Transport for NSW

Responses to post-hearing questions

Portfolio Committee No. 1 – Premier and Finance

Impact of the regulatory framework for cannabis in NSW

Hearing date – 11 December 2024

QUESTIONS ON NOTICE

QUESTION 1. P14

The Hon. STEPHEN LAWRENCE: So, broadly, you're not aware of any research, whether internationally or here, on the question of what happens to road safety outcomes when you legalise driving with medicinal cannabis in your system?

LOUISE HIGGINS-WHITTON: There is some research. There's a lot of emerging research when it comes to medicinal cannabis specifically and its effect on driving. A lot of our understanding comes from recreational cannabis use, which is somewhat applicable because it's the same substance, but not completely. There is emerging research coming in that space. We can look to the experience in, for example, the US. We know that where medicinal cannabis has been introduced, if you look at crash rates overall, the few studies that have been done don't show that you get an increase in the overall crash rate from just having medicinal cannabis. Having said that, there are also some studies that are showing that, if we're talking about the broader legalisation of recreational use and the broader access to cannabis products, that's when it appears, from some of the research studies in the US, that you start to see those shifts in crash rates at the state level overall. I would just put a caveat on that, noting that the US is quite a different enforcement culture to what we have in Australia in terms of having that very established history of RBT and successful history of random stopping.

The Hon. STEPHEN LAWRENCE: Would you be able to provide us with a summary of that overseas research?

LOUISE HIGGINS-WHITTON: Yes. I'm happy to take it on notice and provide you with some research.

ANSWER:

Assessing the causal impact of cannabis policies on overall road safety outcomes is challenging owing to numerous factors, including differences in how policy is implemented (e.g. retail sales/ access to cannabis) and the design of potential co-interventions such as drug drive testing regimes and enforcement.

Jurisdictions may also differ from each other in road safety regulations (e.g. seatbelt laws, graduated licensing, distracted driver laws, speed limits), patterns and types of population substance use and motor-vehicle safety (Windle et al., 2022[1]).

All jurisdictions considered by Transport that have legalised cannabis have prohibited driving while demonstrably affected by cannabis, regardless of whether the drug is from a recreational or medical source. However, offence and enforcement frameworks and practices vary.

Legalisation of medically prescribed cannabis

There is clear evidence that THC, the psychoactive ingredient in cannabis (including medicinal), can cause cognitive and psychomotor impairments that degrade the ability to drive. These deficits can begin at low doses and are highly individualised.[2]

[1] Windle, S. Socha, P. Nazif-Munoz, J. Harper, S. Nandi, A. 2022. The impact of cannabis decriminalization and legalization on road safety outcomes: a systematic review. American Journal of preventative medicine.
[2] https://austroads.gov.au/__data/assets/pdf_file/0037/498691/AP-G56-22_Assessing_Fitness_Drive.pdf

There are significant challenges with identifying overall crash trend outcomes that may be associated with legalisation of medicinal cannabis. There does not appear to be strong evidence in currently published research of causal associations between negative overall road safety (crash) outcomes and the legalisation of medically prescribed cannabis only. This is based on the limited crash outcomes evidence available and reviewed by Transport as part of ongoing monitoring of research (Cook et al., 2020)[3]. Further detailed consideration of this and any other overseas research (gaps, limitations), particularly its applicability in the Australian context, would be required if specific alternative policy options were contemplated for NSW.

Transport has identified a small number of jurisdictions/countries with specific medically prescribed cannabis driving exemptions or defences. Different countries have also taken different approaches to medically prescribed cannabis access.

Many European countries only allow cannabis to be prescribed for a narrow range of conditions and have comparatively smaller populations of medically prescribed cannabis users. For example, in the UK and Ireland, cannabis can only be prescribed for epilepsy, nausea/vomiting caused by chemotherapy, and Multiple Sclerosis. In Australia, there are two registered and over 500 different unregistered medicinal cannabis products with varying THC content and these can be prescribed for a broad range of conditions[4].

Transport anticipates that research evidence specific to medicinal cannabis and safety risks and outcomes will continue to grow. This may address current information gaps and limitations.

Decriminalisation/legalisation of cannabis

United States

With regard to crash outcomes and THC in overseas jurisdictions, a recent systematic review examining the impact of cannabis on crash risk in states in North America found cannabis decriminalisation and legalisation were related to increases in fatal collisions or Motor Vehicle Crashes (MVC) (Windle et al., 2022[5]):

- For example, for Colorado, most studies found an increase in MVCs associated with recreational legalisation or retail sales. Fatal crashes were estimated to have increased in Colorado from between 3.6% to 5.9% after legalisation or by 0.4 fatalities per billion vehicle miles travelled. After retail sales started in Colorado, MVCs were estimated to have increased from between 2.5% to 13.9% or by 0.83 and 1.46 fatalities per million residents or billion vehicle miles travelled, respectively. In Colorado, 5 ng/ml or more of THC in whole blood gives rise to a "permissible inference" that the person is under the influence of cannabis.
- For Oregon, most studies likewise found an increase in MVCs associated with cannabis recreational legalisation or retail sales. Fatal collisions or MVC fatalities were estimated to have increased between 1.5% to 20.5% after legalisation and 0.7% to 4.5% increase related to retail sales. In Oregon a driver is not allowed to drive while negatively affected by illicit substances.
- For the studies that reviewed more than two USA states, most found an increase in MVCs or related outcomes associated with recreational legalisation or retail

[3] Cook, A.C., Leung, G. & Smith, R.A. (2020). Marijuana decriminalization, medical marijuana laws, and fatal traffic crashes in US cities, 2010–2017. *American Journal of Public Health*. 110(3), 363–369. https://doi.org/10.2105/ajph.2019.305484
[4] https://www.health.nsw.gov.au/aod/summit/Publications/medicinal-cannabis.pdf
[5] Windle, S. Socha, P. Nazif-Munoz, J. Harper, S. Nandi, A. 2022. The impact of cannabis decriminalization and legalization on road safety outcomes: a systematic review. American Journal of Preventative Medicine.

sales, whereas one study was inconclusive for retail sales. Among the studies with the lowest risk of bias, there was an estimated 1.4%–7.8% increase in MVC fatalities associated with legalisation and a 1.4%–6.0% increase in MVCs associated with retail sales.

Canada

Canada legalised cannabis use in 2018 although drug driving approaches vary between provinces. A recent Canadian 'before and after' legalisation study found statistically significant increases in the number of injured drivers with THC in their system (Brubacher et al., 2022[6].). During the study period (2013 – 2020), 4339 drivers (3550 before legalisation and 789 after legalisation) met the inclusion criteria of drivers who were seriously injured and had blood tests conducted as part of their care. Before legalisation, a THC level greater than 0 was detected in 9.2% of drivers, a THC level of at least 2 ng/mL in 3.8%, and a THC level of at least 5 ng/mL in 1.1%. After legalisation, the values were 17.9%, 8.6%, and 3.5%, respectively. There were no significant changes in the prevalence of drivers testing positive for alcohol (Brubacher et al., 2022).

QUESTION 2. PP15-16

The Hon. JACQUI MUNRO: Are you able to go into some more detail about what that actually looks like in a couple of particular cases — perhaps some of the more successful ones that you're aware of?

LOUISE HIGGINS-WHITTON: It is an emerging space, but I can, for example, speak to the position in Colorado. They use a number of different sobriety assessment type tools. One is a standardised field sobriety assessment, which is based on physical signs and symptoms. All police are trained to do this base level of assessment at the roadside. They then have a more sophisticated type of assessment, which is called the Advanced Roadside Impaired Driving Enforcement program. That allows certain officers that are trained to undertake different types of impairment tests. It looks at things like pupil eye function, walking tests, lack of eye convergence and other physical signs in the driver. About 40 per cent of the police officers are trained in this, so it's a more complex test to be able to undertake. Then the third layer of standardised assessment in that jurisdiction is called the drug recognition expert test. That's a very comprehensive assessment of drug impairment, and only about 1 per cent of the police in Colorado are trained to do that piece. So there are quite sophisticated steps that they run through from the point of stopping someone at the roadside where they think there are signs of impairment, and it is quite a resource-intensive approach to prosecute a driver in that jurisdiction.

The Hon. JACQUI MUNRO: Are those tests used for lots of different substances?

LOUISE HIGGINS-WHITTON: My understanding is that they can be used for other substances. We've spoken specifically to Colorado about their use in this context, in the context of THC. That's been a particular challenge there with the legalisation of cannabis in the US.

The Hon. JACQUI MUNRO: What was their response to your questions?

LOUISE HIGGINS-WHITTON: They provided this information for us.

[6] Brubacher, J. Chan, H. Erdelyi, S. Staples, J. Asbridge, M. Mann, R. (2022). Cannabis legalization and detection of tetrahydrocannabinol in injured drivers. The New England Journal of Medicine.

The Hon. JACQUI MUNRO: Is it something that they have continued for a long time? What's the revision or reflection on their program?

LOUISE HIGGINS-WHITTON: My understanding is that this is only a relatively recently introduced series of steps. Obviously, that legalisation has happened only in the past decade or so. But I would need to take it on notice, if you're happy for us to provide more information about the Colorado position when it was introduced.

The Hon. JACQUI MUNRO: That would be fantastic.

The CHAIR: That would be greatly appreciated.

ANSWER:

Approaches to identifying impairment at the roadside vary across countries/jurisdictions. Sobriety assessments or tests typically include observation of key physical signs and symptoms in a driver or their manner and may require the driver to complete key tasks or tests.

In some countries, sobriety testing/assessment can be combined with, or is a requirement before, an oral fluid test and/or blood and urine testing can be conducted. Assessment procedures can be standardised or flexible, and vary in complexity, skills or training required to administer as well as effectiveness in identifying impairment.

Further information about the position in Colorado (USA) is provided below, and is based on discussion and correspondence between Transport and officers of the Colorado Department of Transportation, and online information.

Colorado - Sobriety assessment

In Colorado, police identify evidence of impairment through observation and various sobriety tests. Roadside drug devices (oral fluid or urine) are not used. There are different levels of testing procedures in which police may be trained, with the current three level framework in place since 2009:

- Standardised Field Sobriety Assessment (SFST) based on physical signs and symptoms that all police are trained to conduct.
- Advanced Roadside Impaired Driving Enforcement (ARIDE), which allows general duties police officers to undertake an assessment of impairment based on looking at pupil eye function, walking tests, Romberg test, lack of eye convergence and other physical signs of the driver. About 40% of police officers are trained in ARIDE which involves a two-day training course and was introduced to support enforcement by bridging the gap between SFST and the more comprehensive Drug Recognition Expert (DRE) program.
- Drug Recognition Expert (DRE) program which is a comprehensive standardised 12 step procedure to assess drug impairment which can be undertaken following a failed SFST and was implemented to provide a more robust impairment assessment than SFST. Only 1% of police are trained as a DRE. It cannot be undertaken at the roadside and the motorist is taken to a police station or other facility.

Drivers in Colorado have a right to refuse blood tests, so blood levels are not always relied upon in court and physical observations and assessments of police are key evidence.

Effectiveness of DRE procedures

Most research on the effectiveness of DREs focuses on drug categorisation and evaluation accuracy. For example, Vaillaincourt et al. (2021[7]) conducted an examination of toxicological results from nearly 3,000 Drug Evaluation and Classification Program (DECP) cases in Canada and found that 89% of these cases included the substance under the drug category suspected by the DRE. Beirness et al. (2009)[8] examined 1,349 drug evaluations completed by DREs in Canada and found an overall accuracy rate of 95%.

Although DREs can generally identify the presence of a drug, assessing impairment is somewhat limited (Baldock et al., 2019[9]; Metrik & McCarthy, 2023[10]). Other limitations of the DRE approach include having limited availability of DREs, it is expensive and onerous to train police officers, it can be a lengthy process, it requires a blood sample (or urine) to be collected to support the DRE assessment, and the evidence is often contested in court (Solensten & Willits, 2021)[11].

In addition, physical impairment tests may be complicated by the existence of physical or neurological conditions, noting that medically prescribed cannabis patients often have underlying medical conditions.

[7] Vaillancourt, L., Viel, E., Dombrowski, C., Desharnais, B. & Mireault, P. (2021). Drugs and driving prior to cannabis legalization: A 5-year review from DECP (DRE) cases in the province of Quebec, Canada. *Accident Analysis & Prevention.* 149, 105832. https://doi.org/10.1016/j.aap.2020.105832

[8] Beirness, D. J., Beasley, E., & Lecavalier, J. (2009). The Accuracy of Evaluations by Drug Recognition Experts in Canada. *Canadian Society of Forensic Science Journal*, *42*(1), 75–79. https://doi.org/10.1080/00085030.2009.10757598

[9] Baldock, M.R.J, Palamara, P.G., Raftery, S.J. & Bailey, T.J. (2019). *Optimising Drug Driving Deterrence Regimes*. Austroads

[10] Metrik, J. & McCarthy, D.M. (2023). How research and policy can shape driving under the influence of cannabis. *Addiction*. 119(2), 1-3. https://doi.org/10.1111/add.16372

[11] Solensten, B. & Willits, D. (2021). *Perceptions of Drug Recognition Experts (DREs) and DRE Evidence: A Qualitative Analysis of the Police, Prosecution, and Defense*. https://wtsc.wa.gov/wp-content/uploads/dlm_uploads/2021/02/Perceptions-of-DREs-and-DRE-Evidence_Feb2021.pdf

QUESTION 3. P16

The Hon. JACQUI MUNRO: I wanted to lastly ask about the prevalence in New South Wales of impairment tests related to other prescription-based medications and impairment or risks to driving. Is there any comparison in terms of data you've collected on legal opioids or other prescriptions that might have an effect on driving and whether people are being prosecuted or picked up for impairment on those types of substances as compared to THC?

BERNARD CARLON: Yes. We do have those incidents under the offence of driving under the influence where there is identification of an individual, through their behavioural driving, and information around those drugs which have been proven, following a pharmacological assessment, to be impairing. We can take it on notice to provide that information to the Committee. Certainly I think we're in a very different context with THC in that it has been a recreational illicit drug used for many decades and we've more recently seen the emergence of medicinal cannabis or THC in that context. There's a large variety of product on offer as well, from our point of view, and from recreational purpose or illicit use, a much more significant number of people who are actually using it as well. But, as we see the emergence of medicinal cannabis use as well, that's an issue where we believe we need more research in that area in order to identify how we might manage any system changes from the current oral fluid testing system. Louise might like to add. We do have a research program. At the last parliamentary inquiry into this area, we committed to monitoring the research and we have done a significant body of work over the last couple of years. There is potential for us to be doing more in some areas as additional research that we've been monitoring in other jurisdictions has better informed potentially where we need to fill gaps in this area.

ANSWER:

Under the *Road Transport Act 2013* (the Act), NSW Police can require a driver to submit to a sobriety assessment if the officer has a reasonable belief the driver may be under the influence (based on the manner of driving or factors such as the driver's behaviour or condition) the officer may require the driver to submit to a sobriety assessment.

If a driver fails this assessment, they can be arrested for blood and urine sampling at a hospital. Testing of these samples can detect a broad range of illicit and/or pharmaceutical drugs (and combinations of drugs) and their concentrations in blood.

Drivers suspected of driving under the influence of a drug (DUI), (s.112 of the Act) may be charged based on the police observations, blood/urine samples analysis and expert pharmacological opinion. Penalties for driving under the influence of a drug are comparable to high range drink driving.

The table below shows total DUI offences in NSW by first or second/subsequent offence, 2019-2023[12]. These offences include drivers impaired by pharmaceutical drugs, illicit drugs and drug combinations.

Current information held by Transport does not differentiate DUI offences involving pharmaceutical substances only from those offences involving illicit drugs or a drug combination. This is identified by Transport as an area for potential further research and investigation.

[12] Bureau of Crime Statistics (BOCSAR)

		2018/19	2019/20	2020/21	2021/22	2022/23	Five year total
DUI alcohol	First offence	258	187	221	165	168	
	Second/subsequent offence	43	40	31	33	29	
	Total	**301**	**227**	**252**	**198**	**197**	**1175**
DUI drug	First offence	333	307	483	293	253	
	Second/subsequent offence	59	79	124	136	110	
	Total	**392**	**386**	**607**	**429**	**363**	**2177**

QUESTION 4. P18

The CHAIR: What percentage of those serious accidents where there's a fatality was there only cannabis found in the blood of those persons involved—where there was no alcohol, illegal alcohol, other illicit substances or prescription medications?

BERNARD CARLON: I'm happy to provide more detail on notice but, in those where THC has been identified, around a quarter had the presence of alcohol, and about a third had the presence of another illicit drug. In those total fatal crashes over the last five years, there were 233 and 241 drivers or riders where the presence of THC was involved in the crash.

The CHAIR: Yes, I understand that, but how many were just THC?

BERNARD CARLON: I don't have that in front of me, but I'm happy to provide it on notice.

ANSWER:

Transport collects data on the presence of all drugs in road crash fatalities but does not have equivalent data for serious injuries. Under the *Road Transport Act 2013*, mandatory drug testing (collection of blood and urine) is enabled for drivers involved in *fatal* crashes, but is not currently routinely conducted for other crashes.

The table below shows drivers with the presence of THC, involved in fatal crashes in NSW, 2019-2023, with no other illicit drugs or alcohol.

THC presence	**Reporting year**					
	2019	2020	2021	2022	2023	**Total**
THC	50	60	47	33	51	**241**
THC only (no other illicit drug)	32	42	34	25	36	**169**
THC only (no other illicit drug or alcohol)	20	33	20	15	22	**110**
THC only (no other illicit drug or illegal levels of alcohol)						
• Nil BAC	20	33	20	15	22	**110**
• Legal BAC levels	2	1	2	2	3	**10**
• Total	22	34	22	17	25	**120**

Note: Illicit drugs means methylenedioxymethylamphetamine (MDMA, otherwise known as ecstasy), cannabis (THC), cocaine and methylamphetamine (MET) (including speed and ice).
Note: No Illegal Alcohol = Nil (zero BAC) or legal BAC (based on licence)

QUESTION 5. P19

The Hon. STEPHEN LAWRENCE: If we were to move to a medicinal cannabis defence to drive illicit, would you expect to see an increase in adverse road safety outcomes based on the international research that you've looked at?

BERNARD CARLON: I don't think we're in a position to — there were a number of different ways in which you might implement that. There are different exemptions versus defence processes that would result in different outcomes, so it would depend on the model that was being adopted. I think it would be difficult for us to comment, but we're happy to, again, share the research that's available internationally from our perspective.

ANSWER:

Please refer to the responses to questions 1 and 2.