Submission in response to the Productivity Commission's
Draft Report on National Transport Regulatory Reform, November 2019

To whom it may concern,

I wish to comment on aspects of the Draft Report related to safety regulation and insurance.

Alas, I believe the Draft Report has not adequately addressed this topic. Road-safety continues to be a major social issue that warrants considered attention. As noted in this submission, vehicle insurance reform appears to offer the most significant cost-effective means of addressing road-safety.

I have provided some comments below and I am happy to provide more information on request. Some of the evidence I refer to is contained in my '2017 Paper',[1] which is cited in the Draft Report. I am happy to be contacted directly for evidence supporting other statements.

Sincerely

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The views expressed in this submission are my own.

[1] The Draft Report cites two of my publications. A public version of the more recent 2017 Paper *Insurance influence on road-safety* is available at http://www.srgexpert.com/wp-content/uploads/2018/09/Insurance-and-road-safety-public-paper-final.pdf

Introduction and overview

The topic of insurance and road-safety is discussed in the Draft Report in Chapter 8 'Transport technology and data'. As noted in this chapter:

- there is potential for insurers to use telematics-data to reduce safety risks
- the uptake of telematics-based usage-based insurance (UBI) is limited by insurance regulation, which—as I elaborate in the cited research—includes unbundling of Compulsory Third Party (CTP) insurance from motor vehicle insurance and pricing regulation.

Later in the chapter, the Commission concludes that reform (in the form of a shift towards 'a more risk-based approach to CTP') 'does not appear warranted at this time…'.

I am concerned with this conclusion. In my opinion:

- as I elaborate immediately below, the Draft Report fails to appropriately discuss the evidence on the case for reform
- there may be valid reasons for this conclusion; however, these do not appear to be articulated in the Draft Report. In the Draft Report, the conclusion is justified with the clause '…given the many questions raised in box 9.6". However, as discussed below, the analysis in box 9.6 appears flawed—the questions/analysis referred to appear be more appropriately applied against maintaining the status quo.

Furthermore, the Draft Report offers no path forward. Given the very significant potential benefits, I would at least expect a recommendation that work be undertaken to examine any questions of concern.

The following sections provide more detailed comments.

The case for considering reform

I am concerned the Draft Report does not properly assess the case for change. In particular:

- Risk-based insurance reform will do more than encourage telematics-enabled UBI (which is the only benefit referred to in the Draft Report). It would provide insurers with incentives to improve safety by influencing:
    - whether people drive
    - what they drive, and
    - how they drive, including through means other than telematics (for example, by providing no-claim discounts)
- The societal benefits of reform in Australia are extremely large. In the 2017 Paper I have indicatively estimated large reductions in the fatalities and economic benefits to be in excess of $100 billion (present value).[2]

Consistent with the above statements, I have publicly proposed and presented on the following hypotheses:[3]

[2] The paper (which documents the evidence, method and the assumptions) has been reviewed and shared with numerous researchers. I have yet to receive any feedback that would suggest the estimate should be revised.

1. *The most significant cost-effective policy to reduce the road toll involves reforming vehicle insurance markets*
2. *Vehicle insurance market reform provides a cost-effective means to managing most key road safety issues relating to safe vehicles, speeds and road-users [including autonomous vehicles]*
3. *We cannot cost-effectively meet road-safety goals without reforming vehicle insurance markets*

I have discussed the above hypotheses with leading road-safety researchers, economists and a variety of stakeholders. I do not believe anyone has seriously contested these.

Regarding 'affordability'

Concerns over affordability[4] are discussed in the chapter, apparently as a reason against reform. However, I believe much of this discussion is not well thought through. Some key points are:

- Insurance rate regulation (community rating that currently applies) reduces affordability for most drivers.[5]
    - Theory and empirical research all predict insurance rate regulation increases average insurance premiums. The evidence is particularly strong for motor-insurance markets.
    - Insurance rate-regulation has the effect of increasing premiums for the relatively low-risk drivers (which tend to outnumber the high-risk who are subsidised).
- While community-rating reduces premiums for high-risk drivers, it is not clear why removing community rating would make premiums unaffordable. In the absence of community-rating, premiums would more closely reflect the societal costs; that is, high-risk drivers will pay more for insurance because they impose greater costs on society. This is how most markets operate.
- Being high-risk is largely a choice (whether, what and how to drive). As evidenced from the UK, high-risk drivers can significantly reduce their premiums by driving more safely (which is in the societal interest).
- There are practical alternatives to addressing 'affordability' concerns. For example, age-based subsidies could be used instead of community-rating (which in effect subsidises the high-risk).
- The current regime does not appear fair. It:
    - is expensive for someone who drives very little
    - involves a series of regulations and penalties, which:
        - relative to an insurance-based system impose substantial costs
        - appears to disproportionately impact poorer parties.[6]

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[3] The hypotheses were presented at the Australasian College of Road Safety annual conference in September 2016. See also https://www.cis.org.au/app/uploads/2017/02/32-4-tooth-richard.pdf

[4] Affordable is largely a subjective term, however, I understand it commonly refers to something that people can purchase given budget constraints and is reasonably priced. A recent review of affordability of flood insurance premiums in the United States, concluded that there is no objective definition of affordability—rather that the concept is subjective. See National Academies of Sciences, Engineering, and Medicine (2016). *Affordability of National Flood Insurance Program Premiums—Report 2.* Washington, DC: The National Academies Press. (p. 101)

[5] See evidence in the 2017 Paper.

[6] See for example, 'The Hidden Punitiveness of Fines' by Quilter and Hogg https://www.crimejusticejournal.com/article/view/914

Other miscellaneous comments on selected quotes from the report

Quote from Draft Report	Comment
From pages 307 and 310	
There is no clear Australian evidence on the effectiveness of telematics-based insurance to date.	There is substantial international evidence (see 2017 Paper). There appears no reason to assume similar results would not apply in Australia. There is some relevant Australian-based research.[7] What is meant by 'clear' is subjective.
Incentives may indeed be stronger in the United Kingdom than in Australia, as insurers are not bound by the same restrictions around CTP.	The restrictions are two-fold –bundling CTP with Motor vehicle insurance and restrictions of pricing of CTP. I estimate removing the restrictions would roughly quadruple the incentive for insurers to address road-safety (see 2017 Paper, p. vii).
It is difficult to speculate on the potential effectiveness of insurance-based safety incentives, particularly given that policies will differ in design. For example, financial incentives could be set to be relatively minor, resulting in little behavioural change.	Agree—However: • it is better to be broadly right than exactly wrong • there is no reason to only speculate on the low-side (which is inconsistent with the international evidence) • the 2017 Paper provides indicative estimates of the behavioural change.
Neither is it clear whether drivers would respond to incentives by improving their behaviour or by changing providers (to a less risk-based insurer).	There is substantial evidence that drivers do respond to incentives (summarised in 2017 Paper). Why suggest otherwise?
If telematics-based insurance could provide sufficient financial incentives to influence drivers' behaviours, it remains a question as to what extent such an incentive regime could be expected to improve safety outcomes.	There is evidence that telematics-based insurance leads to improved safety outcomes. There will always be uncertainty, but the 2017 Paper provides estimates.
It is not straightforward to design accurate, measurable proxies for safe driving practice that apply consistently. There are various ways in which punitive measures could apply to safe drivers, or where they may fail to apply to a risky driver, thus weakening the ability of the incentive regime to provide for safer outcomes.	This summarises the current command and control approach. A key advantage of a market-based approach is that companies would compete to find the most accurate, measurable proxies for safe driving practice. If an insurer imposed punitive measures that did not reduce crash costs, then they would lose business to other insurers with better, less-punitive, measures.
The Actuaries Institute noted that: *… A key issue is whether society wants*	The quote from the Actuaries Institute and the text in the report implies that a fixed-rate CTP is better for affordability. However, the current system does not

[7] See Greaves & Fifer (2010) (referenced in the 2017 Paper). More evidence includes https://www.sira.nsw.gov.au/fraud-and-regulation/research/young-drivers-telematics-trial. I understand the results of this study https://msd.unimelb.edu.au/research/projects/current/effects-of-feedback-and-incentive-based-insurance-on-driving-behaviours are now available. Finally, I'd recommend contacting the some of the providers of telematic devices in Australia.

Quote from Draft Report	Comment
individuals to pay a 'fair price' for insurance that reflects risk or does it want everyone to have affordable access to insurance regardless of the risk. *As mentioned above, CTP insurance in Australia tends to be regulated in favour of affordable access, largely regardless of risk.*	provide everyone affordable access to insurance. Someone who hardly uses their vehicle does not pay a 'reasonable' price.
…there are significant advantages with mandatory insurance for third party injury (and, conversely, disadvantages with non-insurance).	Mandatory insurance for third-party injury is compatible with a bundled risk-based insurance product. This is the case in the UK, mainland Europe and most jurisdictions (there's a few exceptions in the US, where motor third-party liability insurance is optional).
Such a shift does not appear to be warranted at this time, given the many questions raised in box 9.6.	There do not appear to be any questions raised in box 9.6 that justify this statement. Rather most of the text in Box 9.6, could be better worded as arguments for insurance reform. This is elaborated below.
From Box 9.6	
Type or behaviour? *The use of personal data by insurance companies is potentially broader than telematics, and may not necessarily relate directly to on-road behaviours. For example, data from transactions or online activity could be used to classify drivers according to categories of similar expected risk, similar to the longstanding use of parameters such as age and address. Woolworths have previously noted their use of retail transactions data from customer rewards programs in order to determine insurance premiums, citing that customers who purchase more milk and red meat were better insurance risks than those purchasing pasta, rice, and spirits (Wallace and Whyte 2013; PC 2017a). While this information may allow the insurer to price more accurately on average, it would not in itself provide drivers with any additional incentive toward safer on-road behaviours.*	The discussion in this paragraph appears to reflect a reason <u>for</u> using telematics data rather than an argument against it. • Insurers use a range of data to classify drivers according to categories of similar expected risk. These include variables which the consumer has some control over (e.g. vehicle type and driver history) and others, such as age, over which they have no control. • Telematics data allows insurers to put more weight on behaviour than on the factors outside of the consumers control. The logic of the last sentence in the quoted paragraph does not appear to flow. If insurers have the information and incentive to price more accurately then we would expect them to do so. If this information is on driver behaviour this would lead (as evidenced in the UK) to drivers changing their behaviour.
Situation-based penalties *The use of telematics may identify driving situations that are riskier than others. For example, some telematics-based insurers consider the time of day (i.e. driving at night) as a risk factor (Tooth 2012, p. 3). While this information may allow the insurer to more accurately set prices for those driving during day and night hours, it may not be possible for drivers to simply change their hours of operation. Moreover, for those driving at night, a time of day penalty does not provide incentives to adopt better on-road*	Again, the logic applied in this paragraph is more appropriately applied as arguments <u>for</u> insurance market reform and against the traditional, blunt, 'command and control' regulatory approach. In the UK: • insurers compete to offer the solutions that balance the incentives for reducing crash-costs with the needs of consumers • there are a range of options for consumers, including those with large rewards for avoiding night-time driving. Those who need to drive at night

Quote from Draft Report	Comment
behaviours when driving at night.	can choose an alternative policy (which might be higher cost or include more behavioural measures) • insurers have incentive to optimise the balance of crash risk and burdensome regulation of the customer. In contrast a regulation—for example, a night-time driving restriction for new drivers—limits choices.
Quantity or safe practice? *Insurance offerings tend to account for the distance travelled by a driver in a given year — this can be done much more accurately with the use of telematics, and may consider factors such as time of day, and length of journey. It stands logically that more time spent on the road increases the likelihood of a safety incident. As such, the quantity of travel may be a relevant consideration when attempting to price risk more accurately. However, this use of telematics does not provide incentives for safer behaviours for drivers once they are on the road. Rather, it rewards drivers for driving less (or provides an additional cost per distance travelled).*	There does not appear to be a logical argument in this paragraph. Re: 'However, this <u>use</u> of telematics does not provide incentives for safer behaviours for drivers once they are on the road.': • appears to assert that quantity measures are not used in conjunction with behavioural measures. Why wouldn't this be the case? • appears to be suggest an issue. Quantity-based measures don't need to solve all issues. To illustrate try replacing 'use of telematics' with 'use of driver licence testing'. Would you use the argument against driver licence testing?
Ambiguous indicators of safe practice *For insurers to provide incentives for safer driving, they would need to identify a set of behaviours as risk factors. While some driver behaviours, such as alcohol consumption, are unambiguous indicators of reduced driver capacity (and therefore higher safety risk), other factors are less equivocal. For example, several telematics-based insurers provide incentive schemes that punish drivers for sudden, harsh braking (Tooth 2012; Ubicar Australia 2019a). Such braking could reasonably be associated with accidents (given its urgent nature), but is not necessarily proof of poor safety practice by the driver (given the importance of context). It may be the case that drivers who regularly brake suddenly do so in reaction to dangerous or erratic behaviours of other road users. In this sense, it may make sense to price their insurance higher to account for a riskier environment. However, it provides no further incentive to drive more safely.*	This argument appears better to be applied to the <u>current</u> regulatory environment. In effect, this text is arguing against blunt measures of behaviour, which generally reflects 'command and control' regulation that is common with road-safety. Of note: • Insurers have the flexibility as to how they apply the measures. • The argument against using braking could equally (perhaps more so) apply to many speed limit infringements. • With the right regulatory environment, insurers will have the incentive to seek the optimal application of the measures (having regard to costs and effectiveness etc). Insurance reform would enable insurers, and provide incentives for insurers, to improve safety outcomes. Telematics gives insurers ability to apply risk-based incentives to manage risk.
Imperfect coverage of unsafe behaviours *The potential for telematics-based insurance to influence safety outcomes may be muted if the incentive scheme does not choose appropriate risk variables. While insurers would be well placed to determine which variables are causal factors for safety incidents, they may be unable to monitor all relevant behaviours through positional telematics*	Once again, the arguments contained in this paragraph appear better applied to the current regulatory environment and against <u>blunt</u> regulations. As noted above: • Insurance reform involves more targeted risk-based (i.e. sharper) regulation.

Quote from Draft Report	Comment
alone. For example, the National Truck Accident Research Centre (2019) assessed the behaviours of heavy vehicle drivers that were associated with safety incidents involving insurance claims over $50 000. They found that, where the safety incident was primarily caused by the behaviour of heavy vehicle drivers, the main behaviours included keeping inadequate following distance (30 per cent); inattention or distraction (27 per cent); inappropriate vehicle positioning (18 per cent); and failure to give way (7 per cent). Monitoring some of these behaviours may require not only location-based telematics, but also external sensors and driver-monitoring technology.	• With the right regulatory environment, insurers will have the incentive to seek the optimal measures (having regard to costs and effectiveness etc). Furthermore, in a competitive market, insurers have the incentives to seek solutions for issues such as distraction driving. There are examples of this already occurring in other jurisdictions.[8]
Financial incentives to drive less *At the extreme, insurance-based incentives could simply encourage drivers to reduce the distance they travel in total (to the extent that their travel is discretionary). As long as any reduction in distance travelled is somewhat aligned with drivers' safety risk profiles, the result would be an improvement in aggregate safety outcomes. However, increasing the cost of travel would have implications for productivity, including positive effects (such as reducing road congestion) and negative effects (such as reducing economic activity for individual drivers).* *Moreover, the effectiveness of financial incentives may impact on drivers differently, due partly to their ability to pay. Some drivers that present a higher safety risk may not be sensitive to marginal changes in price.*	With the correct incentives, insurers would compete to provide policies that only get people to drive less when it is in the public interest. A generally accepted approach to regulation is targeting the source of the problem. If there are negative externalities associated with reduced driving, generally accepted good practice is to target those externalities directly.
If transport-related insurance becomes progressively risk-based, particularly with the increasing transparency of user characteristics and behaviours, this may result in areas of market failure.	There does not appear to be a logic to this sentence. Why would a 'market failure' result?
For example, the Actuaries Institute notes that governments may have a role to play when competitive markets fail to deliver affordable insurance cover for consumers, particularly if the underlying risk is beyond the consumer's control.	In the absence of a market failure, government intervention can only increase costs. The underlying risk is within the consumer's control. People can choose whether (/how often), what and how to drive.
However, insurance-based incentives are unlikely to replace the need for regulatory enforcement. This is partly because telematics-based insurance is designed to associate punitive incentives with	The paragraph appears to suggest that an issue with telematics-based insurance is that it is not <u>just</u> aligned with compliance with the law or regulation. In my

[8] See for example, https://www.ft.com/content/6815a546-2217-11e8-add1-0e8958b189ea.
https://www.mobileye.com/au/fleets/products/

Quote from Draft Report	Comment
behaviours that were not otherwise considered a breach of law or regulation (such as harsh acceleration and braking).	option, this is not an appropriate position as: • compliance with laws and regulation are not the ultimate goal. The laws and regulation exist to improve societal outcomes (in this case focused on safety). • that telematics-based insurance goes beyond compliance with laws and regulation to improve safety is a benefit.
At the same time, such insurance regimes currently do not apply punitive measures to various breaches of the law, such as exceeding blood-alcohol limits, failing to give way, or failing to stop at red lights.	Again, compliance with the law should not the ultimate objective. Would we wish for telematics insurance to apply punitive measures against every breach of the traffic law (e.g. occasional speeding, failing to come to a complete stop at a give-way point)? Furthermore, CTP insurance regimes in Australia do not penalise those who breach the law. As the Commission notes in the draft most CTP premiums are the same regardless of how badly someone drives Insurance regimes are unlikely to address every road-safety issue (though I suspect with the right incentives, they'd come close). Nevertheless, the appropriate question is whether reform would have a positive benefit for society.