
# INQUIRY INTO ROAD SAFETY IN TASMANIA

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**PRESENTED BY:** **ROAD SAFETY MATTERS LIMITED (NFP)**

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**CURRENT SITUATION**

The graph below from the Department of State Growth, and statistics by the Bureau of Infrastructure, Transport, Research & Economics (BITRE) demonstrate that over the past 10 years, Tasmania's fatality rate has increased by 13.3% in 2021, and serious injury by 12%, with approximately 70+ people with a 'high threat of death' and lifelong injuries.

| | 10 yr Avg | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fatalities** | 32 | **36** | 29 | 32 | 32 | 36 | 33 | 33 | 35 | 31 | 24 |
| **Serious Injury** | 270 | **284** | 249 | 279 | 267 | 282 | 298 | 267 | 256 | 241 | 272 |

Reductions in the road toll in terms of fatalities have been primarily attributed to;

- road design/infrastructure;
- legislative change & policing (seatbelts, random breath tests, speed cameras);
- increased vehicle safety features (ABS, airbags, traction control); and
- advancements in medical technologies/intervention and response times.

Evidence based on data demonstrates that current practices are proving ineffective and alternative methodologies should be investigated to address modern-day issues (ie: texting+driving, distractions, cyclists). The road safety industry is lagging in the adoption of technology, successfully used in a variety of other industries/applications.

**FATALITIES & SERIOUS INJURY (FSI) STATISTICS:**

Nationally fatality rates have seen a slight decline, whilst serious injury rates have escalated disproportionately. Serious injury statistics have an extended reporting lag, but estimates from 2020 are over 44,000 for hospital admissions Nationally. Year to date Nationally there has been an increase of 55 deaths or an increase of 4.7%.

| NATIONAL | 8 yr Avg | 2017 -18 | 2016 -17 | 2015 -16 | 2014 -15 | 2013 -14 | 2011 -12 | 2010 -11 | 2009 -10 |
|---|---|---|---|---|---|---|---|---|---|
| **Admissions** | 36157 | **39404** | 39205 | 38148 | 36263 | 35464 | 34550 | 33240 | 32981 |
| **High Threat of Death** | 9187 | **9790** | 9711 | 9360 | 9064 | 9260 | 8914 | 8608 | 8792 |
| **Fatalities** | 1242 | **1135** | 1221 | 1292 | 1204 | 1151 | 1300 | 1277 | 1353 |

According to the Australian Institute of Health & Welfare (AIHW) the incidence of serious injury has been gradually escalating from 2000 (3.3%pa). Over 40,000 people are injured on the road annually. In the 2011 report by the AIHW, it was estimated that between 25-28% of the serious injury figures were deemed 'high threat of death', therefore if the developments of the last 15-20 years were not made these 25-28% would indeed be added to the fatality figures.

To bring this into perspective, for the 2020 year – the fatality figure was 1195, by adding 25% of the 40,000 serious injuries (high threat of death) the fatality figure would be in excess of 11,000. This figure would increase the ratio to 50 deaths /100,000 population. Peak recordings in Australia were in the 1970's with 27.5 deaths/100,000.

The statistics relating to 'serious injury' historically have been concealed behind the reduction in the road toll statistics. These figures need to become more transparent and communicated better to the wider public. Reporting of admissions and serious injury needs to be in line with fatality/crash statistics.

**PRIMARY CAUSES OF ROAD TRAUMA:**

In a report released in August 2021, by the Transport Accident Commission (TAC) over the last five years over 70% of fatalities were caused by 'mistakes', otherwise referred as 'human error'. In the first three years of driving up to 95% of crashes are caused by 'driver error' (Center for Injury Research & Prevention, Children's Hospital of Philadelphia – Research Center). Amongst Australian industry experts the accepted percentage of deaths caused specifically by 'driver error' averages around 75-85% across all age groups.

Whilst the Towards Zero strategy is based around the fact that humans are human and make mistakes, there is no pillar or focus on helping reduce the rate of errors, measures which can be positively affected. There should be zero acceptance for preventable serious injuries and fatalities caused by driver error. All efforts should be focused on reducing human error, by increasing competency levels and attitudes around road safety.

The 'Fatal 5' are all consequences of actions/decisions made by the 'driver' – speeding, distractions, drug & alcohol impairment, not wearing a seatbelt and fatigue.

Improvements in training and testing procedures need to be examined/trialed before introducing more punitive measures. All of the key issues can be addressed effectively with existing and developing technologies. Combining multiple digital technologies (simulation, artificial intelligence, gaming, VR) the most 'at-risk' market can be trained using age appropriate (and scalable) training modality.

The approach to reduce the road toll needs to look at the core problem, which is universally agreed by both academics and practitioners globally – HUMAN ERROR. The Safe System Approach, which includes Safer roads, Safer vehicles, Safer speeds and Safer road users – needs a core focus on – SAFER DRIVERS.

**WORLDS BEST PRACTICE:**

Globally Australia is rated 12th for Road Safety, but 15th in the 18-25yo age group.

Currently Government Agencies are placed with the responsibility of educating and communicating information about licensing, road safety, learning to drive and road trauma statistics, but fail to conduct any meaningful/actual driver training.

- Training: the **action** of teaching a person a particular **skill** or type of behaviour
- Education: the process of receiving or giving systematic **instruction** (at school or university).

Current practices allow Learner Drivers to complete a multiple choice theory test, then be classed competent enough to actually drive a motor vehicle (a skill), with anyone over the age of 21 with a full license sitting in the passenger seat, with no qualifications/training or overriding control of the situation (ie: standard car, not fitted with dual control). The Learners are required to complete 120 hours of supervised driving, and maintain a logbook/App with details of the journeys.

In vast contrast to Sweden, United Kingdom and Netherlands – which are amongst the best performing jurisdictions in the World, Australia's licensing regulations and driver training procedures are not comparable with 'World's best practice'.

In Sweden future road users are subjected to 8 theoretical tests (including training about drugs, alcohol and driving), 14 driving tests prior to being ready for the final test, followed by hazard education which includes skid control and emergency braking for slippery conditions. Prior to any on-road instruction is permitted, the instructor and student must complete a 3 hour traffic safety course together.

**WORLDS BEST PRACTICE … continued.**

In the United Kingdom students can get their licenses at 17 with no minimum hours or training. There are 2 theory tests, a hazard perception test and 2 vehicle safety questions. The students have to pass a rigorous 40 minute driving ability test in order to get their license.

In the Netherlands a prospective road user must do a theory test, then enroll with a driving school to use the school's vehicle for the practical test. There are no minimum time allocations or hours of training, but the average Learner driver completes approximately 35 lessons with a registered driving instructor prior to applying for the driving license test.

Singapore, with the best road safety rating in the Southern Hemisphere, introduced mandatory simulation training/testing for all Learner Drivers.

These examples are to demonstrate 'World's best practice' and these jurisdictions emphasis on professional driver training and competency of the drivers as paramount to licensure. Compulsory log books with 120 hours of 'lay driving instruction' delivered predominately by untrained instructors (parents/guardians) can only allow the students to be as good as their instructor – at best. The average amount of professional lessons taken to by Australian Learner Drivers is between 6-10 (approx. 4.5 – 7.5 hours of total 120 hours).

The only legislative amendment to driver training has been the introduction of the Graduated Licensing System in 2008 with the compulsory 120 hours of supervised driving. Of the top ten performing countries Worldwide, none mandate a Graduated Licensing System.

**VEHICLE TECHNOLOGY ADVANCEMENTS:**

The increasing road toll comes despite a study revealing cars are safer than ever, with data from independent crash-test authority ANCAP revealing 92% of the new cars sold in Australia have a five-star safety rating. Cars with a four-star rating represent just 3% of new car sales and cars with a three-star or lower account for just 1% of sales.

Over the last decade alone, the safety of vehicles has improved exponentially with features such as:

- Anti-lock braking system (ABS)
- Air Bags
- Traction Control
- Lane Departure Warnings
- Electronic Stability Control
- Blind Spot Indicators
- Adaptive Radar technology

As of July 2019, more than half the cars sold in Australia were fitted with potentially life-saving autonomous emergency braking technology, which automatically slams on the brakes if it detects an impending rear-end collision.

There have been recommendations to reduce the luxury car tax to make premium vehicles with safer, expensive technology more affordable, however safer vehicles deliver incremental benefits over the long term … it's takes about 20 years to achieve fleet turnover.

**DISTRACTION MANAGEMENT (incl. mobile phone use):**

The vast rise in fatalities associated with the use of mobile phones is of grave concern, education and training is vital, for users to understand the dangers associated with same. Using available technologies, training is available to demonstrate the 'real time' hazards, reduced reaction times and potential consequences associated with using mobile phones whilst driving.

Many State/Territory Governments are deploying new technology along with harsher penalties to curb distracted driving and reduce the incidences of people using mobile phones whilst driving. NSW was the first to introduce/roll out new technology developed in Melbourne by Acusensus – the World-first mobile phone detection camera, capable of snapping photographs of drivers touching their phones while driving.

Drivers need to also be able to manage other in-cabin distractions, such as passengers (incl. children), refer MUARC study citing young children are more distracting than mobile phones. Simulation training and/or role playing (Fit2Drive) can provide tools/resources and training programs to address these issues.

Other technologies to disable phone usage whilst driving could also be deployed.

**VULNERABLE USER GROUPS**

Vulnerable users include cyclists, pedestrians, motor bike riders, elderly, disabled/impaired drivers, lower socio-economic groups, CALD (Culturally and Linguistically Disadvantaged), immigrants and Indigenous/Torres Strait Islanders.

Below is a graph representing fatalities and serious injury over the last 6 years in Victoria – including hospitalized, hospitalized for over 2 weeks (large percentage of this group will have life long injuries), hospitalized in the 18-25 year old age groups. Increases in fatality rates amongst cyclists, pedestrians, motor bike riders and the elderly are comparable State by State.

| | 16-20 | Cyclist | M/bike | Peds | Metro | Rural | Total | Hosp | >2 wks | 18- 25 yo Hosp | >2wks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2015** | 40 | 10 | 30 | 33 | 115 | 137 | **252** | 6288 | 965 | 1197 | 130 |
| **2016** | 22 | 8 | 56 | 40 | 140 | 150 | **290** | 7171 | 1018 | 1451 | 156 |
| **2017** | 26 | 12 | 38 | 31 | 103 | 156 | **259** | 7765 | 928 | 1565 | 137 |
| **2018** | 13 | 7 | 38 | 37 | 104 | 109 | **213** | 8122 | 927 | 1642 | 119 |
| **2019** | 30 | 11 | 44 | 49 | 120 | 146 | **266** | 8046 | 903 | 1507 | 122 |
| **2020** | 13 | 14 | 32 | 30 | 85 | 126 | **211** | 5426 | 599 | 1044 | 75 |
| **5yr Avg** | 26 | 10 | 41 | 38 | 116 | 140 | **256** | 7478 | 948 | 1472 | 133 |
| **6yr Avg** | 24 | 10 | 40 | 37 | 111 | 137 | **249** | 7136 | 890 | 1401 | 123 |

For most ‘at-risk’ teenagers (who can be identified by the age of 6), the thought of becoming incapacitated for the rest of their life is more confronting than death. Statistically the likelihood is far higher for debilitation that fatality. It has been estimated that an 18yo road trauma victim suffering quadriplegia will cost approximately $15m over his/her lifetime, without considering the emotional expense of a life wasted.

**ADVERTISING & COMMUNICATIONS:**

Advertising campaigns depicting victims of road trauma are effective for a certain percentage of the market, however access and availability to that market needs to be sought. With so many media platforms available the segmented target audiences, specifically the 16-20yo demographic are not attuned to watching advertisements. The most appropriate place to capture the entire market is through the school system, to allow and repeat the messaging for maximum penetration.

There is a lack of evidence to support any quantifiable reduction in fatalities or serious injury (FSI) using sports sponsorships/branding, as it lacks relevance and connection to the issues or messages.


**NATIONAL ROAD SAFETY STRATEGY:**

Current procedures are focused on the 4 safety pillars – Safer Roads, Safer Cars, Safer Speeds and Safer Users, with disproportionate budgets allocated towards the biggest 'cause' of serious injury and fatality, widely acknowledged and evidenced as 'driver error'.

As per the National Road Safety Strategy 2011-2020 which states the Safe System approach is focused on making the road transport system more forgiving of human error – conversely more efforts need to be directed toward reducing human error. Furthermore, the National Road Safety Council (NRSC) "supports any initiative aimed at investigating the use of new technologies to minimise driver error and automatically monitor driver performance" – NRSC Safety Strategy February 2011.

Changing driver behaviour is not easy. Providing information alone does not necessarily lead to changes in behaviour. Worksafe – the enforcers of Occupational Health and Safety laws state "… training should not be restricted to just delivering a talk on a specific topic. It should also involve practical exercises …"

In the 2013 report from the Parliamentary Inquiry into road safety in Victoria state "Improving road user competence and awareness through education, enforcement and technology has been and remains a key factor in reducing crashes".

The 2020 report by the Committee for the Parliamentary Inquiry into the increase in the Victorian road toll, recommended trialling simulation and VR training for Learner Drivers.

**DRIVER TRAINING / TESTING PROCEDURES:**

In conjunction with learning the road rules, Learner Drivers require practical driver training to teach them the cognitive skills required to successfully and safely operate a motor vehicle. In Australia the average number of lessons Learners get with professional instructors is between 6-10, which equates to approximately 5-8 hours of the compulsory 120 hours. This figure is reduced in rural/regional areas.

Professional driving instructors require a standard Certificate III or IV in Training & Assessment to become a driving instructor, however this certification does not necessarily qualify them as a 'good driver'. The industry requires more regulation and testing to instructors to improve the overall quality, results and perception of the 'service'.

Whilst it is cost prohibitive for the majority of parents/guardians to buy too many lessons, parents themselves would benefit from some professional tuition prior to starting the 120 hours with their children, otherwise parents are merely passing on bad habits. The national Keys2Driving initiative that provides one lesson for the Learner and their Parent/Guardian has proven beneficial, but only penetrates around 8% of the market.

Initiatives such as the L2P program are great in theory, again the competency of the instructor/mentor needs to be assessed to ensure they are teaching the right skills and behaviours.

An accreditation process for all Driving Instructors should be mandatory to provide transparency and accountability to this professional service industry. Many driving instructors focus on pass rates for tests, rather than developing safe drivers.

**DRIVER TRAINING/TESTING PROCEDURES … continued**

Testing procedures lack consistency, and need to be standardized. Again technology can be introduced to ensure all students are assessed accurately.

Singapore, with the best road safety rating in the southern hemisphere, introduced simulation training as part of the assessment in their licensing centres, mandating all students complete a set course in the simulators. The simulator training comprises three modules each taking 15-20minutes to complete. Learners must book a minimum of 5 practical lessons before booking the simulator training. Scenarios used in the training are based on the top 10 causes of traffic accidents, which include high-speed expressway cornering, cyclists in blind spots and driving in wet conditions.

The use of simulation would help learner drivers better prepare for various road situations (eg: 1.5m distance from cyclists, emergency braking exercises, various weather/traffic/road conditions) that would otherwise be too hazardous to train for, and inculcate good and safe driving habits.

**ROAD SAFETY EDUCATION IN SCHOOLS:**

According to educational experts specializing in later stage teenagers with under-developed frontal lobe/cortex, to 'cut through' the students need to acquire a deep understanding of the specific activity which can only be achieved by making and learning from their own mistakes. Psychologically teenager's retention rates are higher when they are engaged or immersed in an activity they enjoy and can do autonomously. Simulation, gaming and educational technology provides that opportunity in a safe and controlled environment.

| 2016 CASE STUDY: | SWIMMING / DROWNING | DRIVING / ROAD TRAUMA |
|---|---|---|
| Deaths of 15-24yo | 23 | 264 |
| Training provided in Schools | 6 years (Primary) | 0 (High/Secondary) |
| Avg. annual cost of training | $80-120 | $0 |
| Education/training provided | Skills training/lessons | Scare campaigns |
| Frequency of use >18yo | Seasonal | Daily |
| Cause of death 0-14yo | 3rd | 1st |
| Cause of death 15-25yo | - | 2nd |
| WHY should schools provide? | Life Skill/Duty of Care | Life Skill/Duty of Car |
| Fatality rate /100,000 | 0.8 | 5 |

There are existing road safety education tools/resources available for schools/teachers, varying State by State. These are aligned to the curriculum in subjects such as health, wellbeing, mathematics, literature, physics. Few schools incorporate any 'real time' driver training in the Year 10 – 12 curriculum/activities as it is too cost/time prohibitive.

**SIMULATION/VR TECHNOLOGY:**

Simulation is used successfully worldwide to enhance capabilities, save resources and reduce risk. Extensive research has been done on the efficacy of simulation training for novice drivers, all providing evidence of the benefits, both short and longer term.

- How would changing driver training in the Queensland licensing system affect road safety? Deliverable 2: Simulators for skill acquisition training & assessment, and their impact on road safety. CARRS + TMR 2013. CONCLUSIONS: PC based training is common & has an important role to play in the training of novice drivers. One influencing factor relative to the use of driving simulators for novice driver training & assessment is the lack of actual risk or danger.
- The effects of PC based training on novice drivers' risk awareness in a driving simulator. Anuj Pradhan, Donald Fisher, Alexander Pollatsek. 2005. CONCLUSION: Participants were better able to identify, after training, the areas in a scenario that should be monitored closely and areas that could have hidden risks. Improvement in 2 tests scores are between 39-67% and 51-70% respectively.
- Simulator training of novice drivers: a longitudinal study. Richard Wade Allen, George Park. 2011. CONCLUSIONS: 2 years after the end of the training (over 500 teenage novice drivers) results showed participants had significantly lower crash rates than conventionally trained novice drivers.

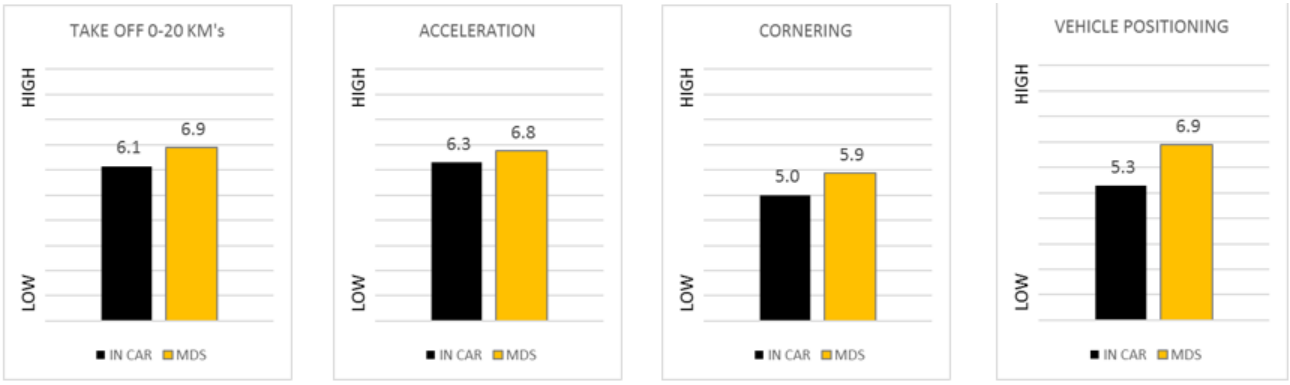
Currently there are new technologies available to bridge the gap between theory and practical driver training, delivering digital, age appropriate, road safety solutions to students on their PC's, similar to the first stage of simulation training the RAAF use. These programs are safe, engaging, scalable and cost/time effective.

The 2020 Parliamentary Inquiry into the increase in the Victorian road toll report, recommended the Government conduct a pilot of VR simulation training for Learner Drivers, to determine the long term benefits.

**CASE STUDY: myDRIVESCHOOL®**

In January 2019 Driveschool Enterprises conducted a blind randomised test at a driver training facility in Melbourne, using independent professional driving instructors. The test was a direct comparison between the myDRIVESCHOOL® online simulation program and the Government funded in-car lesson.

Students who completed the PC-based simulation training rated 48% more competent and 17% less anxious, compared to the group who had no received the training prior.




Results from 120 student questionnaires (none had driven a car prior):

**91.3%** confirmed reduced anxiety prior to getting into a 'real' car

**99.4%** thought was a safe way to learn basic skills before getting into a car

**95.7%** believed would improve their initial driving experience

**94.4%** indicated helped them understand traffic conditions/intersections

**94.4%** agreed should be used as part of the Graduated Learning System

**BENEFITS OF SIMUALTION TRAINING:**

**COGNITIVE SKILLS:** Decision making, spatial awareness, situational awareness, judgement, pattern recognition, memory recall, map reading

**MOTOR SKILLS:** Muscle memory, tactile memory, hand-eye co-ordination, appreciation of force, balance, reflexes, scan

**EMOTIVE SKILLS:** Reduction in stress and anxiety, self control, confidence, discipline.

**GAME BASED LEARNING:**

The graph below compares traditional training (lectures, online tutorials) to hands-on training and game based learning.

| | TRADITIONAL TRAINING | HANDS-ON TRAINING | GAME-BASED LEARNING |
|---|---|---|---|
| Cost-effective | X | | X |
| Low physical risk/liability | X | | X |
| Standardised assessments allowing student to student comparisons | X | | X |
| Highly Engaging | | X | X |
| Learning pace tailored to individual student | | X | X |
| Immediate feedback in response to student mistakes | | X | X |
| Student can easily transfer learning to real world environment | | X | X |
| Learning is actively engaged | | X | X |

**SIMULATION + GAMING FOR DRIVER TRAINING:**

Globally professional motorsport organisations have used simulation training for elite athletes / drivers for 20+ years and recognize the direct transfer of skills to on-track performance. As high level performance can be assessed and developed using these training methodologies for higher order skills, it follows that improvement in general cognitive skills, driver competency and behaviours can be achieved using software 'built for purpose', thus creating safer drivers on road.

The Federation International Automobile (FIA) the World's largest motoring body (80 million members) endorse and support the use of simulation and gamification for training purposes.

1. eSPORTS : FIA using eSports to scout for future driver : https://the-race.com/esports/wrc-launches-driver-scouting-programme-using -wrc-9-game/
2. Online simulation : motoring journalist/race car driver using simulation games to improve lap times and learn circuits : https://www.forbes.com/sites/peterlyon/2021/01/31/driving-simulators-enable-racers-and-enthusiasts-to-master-tracks-without-enen-drivingt-them-and-im-proff-of-that/?sh=370985233790
3. Racing games: Playstation/GT Academy : https://uk.nissannews.com/em-GB/release-13734-gt-academy-names-winning-drivers The winner of the first GT Academy in 2008 (Lucas Ordenex) retired from a full time racing career in 2019. Prior to winning GT Academy all training was one on a single flatscreen monitor with a portable force feedback steering wheel/pedal set.

Both professional and commercial organisations readily acknowledge the effectiveness of simulation training for professional drivers, for learning tracks, testing equipment, learning various characteristics of the vehicle's dynamics, practicing HOTS (high order thinking skills), race craft, situational/hazard awareness and improved reaction times.

**SIMULATION TRAINING IN OTHER INDUSTRIES:**

The use of simulation, artificial intelligence, virtual reality (VR), gaming and immersive technologies for education and training purposes has been successfully demonstrated in a variety of industries, revealing the road safety industry is lagging in the take-up of technology.

Examples include:

1. **AUSTRALIAN DEFENCE FORCE** – annual budget of $500M in 2011-12 for policy direction and co-ordination of simulation activities
2. **AVIATION:** Innovation has led to the push for immersive technologies such as live, virtual, constructive (LVC) or real mixed with synthetic training, as an evolution to traditional simulator technology. Another adjunct to simulation is the evolution of gaming technology to maximise user experiences in challenging and realistic environments
3. **RAAF:** Using PC based simulation training for early stage trainee pilots
4. **DISABILITY/REHABILITATION:** https://www.researchgate.net/publication/275255322_A_randomised_clinical_trial_to_determine_effectiveness_of_driving_simulator_retraining_on_the_driving_performance_of_clients_with_neurological_impairment citing 86% of participants passed their driving test after completing simulation training, as opposed to 17% who did not (2015).
5. **MINING:** Training simulators ensure mine safety and productivity
6. **MEDICAL / HEALTHCARE:** Simulators provide and environment to gain medical skills and practice procedures, enhanced by real-time validated performance feedback.
7. **EMERGENCY RESPONSE/SERVICES:** Training for specialist/advanced skills https://sciencedirect.com/science/article/abs/pii/S0747563215002757
8. **ELDERLY:** a 6 week double blind randomised test of older drivers proved eff3ective in skills, attention and attitude: https://www.ncbi.nlm/nih/gov/pmc/articles/PMC6513888

**INCLUSION AND APPLICATIONS:**

Road Safety Matters has been established to research, advocate and deliver digital road safety solutions to 'digital natives' (Generation Z – those born after 2000).

Digital road safety solutions are the safest way to educate, engage and train future road users in a safe & controlled environment.

Simulation training using digital technologies are suitable for a variety of applications and user groups, including – but not limited to:

- Pre & early stage learner drivers (integrated into the Graduated Licensing System)
- Immigration and CALD (Culturally & Linguistically Disadvantaged)
- Disability – used as an 'assistive technology' for specialized driver training
- Rehabilitation – assessment of patients mobility options
- Elderly – relicensing of elderly drivers, enabling older drivers to 'self assess'
- Indigenous / Torres Strait Islanders – high rate of incarceration for traffic related incidents/reduced capacity to get Learners permit due to literacy levels
- Regional & remote communities
- Specialist needs – ADHD, autism & people with learning impairments
- Post crash care – anxiety, PTSD, occupational therapy
- Juvenile Justice – compliance and retraining for repeat offenders

**FUTURE STEPS:**

In 2020, the national road toll was down by 6.7% compared to the previous year, with most attributing the recent decline in greatly reduced traffic volumes due to the COVID-19 pandemic. Two States, Queensland and Tasmania, saw alarming spikes of 26% and 24% respectively.

There has been a failure to achieve appropriate targets set in the National Road Safety Strategy 2011-2020, which identified the FUTURE STEPS as:

- Addressing the substantial increase in crash risk at the beginning of the unrestricted licence period through more gradual relief from the provisional licensing restrictions
- In partnership with agencies responsible for delivering school education, developing road safety resources for secondary school students prior to licensing
- Developing educational and regulatory interventions to minimize the effects of driver distraction
- Investigating the use of new technologies to minimize driver error and automatically monitor driver performance
- Increased support for Indigenous and remote communities

The delivery of digital road safety solutions can address all of the above requirements, in a safe and controlled environment, which is both time and cost effective. Willingness to implement technologies that have had proven success in other industries is paramount to the safety of future road users.

**TECHNOLOGY / INNOVATION:**

Road safety technology has developed exponentially in the last 5-10 years, and the road safety industry has, in terms of driver training, been slow in the uptake of same.

Current approaches to road safety have proven ineffective at reducing the crash rate incidence. There is an urgent need for revision of the existing road safety practices / training with solutions available and/or in development, which can be deployed in a safe, cost effective and timely manner.

The current Victorian Road Safety Strategy 2021-2030 cites the need to be agile in adopting to developments in road safety technology, the needs of the Victorian community and changes in the social and economic environment. It is estimated that 2 million more people will be on the road in 2021-2022 opting for private transport as opposed to public transport, post COVID. Road trauma statistics will inevitably increase.

Data clearly demonstrates the primary cause of trauma is 'driver error', therefore the solutions need to focus on the 'driver', with the emphasis on preventative solutions, rather than punitive measures.

The objective is to 'train' drivers to be more competent and risk averse. Driving is a skill. Learners need to be trained, not just educated in the associated risks. People do not learn to swim by reading a book, or being shown vision of people drowning.

**SUMMARY:**

As evidenced in the aforementioned, the road safety community/industry is NOT keeping up with other industries in terms of technological advancements that could be utilized to help reduce the incidence of death and serious injury caused by road trauma – costing Australia over $30Billion every year, and immeasurable emotional trauma to families and communities.

Between 70-95% of fatalities are caused by 'driver error', yet in the past 50 years every aspect of road safety has been improved except for the way we teach people how to drive.

Simulation/VR training is not designed to replace 'real time' training, but does provide a digital platform to train for dangerous situations that can not be appropriately incorporated into the learning objectives/outcomes. Examples include: sharing the road with cyclists (at 1.5m distance), emergency braking procedures, fatigue management, drug/alcohol impairment, hazard avoidance (wildlife/pedestrians), weather/road conditions (rain/snow/ice), etc.

A report from the Federal Government road safety inquiry released in September 2018, slammed authorities for investment, accountability and implementation 'failure'. The report claimed *'improving road user competence and awareness through education, enforcement and technology has been and remains the key factor in reducing crashes'.*

A 2019 report by the Australian Automobile Association read *"every month we delay in accelerating an appropriate response we must be recognized as contributing to preventable deaths and injuries".*

The 2021-2030 National Road Safety Strategy priorities can all be addressed with simulation training:

- Indigenous Australians,
- Regional road safety,
- Remote road safety,
- Risky road use,
- Vulnerable road users

It is estimated a further two million Australians will be on the road post COVID, choosing private transport rather than public, this will obviously increase road trauma statistics exponentially.

Crash prevention should be the focus. Implementation of positive training programs that can engage and standardize learning outcomes are required, rather the further punitive measures.

Increasing competency levels of future road users provides the greatest capacity to improve road trauma statistics. The use of simulation training is a preventative measure that can standardize and improve early stage driver training, and prepare novice drivers for a variety of road/weather/traffic conditions in a safe and controlled environment. This form of training can be integrated into the Graduated Licensing System, to ensure all Learner drivers have successfully completed the courses covering in-cabin skills, speeding, situational/hazard awareness and modules about texting+driving, drug & alcohol impairment and fatigue management.

These programs have been designed specifically for the target market of 16 – 20year old novice drivers, who are all 'digital natives' who respond to and engage with technology. myDRIVESCHOOL® programs are fit-for-purpose and have been trialed by over 5000 students with great success.

At this point, the Government and Associated Agencies, need to look at alternative training/educational methods, that can be of NO harm and are designed and developed for the market, as current statistics demonstrate current programs/policies and procedures are NOT working.

For further information :

Lisa Skaife
Director : Road Safety Matters Ltd (NFP)
Phone: 0419 571969
Email: lisa.skaife@mydriveschool.com