National Transport Commission

Level 15 / 628 Bourke Street
Melbourne VIC 3000

P 61 3 9236 5000
F 61 3 9642 8922

4 April 2014

Mr Peter Harris AO
Chairman
Productivity Commission
Locked Bag 2, Collins Street East
Melbourne, Victoria, 8003

Dear Mr Harris

Inquiry into Public Infrastructure

The National Transport Commission (NTC) welcomes the Productivity Commission's inquiry into public infrastructure and the opportunity to make a submission.

The NTC is an independent agency that advises transport ministers from the state, territory and federal governments on land transport regulatory and operational reforms. The NTC's role is to develop national reform and implementation strategies for road, rail and intermodal transport.

This submission focuses on three specific areas:

- declining fuel excise revenues over time
- a possible supply-side road reform pathway, and
- regulatory issues relating to technology.

Declining fuel excise revenues over time

The draft report discusses that revenue from fuel excise is declining in real terms (page 135). While there is historical information about fuel excise revenues, there is little available information about the likely future fuel excise revenues. To help inform this information gap, the NTC commissioned the CSIRO to undertake modelling into the future revenues from fuel excise and registration charges. This work highlighted that the nominal revenues from fuel excise will decline significantly over time if the fuel excise rate remains unchanged. The modelling projects a 49 to 80 per cent reduction in nominal revenue with a central estimate of a 62 per cent reduction over a 38 year period (see Figure 1).

The central scenario includes moderate fuel prices, moderate growth in transport use and a switch to using more alternative fuels (such as LPG, biodiesel and electricity). The low and high scenarios have been built to provide alternatives around the central scenario that reflect that the future is uncertain. The low

scenario has lower growth in transport use, higher fuel prices and a higher uptake of electric vehicles. The high scenario has higher growth in transport use, moderate fuel prices and a lower uptake of electric vehicles.

The main factors influencing this projected decline are (1) the fuel excise is not indexed, (2) vehicles are becoming more fuel-efficient and (3) in the future more vehicles will run on fuels that pay lower fuel excise or no fuel excise.

This new information on declining revenues from fuel excise helps to highlight the challenges facing the existing system.

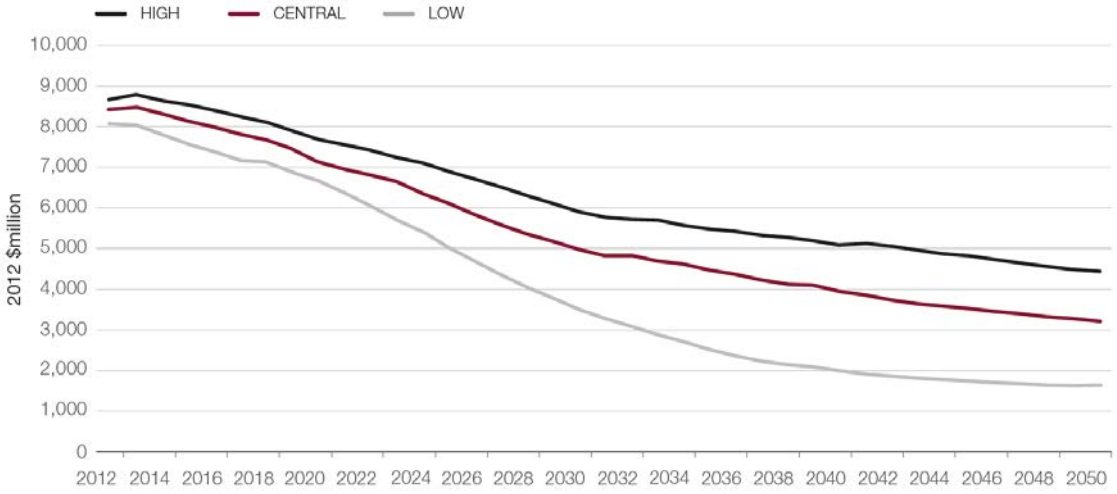

Figure 1. Projected Fuel Excise Revenue to 2050 for Low, Central and High Scenarios (2012 dollars)

The NTC can provide the CSIRO report to the Productivity Commission if required.

A possible supply-side road reform pathway

The draft report discussed the options for improving governance and institutional arrangements in the roads sector (section 7.4). The current national pricing reform focuses on heavy vehicles (the Heavy Vehicle Charging and Investment Reform project) which is partial market reform. A more systemic approach is for pricing reform to cover the whole market including cars, light commercial vehicles and heavy vehicles. As the draft report notes, this reform process is likely to be a long journey, requiring significant commitment and effort from all levels of government to build public support.

While this demand side journey is underway, there are a range of no-regrets supply side reforms that can result in significant benefits. The supply side reform is likely to have support from industry and the broader community if the appropriate engagement mechanisms are developed to allow these groups to have a direct input into the asset planning and investment prioritisation. The road provision and funding task in the draft report (page 236) is a good description of the higher order tasks required. Another way to describe the supply side reform approach is as follows:

1. Conduct a national road network condition audit

2. Define the desired road condition or service standard to be provided in collaboration with users
3. Determine the shortfall between desired and actual road condition or service standards
4. Engage industry and the broader community to determine priority capital upgrades, maintenance prioritisaiton and operational activities, and
5. Develop a project investment pipeline.

At the same time, improving the information on forward looking costs and infrastructure provision and exploring ways to fund the gap would also be useful.

Regulatory issues relating to technology

Technology is increasingly opening new possibilities in transport. Internationally there is significant work on making vehicles more connected, as well as increasing the volume of information vehicles are gathering through on-board sensors. Manufacturers are utilising these technologies to develop more highly automated vehicles and governments are examining the policy framework to support their use. Vehicles are becoming connected in new ways, using a combination of mobile data networks to connect to central services; dedicated short range communication, similar to Wi-Fi, to connect to other vehicles and to infrastructure; blue tooth technology, digital radio and satellite communications among others. These technologies are being used to improve safety, provide additional driver information, improve traffic flows and environmental outcomes.

A variety of road payment technologies and systems are being used internationally, including toll tags (as currently used in Australia), Radio Frequency Identification stickers, used in places such as Taiwan, telematics devices used in New Zealand and Oregon for heavy vehicle pricing and number plate recognition devices used for congestion pricing.

The choice of technologies is determined by individual policy requirements and needs (including scalability, cost and range), along with infrastructure requirements. Some of these technologies have also been used (or are proposed to be used) for payment of other services, such as parking, with Singapore utilising the same tags used for tolling to allow vehicles to wirelessly pay at commercial car parks.

Technology – both currently available, and expected to be operational in the next few years – can facilitate much more sophisticated approaches to road pricing than has previously been feasible. There are already practical, working examples of these types of technology – from relatively straightforward electronic vehicle tolling using in-vehicle tags to the Intelligent Access Program administered by Transport Certification Australia. The satellite-based Intelligent Access Program platform supports a range of heavy vehicle telematics applications.

The rapid evolution of the technology creates challenges for policy-making. The choice of technology should be dependent on the specific objectives of the type of application (in this case, road pricing) being considered. For example, the current toll tag reading technology could readily be used for a system of congestion tolling on major motorways. However because of the need for roadside infrastructure to be installed in conjunction with this technology it would be less appropriate where

it was necessary to cover a broader road network. For broader urban applications (or intercity or regional applications) satellite-based approaches may be the only practical technology for the foreseeable future, as they avoid the need to build and maintain roadside infrastructure. London's approach to cordon congestion charging uses number plate recognition technology, which involves high administration costs but provides the enforcement capability required in that situation without the need for any in-vehicle devices.

The draft report's recommendation 4.1 states that the Australian Government should actively encourage state and territory governments to undertake pilot studies on how vehicle telematics could be used for distance and location charging of cars and other light vehicles. The NTC suggests that the following factors be taken into account when considering the use of technology for road pricing schemes, based on the NTC's experience in transport technology projects:

1. Identify policy settings

Establishing key objectives and policy settings as a first step prior to examining technology options. There is a range of technologies that are available now, or in the near future that have the potential to facilitate infrastructure financing in a number of scenarios; from comprehensive and sophisticated solutions through to low-cost approaches that meet basic requirements. Agreed policy settings will have a direct impact on which of these technologies are fit-for-purpose. Account should be taken of the policy principles agreed by transport ministers in 2012 (see attachment A) that are intended to ensure full advantage can be taken of intelligent transport systems and avoid unintended consequences of uncoordinated decision making.

2. Consider mandatory and voluntary options

Following on from this, for systems that require the installation or carriage of technology a key policy question is whether the approach taken will be voluntary or mandatory. Both the Heavy Vehicle Charges and Investment and the Telematics Framework projects are considering the impact of mandatory and voluntary options. This will have important implications for choice of technology, along with a range of other settings, including privacy. It can also be crucial for determining user acceptance.

3. Establish a privacy framework

The appropriate privacy framework for data collected from a technology application will always be an important consideration, and its significance becomes greater when that data is generated by a continuous monitoring application using in-vehicle technology. The Intelligent Access Program and other initiatives involving continuous monitoring have demonstrated that the protection of personal information is critical to the community acceptance of technology solutions that are fundamentally reliant on the exchange of identifiable information. Common across several of these projects is an institutional separation between organisations that collect and handle personal information and government agencies that may seek to access that information for enforcement purposes. This separation is consistent with the privacy by design approach recommended by the Office of Australian Information Commissioner.

A privacy framework would clearly define the purpose of collection, which third parties the information may be disclosed to, and processes to ensure that individuals are notified of the collection. A privacy framework would also have regard to how much data is required to undertake the required tasks and how long the data must be kept before it should be destroyed or anonymised.

4. Establish open technology standards

The respective roles of governments and industry are important to consider and define in the development of technology solutions. An alternative approach to prescribing a specific technology is for governments to finalise policy requirements and, based on those requirements, establish open standards for the market. Harmonisation of these standards across jurisdictions is also desirable. Following this approach, the market would determine the most efficient technology solution and billing structure and the solution would not be reliant on governments identifying technology winners. This approach enables governments to avoid making technology assumptions and recognises the fast pace of change and the importance of governments not impeding industry innovation. Consideration may also be given to procurement options and to options involving single or multiple service providers.

5. Consider potential infrastructure costs

A number of the available technology solutions for road pricing are reliant on significant infrastructure investment. For example, automatic number plate recognition technology and toll tags use fixed infrastructure, such as overhead gantries, to collect data. In the event that an infrastructure financing approach used across a significant part of the road network using these technologies, infrastructure costs are likely to be significant.

In conclusion, initiatives to consider alternative options in relation to financing infrastructure in Australia are welcome.

If your officers wish to discuss this submission, they can contact Dr Neil Wong, Project Director,

Yours sincerely

Paul Retter AM
Chief Executive Officer and Commissioner