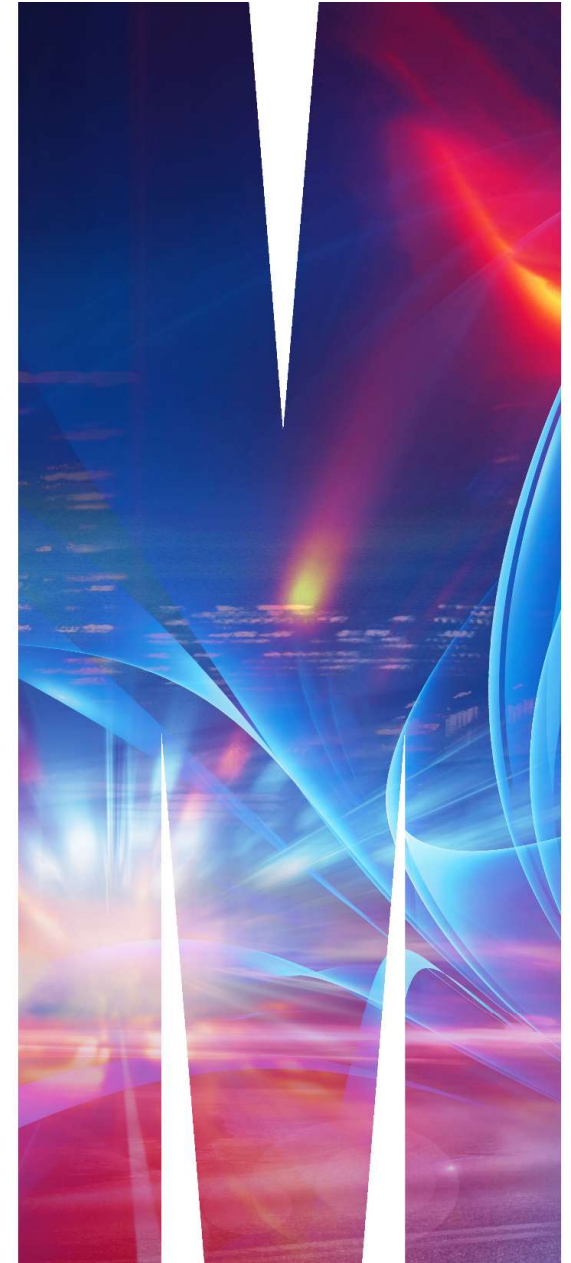# Inquiry into the Increase in Victoria's Road Toll during 2019

Submission to Economy and Infrastructure Committee (Legislative Council) at the Parliament of Victoria

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Terms of Reference

1. Current Victorian Towards Zero Road Safety Strategy 2016-2020 and progress towards its aim of a 20 per cent reduction in fatalities with 200 or less lives lost annually by 2020;

2. Adequacy and scope of the current driver drug and alcohol testing regime;

3. Adequacy of current speed enforcement measures and speed management policies;

4. Adequacy of current response to smart phone use, including the use of technology to reduce the impact of smart phone use on driver distraction;

5. Measures to improve the affordability of newer vehicles incorporating driver assist technologies;

6. Adequacy of current road standards and the road asset maintenance regime;

7. Adequacy of driver training programs and related funding structures such as the L2P program; and

8. Adequacy and accuracy of road collision data collection.

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Contributors from MUARC

- Associate Professor Stuart Newstead
  - ToR 1
  - ToR 5 (measures currently available to improve affordability of newer vehicles)
  - ToR 8 (oral evidence in lieu of written contribution, if required)
- Professor Max Cameron
  - ToR 2
  - ToR 3 (speed enforcement)
- Professor Brian Fildes
  - ToR 3 (speed limits in local streets)
  - ToR 5 (future vehicles)
- Dr Karen Stephan and Dr Kristie Young (ToR 4)
- Dr David Logan (ToR 6)
- Associate Professor Sharon Newnam (ToR 7)

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Current Victorian Towards Zero Road Safety Strategy 2016-2020 and progress towards its aim of a 20 per cent reduction in fatalities with 200 or less lives lost annually by 2020

- Annual road death counts have an inherent variability in them from year to year even if the underlying risk and exposure in the road transport system remain the same.

- If the 2018 road death toll was ignored, modelling of the annual toll projected from 2017 would have predicted an average fatality count of 255, with an expected range from 224 to 286.

  - The final 2019 road toll of 268 is within the bounds of likely statistical variation.

- The projected failure of the original Towards Zero strategy to reach the target of 200 deaths per year is largely due to population and travel growth in Victoria well in excess of what was predicted in formulating the strategy originally.

  - Investment in road trauma countermeasures needs to increase at much higher rate than exposure to offset this.

- Further scientific assessment of the actual delivery of Towards Zero initiatives during 2019 is necessary to understand their impact on 2019 fatalities.

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Adequacy and scope of the current driver drug and alcohol testing regime

- The prevalence of Methamphetamine ("ice") in drivers on the road and the seriously injured has trended up steeply during the last decade.

- Drug-driving with Methamphetamine can be deterred by increasing the positive detection rate from roadside drug testing, particularly by targeted testing.

- Drug-driving with THC can be deterred by increasing both random and targeted roadside drug testing.

- Since January 2020, new relationships for drugs in fatal crashes have been added to TERAM

- The planned 50% increase to 150,000 roadside drug tests during 2018/19 was expected to have saved 23 fatal crashes and 56 serious injury crashes per year [revised from submission]

    – Estimated savings from actual increase: 3 fatal crashes and 16.5 serious injury crashes.

- Further increases in targeted and random roadside drug tests are warranted, up to 390,100 total tests per year in the first instance, with greatest emphasis on targeted testing. It is estimated that 46 fatal crashes and 134.5 serious injury crashes would be saved per year.

- Resources should not be diverted from roadside breath testing for alcohol to facilitate the increases in roadside drug testing.

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Planned increase in roadside drug tests during 2018/19 (replaces Table 2.1 in submission)

Enforcement type	Base level 2015-18 (Tests pa)	Increase in level (%)	Increase (Tests pa)	Offence detected rate with increased POFTs	Fatal crashes saved per year	Serious injury crashes saved per year	Crash cost saving per year ($m)	Total additional cost ($m pa)	BCR (Increase benefits/ increase costs)	Marginal BCR
RURAL										
Random POFT	17,906	14.15%	2,534	1.99%	3.72	6.76				
Targeted POFT	21,289	83.52%	17,780	17.38%	7.60	7.35				
Random + Targeted	39,194	51.8%	20,314	15.46%	11.32	14.11	39.603	6.231	6.36	4.22
Increased total POFT			59,508	12.10%						
METRO										
Random POFT	33,239	14.15%	4,703	2.39%	4.99	24.08				
Targeted POFT	28,063	86.82%	24,364	15.59%	7.00	17.70				
Random + Targeted	61,302	47.4%	29,067	13.45%	12.00	41.77	60.139	8.260	7.28	5.17
Increased total POFT			90,369	10.05%						
ALL VICTORIA										
Random POFT	51,145	14.2%	7,237	2.3%	8.71	30.84				
Targeted POFT	49,351	85.4%	42,144	16.3%	14.61	25.04				
Random + Targeted	100,496	49.1%	49,381	14.3%	**23.32**	**55.88**	99.741	14.490	6.88	4.76
Increased total POFT			**149,878**	10.86%						

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Enforcement type	Base level 2015-18 (Tests pa)	Base offence detected rate (% of POFTs)	Increase in annualised level (%)	Increase in annual level (Tests pa)	Offence detected rate with increased POFTs	Fatal crashes saved per year	Serious injury crashes saved per year	Crash cost saving per year ($m)	Total additional cost ($m pa)	BCR (Increase benefits/ increase costs)
RURAL										
Random POFT	17,906	1.99%	-2.89%	-517	NA	2.77	5.03			
Targeted POFT	21,289	17.38%	71.53%	15,228	11.06%	1.55	1.34			
Random + Targeted	39,194	10.35%	37.5%	14,711	11.46%	4.33	6.37	15.796	3.851	4.10
Increased total POFT				53,906	10.65%					
METRO										
Random POFT	33,239	2.39%	27.78%	9,233	NK	4.53	21.79			
Targeted POFT	28,063	15.59%	59.51%	16,699	8.43%	-5.69	-11.62			
Random + Targeted	61,302	**8.43%**	42.3%	25,932	5.17%	-1.17	10.18	3.805	4.955	0.77
Increased total POFT				87,234	**7.46%**					
ALL VICTORIA										
Random POFT	51,145	2.25%	17.0%	8,716	NK	7.30	26.82			
Targeted POFT	49,351	16.36%	64.7%	31,927	9.68%	-4.14	-10.28			
Random + Targeted	100,496	9.18%	40.4%	40,643	7.44%	**3.16**	**16.54**	19.601	8.806	2.23
Increased total POFT				**141,140**	8.68%					

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Further increase in roadside drug testing in Victoria (replaces Table 2.2 in submission)

Enforcement type	Base level 2015-18 (Tests)	Increase in level (%)	Increase (Tests pa)	Offence detected rate with increased POFTs	Fatal crashes saved per year	Serious injury crashes saved per year	Crash cost saving per year ($m)	Total additional cost ($m pa)	BCR (Increase benefits/ increase costs)	Marginal BCR
RURAL										
Random POFT	17,906	190.0%	34,021	1.99%	13.74	25.91				
Targeted POFT	21,289	400.0%	85,155	17.38%	8.43	8.29				
Random + Targeted	39,194	304.1%	119,175	12.99%	22.16	34.20	81.976	33.242	2.47	0.99
Increased total POFT			158,370	12.34%						
METRO										
Random POFT	33,239	175.0%	58,169	2.39%	15.69	79.21				
Targeted POFT	28,063	400.0%	112,251	15.59%	8.15	21.13				
Random + Targeted	61,302	278.0%	170,420	11.08%	23.84	100.34	131.260	43.891	2.99	0.99
Increased total POFT			231,722	10.38%						
ALL VICTORIA										
Random POFT	51,145	**180.3%**	92,190	2.25%	29.43	105.12				
Targeted POFT	49,351	**400.0%**	197,405	16.36%	16.58	29.42				
Random + Targeted	100,496	288.2%	289,595	11.87%	**46.00**	**134.54**	213.236	77.133	2.76	**0.99**
Increased total POFT			**390,091**	11.18%						

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Adequacy of current speed enforcement measures and speed management policies

Speed enforcement

- Mobile speed cameras on Victoria's rural roads are not as effective as they could be due to the site selection criteria, the limited number of sites, and the visibility and predictability of their enforcement operations.

- Queensland's overt mobile speed cameras achieve substantial crash reductions up to 4 km from rural camera sites due to site selection based only on crash history and randomised scheduling of operations to those sites.

- Victoria's mobile speed cameras could achieve crash reductions over 8 km sections of rural roads ranked highly by their serious crash history. New sites should be selected as in Queensland and camera visits should be randomly-scheduled to each site for shifts totalling at least 35 hours per year.

- The Victorian Government's announcement to increase mobile speed camera hours by 75% should take the form of at least 75% increase of rural sites. The new sites should be selected on the basis of a serious crash history within 2.5 km and should consider all category A, B and C rural roads.

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Speed enforcement (continued)

- Mobile speed cameras operated at the new rural sites (75% increase) could be expected to save 22.5 fatal crashes and 172 serious injury crashes per year. Social cost savings would exceed 45 times the cost of camera operations.

- While still a new technology, mobile point-to-point camera units have the potential to enforce speeding over much longer rural road sections than the traditional spot-speed mobile cameras.

Speed limits in local streets

- There is strong local and international support by the community for lower speed limits in local (residential) streets.

- Reducing speed limits in these regions is likely to reduce the likelihood of fatal and serious injuries to vulnerable road users.

- The Melbourne City Council has already implemented 30 km/h in some shared roads (e.g., Swanson Street) in the CBD

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ToR 4

Adequacy of current response to smart phone use, including the use of technology to reduce the impact of smart phone use on driver distraction

- Mobile phone use makes up 7% of all non-driving tasks that are initiated by Australian drivers and drivers spent 7% of their total driving time using a mobile phone. Half of this involved a hand-held mobile phone.

- Data from the US show that illegal visual-manual phone use (e.g. texting, dialling) is associated with an **83%** increase in the risk of a severe, moderate, or minor crash occurring.

- Several technologies have been designed to reduce the impact of smart phone use on driver distraction, including automated mobile phone detection enforcement cameras, mobile phone blocking technology and driver selected Apps which limit phone functionality.

- In December 2019, NSW became the first jurisdiction in the world to implement an automated mobile phone detection camera enforcement program, using both fixed and transportable cameras.

- The potential effectiveness of an automated mobile phone enforcement camera program in NSW has been estimated by MUARC as resulting in an annual reduction of 67 casualty crashes (19 fatal and serious injury (FSI) crashes), 86 casualties (21 FSI) and $25 million in crash costs.

- In Victoria, widespread roll-out of automated mobile phone enforcement is predicted to prevent 95 casualty crashes per year and $21 million in crash costs.

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Measures to improve the affordability of newer vehicles incorporating driver assist technologies

Measures currently available

- Average adult wages increased by 55% over 10 years whilst the prices for equivalent popular vehicles increased only between 5 and 10%, effectively making vehicles much more affordable.

- Despite improving affordability, consumers were less likely to prioritise safer vehicle choices. MUARC research estimated that overall road trauma could have been reduced by 24% if everyone had purchased the safest vehicle available in class.

- Part of this reduction in safe vehicle choices has been brought about by increasing consumer preference for purchasing types of vehicles that are inherently less safe. In particular the growing market share of commercial utilities, and the growing proportion of small and light vehicles.

- Efforts need to be made to increase the priority consumers give to safety in determinants of vehicle choice, through use of ANCAP ratings for new vehicles and Used Car Safety Ratings for older vehicles.

- Safer choices do not necessarily come at a cost to consumers, simply only requiring the substitution of one vehicle for a safer one at the same price.

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Future vehicles

- In spite of what we think, Autonomous Electric Vehicles (ELVs) of some form will be upon us in the next 10 or so years, given their attraction and the effort that Original Equipment Manufacturers (OEMs) have committed to their development.

- It is critical, therefore, that we are fully prepared for their introduction.

- Current trials will be useful in highlighting potential benefits and problems but clearly more research in terms of societal impact is clearly still urgently needed.

- Potentially safety benefits, reduction in consumer costs, and community improvements is necessary to be sure we get the appropriate business models and policies.

- Critical for government agency involvement and leadership to be sure maximum societal improvements are obtained.

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Adequacy of current road standards and the road asset maintenance regime

- Programs such as the Safer Roads Investment Plans (SRIPs) and the Safer Roads Program need to be extended beyond their current funding schedules to continue to provide safety benefits.

- A continuing focus on the adoption of a safe system approach to road design and maintenance is vital to address the apparent increase in severe injuries on rural highways and undivided roads.

- With the imminent arrival of autonomous vehicles, it is critical to be sure that the interaction of the vehicle and the infrastructure receive even stronger focus to ensure the potential safety benefits of these new technologies is realised.

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Adequacy of driver training programs and related funding structures such as the L2P program

- Work-related vehicles (light and heavy vehicles) represent a large proportion of the road traffic environment and should be managed under workplace and public health approaches to reduce the road toll.

- Effective and sustainable approaches to positively changing the behaviour of work-related drivers are focused on challenging drivers' attitudes and beliefs associated with unsafe driving behaviour.

- Skill-based driver training is <u>not effective</u> in improving driving performance and reducing crashes.

- Incentivising behaviour using extrinsic benefits (e.g., financial incentives) is <u>not effective</u> in improving driving performance.

- Hazard perception training is <u>effective</u> in improving hazard perception skills; this type of skill-based driver training that has been found to be effective in improving driver performance.

- The behaviour modification techniques, group discussion and goal setting and feedback, are <u>effective</u> in improving driver performance.

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Adequacy and accuracy of road collision data collection.

- A number of events over the last decade have impacted the collection of road collision data
    - Decision by Victoria Police not to collect data on non-injury crashes
    - Change in TAC policy for claims acceptance
    - Change in Victorian hospital admission policy
- Positive work to improve quality of road collision data
    - Linking of police reported road crash data with hospital admissions data
    - Subsequent work on correcting hospital admission status in official records (TIS, RCIS)
- Potential future enhancements
    - NSW model of considering all hospital admissions from road crashes
    - Linking with Ambulance Victoria data to provide information on hospital admissions not reported to police
    - Provision of additional injury outcome measures: threat to life (AIS, ICISS), long term outcomes (DALY)
- Many of the data problems inhibiting road safety research are not related to collision reporting
    - Documentation of countermeasure implementation
    - Measurement of travel exposure
    - Registration and licensing data

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