

The Effect of Marijuana on Highway Safety

Increased acceptance and availability leads to significant driver impairment

Marijuana impairs the ability to drive safely. While the extent and duration of the impairment is still being investigated, it is clear that using marijuana – whether smoked or ingested – affects the driver’s mental acuity in all of the areas involved in control of a motor vehicle.

- Drugs other than alcohol (e.g., marijuana and cocaine) are involved in about 18 percent of motor vehicle driver deaths¹.
- A recent survey found that 6.8 percent of drivers, mostly under age 35, who were involved in accidents tested positive for THC (the main psychoactive component in marijuana). Almost a quarter of these drivers – 21 percent – also had blood alcohol levels that were above the legal limit¹.
- After alcohol, marijuana is the most frequently detected psychoactive substance among drivers².
- After the state of Colorado legalized marijuana for medical use, there was a significant increase in the proportion of drivers involved in fatal driving crashes who tested positive for marijuana³.
- Nationwide, between 2007 and 2013, the number of drivers with alcohol in their system declined by over 30%, while the number of drivers with marijuana in their system increased by nearly 50%¹².
- In Vermont in 2014, there was a total of 44 traffic fatalities (the lowest since 1922). Six of these fatalities involved alcohol (4 alcohol only, 2 alcohol with a drug), while eight involved marijuana (5 marijuana only, 3 marijuana with another drug). This was first year on record in which marijuana was involved in more traffic fatalities than alcohol¹¹.

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How Marijuana Affects Driving Skills

- Those who drive within three hours of consuming marijuana are almost twice as likely to cause an accident as those who are drug or alcohol free⁴.
- Impairment is dose dependent: Low doses of THC moderately impair cognitive and psychomotor tasks associated with driving, while severe driving impairment is observed with high doses, chronic use, and in combination with low doses of alcohol. The more difficult and unpredictable the task, the more likely marijuana will impair performance³.
- Marijuana has been shown to impair performance on driving simulator tasks and on open and closed driving courses for up to approximately 3 hours².
- Decreased car handling performance, increased reaction times, impaired time and distance estimation, inability to maintain headway, lateral travel, subjective sleepiness, motor incoordination, and impaired sustained vigilance have all been reported².
- While some drivers insist that they drive better when under the influence of marijuana, studies show that the greater the demands placed on the driver, the more critical the likely impairment².

Testing Drivers for Marijuana Use is Difficult

Breath tests do not work because THC is not metabolized in the lungs. Prosecutors and some state lawmakers have long sought strict blood-level limits for THC. Many marijuana advocates argue that the drug affects people differently and that setting a hard limit could lead to wrongful DUI convictions. They also argue that, unlike with alcohol, traces of the drug remain in the bloodstream long after an individual has smoked pot and is no longer impaired; however, new types of blood tests now generally in use by police can pinpoint “active” THC in the bloodstream in the hours immediately after marijuana usage⁵. Saliva tests are being tried but are not considered reliable due to THC’s metabolic and chemical properties¹³.

Youth Perceive Marijuana to be Less Dangerous

- Young people perceive the negative consequences of driving after marijuana use as less likely than those of driving after alcohol use. Such perceptions are associated with increased engagement in, and frequency of, driving under the influence of marijuana⁶.
- Among Vermont high-school students, 16 percent reported having driven while under the influence of marijuana in the past 30 days, and 23 percent – almost 1 in 4 – reported riding as a passenger with someone who had been using marijuana⁷. (By contrast, only 8% reported having driven after drinking alcohol, and 21%, or 1 in 5, reported riding as a passenger with someone who had been drinking.)

Combining Marijuana with Alcohol

- Use of alcohol with marijuana adds the two levels of impairment¹³, producing more severe driving impairment and sharply increasing the risk of crashes, even at low doses⁹.
- 19.8 percent of underage drinkers – 1 out of every 5 – reported using marijuana within two hours of using alcohol¹⁰.
- A recent study¹⁴ found that people who used both marijuana and alcohol were twice as likely to use both drugs simultaneously. Simultaneous use was associated with increased frequency and quantity of alcohol use and almost doubled the odds of driving while impaired.

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