



# Backgrounder

## Driving Under the Influence of THC

Initiative 502 establishes a new DUI “per se” limit of 5 nanograms of active delta-9-tetrahydrocannabinol (THC) per milliliter of whole blood (5 ng/mL).

**THC is the main psychoactive component in marijuana that causes intoxication. It is different from THC-COOH, or “carboxy-THC,” the inactive metabolite that does not cause intoxication but can show up in drug tests days, or even weeks, after last use.**

- The 5 ng/mL “per se” limit for active THC operates like the 0.08 blood alcohol concentration (BAC) limit – a 5 ng/mL test result is proof “per se” (by itself) in a DUI trial that the defendant was driving under the influence of marijuana.
- I-502 does not change current Washington law requiring officers to have probable cause for an arrest and reasonable grounds to believe a driver is impaired before requiring a breath or blood test. Nor does it change the fact that blood tests can only be administered by medical professionals.<sup>1</sup>

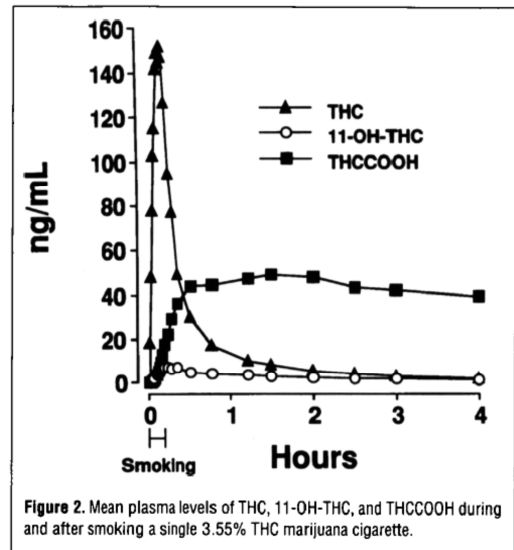


Figure 2. Mean plasma levels of THC, 11-OH-THC, and THCCOOH during and after smoking a single 3.55% THC marijuana cigarette.

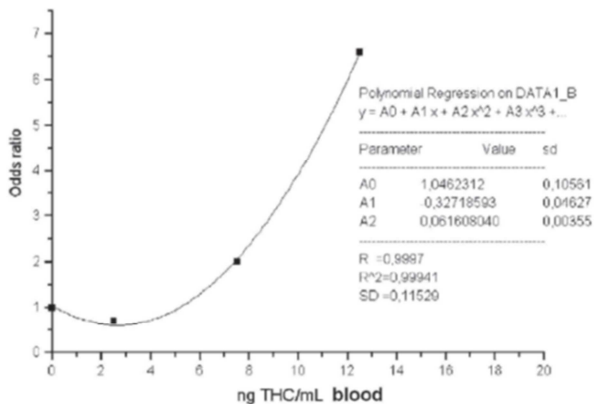


Figure 2. Correlation between THC concentration in whole blood and accident risk (from Grotenhermen et al. (2007)<sup>78</sup> based on data from Drummer et al.<sup>73</sup>).

### Accident risk increases at 5 ng/mL THC concentration.<sup>2</sup>

- Even heavy marijuana users like medical marijuana patients should have their THC levels drop below 5 ng/mL if they wait a few hours before driving.<sup>3</sup>
- Scientists should continue to study the relationship between marijuana use and driving impairment, and I-502 earmarks funds for this specific purpose.<sup>4</sup>

<sup>1</sup> See RCW 46.61.506(5).

<sup>2</sup> See, e.g., Sewell, R. A., Poling, J., & Sofuoglu, M. (2009). The effect of cannabis compared with alcohol on driving. *Am J Addict.*, 18(3): 185-193. Doi: 10.1080/1055-490902786934; Drummer, O. H., Gerostamoulos, J., Batziris, H., Chu, M., Caplehorn, J., Robertson, M. D., & Swann, P. (2004). The involvement of drugs in drivers killed in Australian road traffic crashes. *Accident, Analysis and Prevention*, 36(2):239-248 (“Drivers with THC in their blood had a significantly higher likelihood of being culpable than drug-free drivers. For drivers with blood THC concentrations of 5 ng/ml or higher the odds ratio was greater and more statistically significant”). doi: 10.1016/S0001-4575(02)00153-7.

<sup>3</sup> Karschner, E. L., Schwilke, E. W., Lowe, R. H., Darwin, W. D., Pope, H. G., Herning, R., Cadet, J. L., & Huestis, M. A. (2009). Do  $\Delta^9$ -tetrahydrocannabinol concentrations indicate recent use in chronic cannabis users? *Addiction*, 104:2041-2048. doi: 10.1111/j.1360-0443.2009.02705.x.

<sup>4</sup> Initiative Measure No. 502, Sec. 28.