exit the fleet sooner than is currently experienced.
76. *Toyota New Zealand encourages the Commission to consider the merit of changes to the annual vehicle license fee and warrant of fitness regime for older higher-emission vehicles as complementary measure to incentivise scrappage of these vehicles earlier than might otherwise happen, and to recommend to the Government that such changes be considered as part of an overall long-term plan.*

Concluding remarks

77. Toyota New Zealand's submission reflects our strong commitment to supporting a positive future for New Zealand and New Zealanders, and our desire to be a leader in achieving environmentally sustainable outcomes. With around one quarter of New Zealand's light vehicle fleet being a Toyota or Lexus, we take these responsibilities seriously.

¹¹ www.transport.govt.nz/assets/Uploads/Our-Work/Documents/VLR-Cabinet-paper-January-2013.pdf

78. There are difficult choices that the Government will ultimately have to make to shift New Zealand to a low-emissions economy. The transport system must be a part of the solution, and we want to play our part in this. We are very mindful of the social equity and fairness issues that will have to be grappled with in making this transition. We know that great care is needed to ensure the cost of a transition to a low-emissions light vehicle fleet is not borne by the most vulnerable in our society. We are also mindful that the sort of change that is required will take decades to achieve and involve a stable and enduring commitment – both by government and industry.
79. It is therefore important that the approach adopted is both comprehensive and supported by a high level of political and industry consensus. It will require institutions and behaviours that are different to what we accustomed to. A long-term road map is also needed that recognises the need for innovation, and a willingness to try new and different things. There is a need for complementary and connected policies that deal with entry, use and exit of vehicles from the fleet. The road map also needs to recognise that technology and social changes will enable interventions and solutions that may not currently be politically or technically viable. Choices should be made about policies for the next decade knowing that they are breaking ground for other developments in the decades to follow.

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