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ADDRESSING THE PROBLEM OF MARIJUANA- IMPAIRED DRIVING

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States that have decriminalized or plan to decriminalize marijuana use are grappling with the challenge of establishing suitable measures to ensure traffic safety concerning marijuana-impaired drivers. This brief evaluates the options available.

PER SE STANDARDS

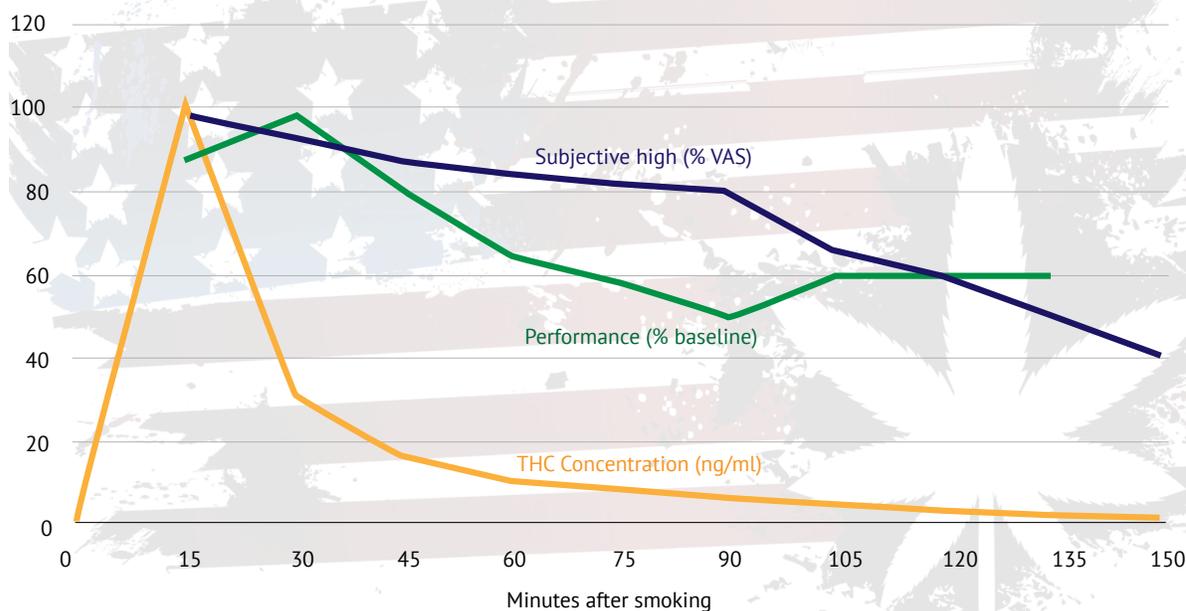
One option is to follow a template based on measures to address alcohol-impaired driving: establishing a per se standard. Under a per se standard, a driver whose blood content of a substance (i.e. alcohol level in whole blood or THC¹ level in blood plasma) equals or exceeds specified levels is assumed to be sufficiently impaired to interfere with the safe operation of a vehicle. He may therefore be arrested and charged for DUI without a law enforcement officer having to substantiate actual impairment.

A per se standard makes sense for alcohol—a water-soluble drug that metabolizes at a constant and predictable rate—because BAC (blood-alcohol content) varies directly with level of impairment.² But the human body metabolizes marijuana quite differently from alcohol. THC is fat-soluble, depositing and storing in the fatty tissues of the body for long periods of time. As a result, frequent cannabis users, such as medical patients, can have a blood-plasma THC content exceeding the 5ng/l (the highest limit adopted by states with per se standards) when completely sober—often days or weeks after use. On the other hand, an infrequent or one-time user can have THC levels below 2ng and be quite impaired.³

As well, studies substantiate that THC levels do not track with impairment.⁴ Blood-plasma levels spike immediately after use and then fall quickly, such that THC levels may be falling even as psychoactivity—and impairment—is rising, as can be seen in Figure 1. So, while THC blood-plasma content can be measured (via laboratory testing or THC breathalyzer⁵), it is of little use in determining impairment.

This lack of correlation between blood-plasma THC levels and impairment led the National Highway Traffic Safety Administration and the AAA Foundation for Traffic Safety—among many others—to conclude that per se limits on THC are not appropriate.⁶

FIGURE 1: TIME COURSE OF STANDARDIZED THC CONCENTRATION IN PLASMA, PERFORMANCE DEFICIT AND SUBJECTIVE HIGH AFTER SMOKING MARIJUANA (ADAPTED FROM BERGHAUS ET AL. 1998, STICHT AND KÄFERSTEIN 1998 AND ROBBE 1994)



Source: Compton, R. "Marijuana-Impaired Driving: A Report to Congress." NHTSA. July 2017.

<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812440-marijuana-impaired-driving-report-to-congress.pdf>

HOW LAW ENFORCEMENT CURRENTLY DETERMINES MARIJUANA IMPAIRMENT WITHOUT PER SE STANDARDS

When an officer believes a driver's impairment⁷ is due to drug intoxication, he arrests for DUI and transports the driver to the station for assessment by an officer trained in drug recognition, known as a drug recognition expert (DRE). In departments that have sufficient officers⁸ with this training,⁹ the DRE officer conducts an evaluation of the driver to render an educated opinion on which drugs are psychoactive, and therefore impairing the driver, at the time of arrest.¹⁰

PROSECUTING MARIJUANA-IMPAIRED DRIVERS

While studies show that DREs can accurately assess whether marijuana (and/or other drugs) is psychoactive in a driver, their assessments have not been shown to correlate with a specific level of THC in the body.¹¹ Impairment is substantiated through the testimony of the

arresting officer, and can be significantly corroborated through dashboard camera footage of the impaired driving and body-cam footage of field sobriety testing/DRE testing. Officers should not be expected to follow impaired drivers for video's sake—endangering the public, the impaired driver and his passengers—and should safely stop impaired drivers as soon as they observe impairment. But when available, such video evidence provides a means of showing impairment in a marijuana-using driver. Assessing level of impairment is not a consideration for illegal drugs, any psychoactive amount of which is illegal when driving, but for drugs that have been decriminalized, such as alcohol and cannabis, assessing impairment is necessary.

In cases where driving cannot be observed, such as after a vehicle crash, it becomes even more difficult to assess impairment level. Unlike with alcohol, THC levels cannot be extrapolated back to the time of an incident, if some time has passed since the accident.¹² Where impairment is suspected and marijuana use is confirmed through chemical testing, a combination of field sobriety testing and a review of the crash circumstances and physical evidence may help police and the judicial system assess, on a case-by-case basis, the likelihood of impairment due to marijuana.

CONCLUSION

Currently, there is no purely objective means of assessing marijuana-impairment levels. Rather than relying on the presence of THC and/or its metabolites in a driver's blood, it is more appropriate to establish standards of impaired driving based on observations. Physical observation of impairment is the only reasonable assessment available—and a good measure of actual threat to public safety. While many observations of impairment may depend purely on police testimony, some cases may benefit from video evidence captured, when appropriate, by police car dashboard cameras or body cams. Drug recognition expert officers are in the best position to decide whether or not the driver is actively impaired by THC. Studies find that DRE evaluations, can most accurately determine whether marijuana is psychoactive in impaired drivers.



For more on cannabis policy, see reason.org/topics/drugpolicy



ENDNOTES

- ¹ THC (delta-9-tetrahydrocannabinol) is the main psychoactive ingredient in marijuana.
- ² Helland, A., G. Jenssen, L. Lervag and L. Slordal. "Comparison of driving simulator performance with real driving after alcohol intake: A randomized, single-blind, placebo-controlled crossover trial." *Accident Analysis and Prevention* 53C: 9-16. 16 Jan. 2013.
https://www.researchgate.net/publication/235378527_Comparison_of_driving_simulator_performance_with_real_driving_after_alcohol_intake_A_randomised_single_blind_placebo-controlled_cross-over_trial ; Zhao, Xiaohua, Xingjian Zhang and Jian Rong. "Study of the Effects of Alcohol on Drivers and Driving Performance on Straight Road." 23 Feb 2014.
<https://www.hindawi.com/journals/mpe/2014/607652/>
- ³ AAA Foundation for Traffic Safety. "An Evaluation of Data from Drivers Arrested for Driving Under the Influence in Relation to Per Se Limits for Cannabis."
- ⁴ Compton, R. "Marijuana-Impaired Driving: A Report to Congress." NHTSA DOTHS 812 440. U.S. Department of Transportation: Washington, D.C. July 2017.
- ⁵ THC Breathalyzers are still in development by private companies such as Cannabix Technologies and Hound Labs.
- ⁶ Compton. "Marijuana-Impaired Driving." NHTSA; AAA. "Overview of Major Issues Regarding the Impacts of Alcohol and Marijuana on Driving." AAA Foundation for Traffic Safety.
- ⁷ Through assessment by Breathalyzer and/or field sobriety testing.
- ⁸ All states participate in the national DRE program run by the International Association of Chiefs of Police, with 8,000+ trained DREs nationwide.
- ⁹ Or a less comprehensive version known as ARIDE (Advanced Roadside Impairment Driving Enforcement).
- ¹⁰ And rule out medical emergencies such as seizure, diabetic shock, etc.
- ¹¹ AAA Foundation for Traffic Safety. "FACT SHEET: An Evaluation of Data from Drivers Arrested for Driving Under the Influence in Relation to Per Se Limits for Cannabis."
- ¹² Sewell, R. Andrew, James Poling and Mehmet Sofuoglu. "The Effect of Cannabis Compound with Alcohol on Driving." <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2722956/#R79>