

## **TRAFFIC SAFETY IN VERMONT: FATALITIES ARE DOWN; IMPAIRED DRIVING DEATHS ARE DOWN**

### **2009-2013**

- From 2009 through 2013, there were 346 motor vehicle related deaths in Vermont, on average about 69 deaths annually. *NHTSA Analysis of Fatal Crash Data, Vermont: 2009-2013.*<sup>1</sup>
- Traffic fatalities were down 6.76% from 2009 to 2013. Compared to data nationwide, where fatalities were only down 3.44% during that same time period.

#### **Major Contributors to Fatalities in Vermont, behavior related:**

1. Unrestrained Occupant Deaths: 38% of total
2. Speed-Related Deaths: 35%
3. Alcohol Impaired Driving Deaths: 29%
4. Older Driver Involved Deaths: 26%
5. Young Driver Involved Deaths: 20%

#### **Overall, the largest declines were in three behavioral categories:**

1. Unrestrained Occupant Deaths: - 25%
2. **Impaired Driving Deaths: - 25%**
3. Speed Related Deaths: - 18%

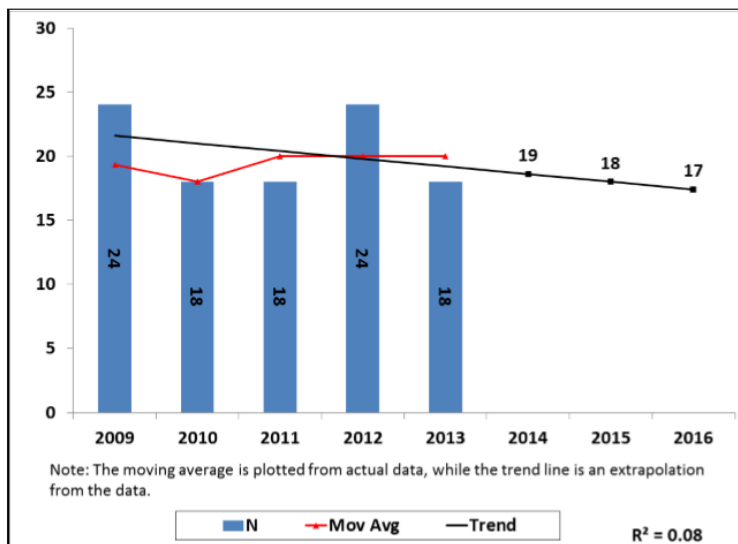


Figure 3. Vermont Alcohol-Impaired Driving Fatalities

### **2013 – 2016**

- Vermont decriminalized small amounts of marijuana in 2013.
- Highway fatalities continue to decrease:<sup>2</sup>

<b>Fatalities as of March 23, 2016</b>	
<b>13 Fatalities</b>	
<b>Year</b>	<b>Fatalities</b>
2015	57
2014	44
2013	70
2012	77
2011	55

<sup>1</sup>*NHTSA Analysis of Fatal Crash Data, Vermont: 2009-2013.* <http://ghsp.vermont.gov/sites/ghsp/files/documents/Vermont%202009-2013%20NHTSA%20Summary%20of%20Motor%20Vehicle%20Crash%20%26%20Fatality%20Data%20%28FARS%29.pdf>.

<sup>2</sup> Vermont Highway Safety Alliance. <http://highwaysafety.vermont.gov/data>, last viewed on 3/20/16.

## WE OPPOSE A PER SE LIMIT OR PERMISSIVE INFERENCE

### The science of marijuana and THC in the body

- Marijuana's main psychoactive ingredient, THC, can linger in the body long after the initial high and long after the effects have worn off. The rate and completeness of absorption depends on route of administration and type of cannabis product.<sup>3</sup>
- "THC is a molecule that really loves human fat, and when it ingests it, it sticks in the fat, and then it slowly seeps out over the course of a week, or month if you are a heavy user."<sup>4</sup> *Timothy Fong, addiction psychiatrist, UCLA.*

### What is "impaired"?

- There are many complexities in defining exactly what level of THC concentration constitutes an impairment for drivers and there is no consensus as to what THC levels are consistently correlated with behavioral impairment.<sup>5</sup> The National Highway Traffic Administration states:

"It is inadvisable to try and predict effects based on blood THC concentrations alone, and currently impossible to predict specific effects based on THC-COOH concentrations. It is possible for a person to be affected by marijuana use with concentrations of THC in their blood below the limit of detection of the method."<sup>6</sup>

- Medical marijuana patients may always have a certain amount of nanograms in their blood at almost all times, yet, have no impairment.
- Washington & Colorado both have a 5 nanogram/milliliter legal limit. In CO it is a permissive inference.<sup>7</sup> However, as you heard from Fiona Couper, Phd, Director, WA State Highway Patrol Forensics Laboratory: "People are too fixated on the 5ng/l," they would prefer not to have *per se* limit.

**CONCLUSION:** Given the fact that S. 241 does not contemplate legalization until 2018, there should be no rush to adopt any *per se* limit or permissive inference. This should be studied more and is already being studied.

<sup>3</sup> See FN 9, *Goldfrank's Toxicologic Emergencies, Chapter 83: Cannabinoids*, Michael A. McGuigan. See also, *Is a breath test for marijuana nothing but a pipe dream?* Nick Lavars, July 15, 2015, <http://www.gizmag.com/breath-test-marijuana/38456/>.

<sup>4</sup> *No Easy Answers for DUI Concerns as Marijuana Gains Support*, February 24, 2014. NPR Staff.

<http://www.npr.org/2014/02/23/280310526/with-support-for-marijuana-concern-over-driving-high-grows>

<sup>5</sup> The National Highway Traffic Safety Administration, Drugs and Human Performance Fact Sheets, *Cannabis/Marijuana* (FN 6). See also, *Why DUI Limits for Pot are Bad*, <http://www.businessinsider.com/why-dui-limits-for-pot-are-bad-2013-12>

<sup>6</sup> The National Highway Traffic Safety Administration, Drugs and Human Performance Fact Sheets, *Cannabis/Marijuana* <http://www.nhtsa.gov/people/injury/research/job185drugs/cannabis.htm>, last viewed on 3/30/16.

<sup>7</sup> *Driving-While-Stoned Cases Are a Hazy Area of Colorado Law*, March 8, 2016, Thomas Mitchell.

<http://www.westword.com/news/driving-while-stoned-cases-are-a-hazy-area-of-colorado-law-7678383>

## WE OPPOSE ROADSIDE SALIVA TESTING

- Current saliva tests are not considered reliable enough to be submitted into court to court as evidentiary tests and they don't actually test for impairment, they test for *mere presence*.
- The presence of cannabis which doesn't necessarily equate to a person being impaired (due to the amount of time cannabis can remain in a person's system).<sup>8</sup> Police should not an cannot substitute this new technology for an arbitrary legal limit for their own judgement.

### Mere Presence Does Not Mean Impaired

Presence of marijuana in the saliva does not mean that someone is impaired. Marijuana's main psychoactive ingredient, THC, can linger in the body long after the initial high and long after the effects have worn off.<sup>9</sup> There are many complexities in defining exactly what level of THC concentration constitutes an impairment for drivers and there is no consensus as to what THC levels are consistently correlated with behavioral impairment.<sup>10</sup> The National Highway Traffic Administration states:

"It is difficult to establish a relationship between a person's THC blood or plasma concentration and performance impairing effects. Concentrations of parent drug and metabolite are very dependent on pattern of use as well as dose...

It is inadvisable to try and predict effects based on blood THC concentrations alone, and currently impossible to predict specific effects based on THC-COOH concentrations. It is possible for a person to be affected by marijuana use with concentrations of THC in their blood below the limit of detection of the method."<sup>11</sup>

Medical marijuana patients may always have some level of nanograms in their blood at almost all times, yet experience no impairment whatsoever. Without being able to measure intoxication to the

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<sup>8</sup> NZ Drug Foundation, *Should we roadside test for cannabis?* <https://www.drugfoundation.org.nz/viewpoints/roadside-test-for-cannabis>

<sup>9</sup> *Goldfrank's Toxicologic Emergencies*, Ninth Edition by: Lewis S. Nelson, Neal A. Lewin, Mary Ann Howland, Robert S. Hoffman, Lewis R. Goldfrank, Neal E. Flomenbaum, *Chapter 83: Cannabinoids*, Michael A. McGuigan.

<sup>10</sup> <http://www-nrd.nhtsa.dot.gov/Pubs/812072.pdf>

<sup>11</sup> <http://www.nhtsa.gov/people/injury/research/job185drugs/cannabis.htm>

point of impairment in regards to driving while using cannabis, these saliva tests are useless.<sup>12</sup> Again, current saliva testing can only show the presence of cannabis which doesn't equate to a person being impaired (due to the amount of time cannabis can remain in a person's system).<sup>13</sup> Police should not and cannot substitute this new technology or an arbitrary legal limit for their own judgement.

This chemistry problem should not, however, present a problem. What we are all hoping to do is to prevent unsafe, impaired drivers off the road. That is best accomplished by identifying drivers who are operating erratically, rather than imposing artificial limits on THC measured by equipment that has less than adequate scientific certainty. For those cases where erratic driving and observed clinical impairment leads law enforcement to believe that someone is operating contrary to the statute under the influence of drugs, a blood test remains the available and appropriate scientific tool to use to assist in building a case.<sup>14</sup>

### **Implied Consent: Constitutional?**

It is not clear, under the Fourth Amendment, whether implied consent laws are constitutional. This issue is currently being litigated in Vermont and a cert petition was granted by the Supreme Court on this issue. The issue will be argued in April.

- ***Birchfield v. North Dakota***, U.S. Supreme Court, Docket No. 14-1468. Oral argument set for April 20, 2016  
Issue: Whether, in the absence of a warrant, a state may make it a crime for a person to refuse to take a chemical test to detect the presence of alcohol in the person's blood.
- ***Kentucky Supreme Court recently ruled:*** The Kansas Court recently overturned criminal penalties for drivers who refuse alcohol testing, holding that it is unconstitutional to punish people for withdrawing "implied consent."

*Once a suspect withdraws consent...a search based on that consent cannot proceed," says the 6-to-1 ruling in State v. Ryce. "By criminally punishing a driver's withdrawal of consent, [the statute] infringes on fundamental rights arising under the Fourth Amendment.*

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<sup>12</sup> *Goldfrank's Toxicologic Emergencies*, Ninth Edition by: Lewis S. Nelson, Neal A. Lewin, Mary Ann Howland, Robert S. Hoffman, Lewis R. Goldfrank, Neal E. Flomenbaum, *Chapter 6: Laboratory Principles*, Petrie M. Rainey.

<sup>13</sup> *Drug and Alcohol Dependence*, Volume 143, October 2014, Pages 189-197. See abstract: <http://www.sciencedirect.com/science/article/pii/S0376871614010163>

<sup>14</sup> See Footnotes: 9-13.

## Effective Date?

If this is something the committee decides it wants to go forward with, as with a per se limit or a permissive inference, we propose the effective date be changed to line up with Legalization as proposed in S.241, or 2018. The technology of these roadside testing devices is evolving and cannot detect impairment, only mere presence. It would be a waste of state resources to invest in these devices now as they do not provide us with information as to impairment and cannot be used as an evidentiary test.

### *Test case:* **Australia**

- In West Australia, roadside saliva testing (using the Draeger Drug Test) was introduced in legislation in 2006.
- It has recently come to light from police that these machines have “quite a few issues” including: failing to return adequate readings, machines not working sufficiently (the indicators fails even though there is plenty of saliva), and failing to pick up on positive readings despite admission from driver they had smoked in the last 24 hours.<sup>15</sup>
- Saliva testing was recently criticized by a NSW judge who acquitted a man who was charged with drug-driving nine days after he had smoked.<sup>16</sup>
- In that case, roadside saliva test detected presence of THC in his blood, although clearly he was not impaired since he had smoke nine days earlier.<sup>17</sup>

[It's] a particularly expensive program to operate, so we need to make sure that we are using the devices in the most efficient and effective way that we can, I anticipate we will spend around \$4.5 million on that program.<sup>18</sup>

- *Mike Keating, Assistant commissioner for the Road Policing Command, Queensland Police*

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<sup>15</sup> <https://au.news.yahoo.com/a/31046715/police-drug-test-accuracy-in-doubt/>

<sup>16</sup> <http://www.smh.com.au/nsw/roadside-drug-driving-tests-mysterious-and-uncertain-magistrate-says-20160202-gmjus2.html>

<sup>17</sup> <http://www.abc.net.au/news/2016-02-02/man-caught-drug-driving-days-after-smoking-cannabis-acquitted/7133628>

<sup>18</sup> <http://www.abc.net.au/news/2016-03-30/drug-testing-by-qld-police-doubles-in-a-year/7283888>

**CRASH INVOLVEMENT RISK ASSOCIATED WITH MARIJUANA IS OFTEN EXAGGERATED**

**The crash risk for a BAC of .01:** increases relative risk of accident culpability by 46%.<sup>19</sup>

**The crash risk for a BAC of .08:** crash risk increases by 100% compared to sober drivers.<sup>20</sup>

**The crash risk for Marijuana:**

YEAR & STUDY	CRASH RISK	CRASH RISK WHEN ADJUSTED FOR SEX, AGE, ETC.
<b>2012 BMJ Meta-Analysis University of Halifax</b> <sup>21</sup>	22% and 36% (This estimate is similar to the crash risk associated with BAC of 0.05%).	"Using cannabis and driving under the influence are behaviors that are more common among young adults and males, groups with higher crash risks irrespective of use. <u>Estimated odds ratios typically decline substantially after adjustments for such factors.</u> "
<b>2014 Study by Pacific Institute for Research and Evaluation</b> <sup>22</sup>	Increases crash risk two fold, or 100 % (but also includes alcohol)	No statistical increase in risk of crash when adjusted for demographics and the presence of alcohol.
<b>2015 Study by NHTSA</b> <sup>23</sup>	25% more likely to be involved in a crash.	No statistically significant risk when adjusted for age, race, sex, ethnicity.

<sup>19</sup> <http://injuryprevention.bmj.com/content/early/2014/01/07/injuryprev-2013-040925>

<sup>20</sup> <http://www.nhtsa.gov/About+NHTSA/Press+Releases/2015/nhtsa-releases-2-impaired-driving-studies-02-2015>

<sup>21</sup> <http://www.bmj.com/content/344/bmj.e536>

<sup>22</sup> <http://www.ncbi.nlm.nih.gov/pubmed/24411797> cited in *Driving Under the Influence, of Marijuana*, Maggie Koerth-Baker. Feb 17, 2014, [http://www.nytimes.com/2014/02/18/health/driving-under-the-influence-of-marijuana.html?\\_r=0](http://www.nytimes.com/2014/02/18/health/driving-under-the-influence-of-marijuana.html?_r=0)

<sup>23</sup> <http://www.nhtsa.gov/About+NHTSA/Press+Releases/2015/nhtsa-releases-2-impaired-driving-studies-02-2015>

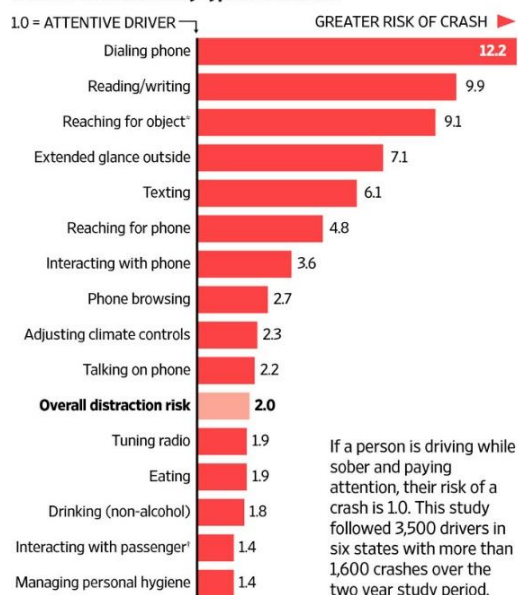
## COMPARE TO OTHER BEHAVIORS THAT ELEVATE RISK OF ACCIDENT

- Relative risk of cell phone use while driving: 4 times as likely to crash.<sup>24</sup>
- Relative risk of texting while driving: 8 to 23 times increased risk of crash.<sup>25</sup>
- Drivers with two or more passengers in the car possess a crash risk of more than two-fold (OR=2.2).<sup>26</sup>
- Driving while pregnant (OR = 1.42).<sup>27</sup>
- Driving with a BAC of .01 increases relative risk of accident culpability by 46%.<sup>28</sup>
- Tobacco smokers have a 1.5-fold increase in risk for motor vehicle crash over non-smokers.<sup>29</sup>
- Taking prescription medications anti-depressants for one-month and/or sleep aids also increases odds ratio of accident (ORs = 1.73 and 1.42 respectively).<sup>30</sup>

### Eyes Off The Road

A Virginia Tech study found that driver distraction is a significant cause of accidents. New technologies are adding ways to distract people, and also giving companies new ways to keep them focused on the road.

#### Risk of a crash caused by type of distraction



\*Other than phone †Teen/adult  
Source: Virginia Tech Transportation Institute

THE WALL STREET JOURNAL.

<sup>24</sup> <http://www.nsc.org/DistractedDrivingDocuments/Attributable-Risk-Estimate.pdf>

<sup>25</sup> See Footnote 24

<sup>26</sup> <http://www.sciencedirect.com/science/article/pii/S000145750700036X>

<sup>27</sup> <http://www.cmaj.ca/content/early/2014/05/12/cmaj.131650>

<sup>28</sup> <http://injuryprevention.bmj.com/content/early/2014/01/07/injuryprev-2013-040925>

<sup>29</sup> [https://www.researchgate.net/publication/20823733\\_Risk\\_of\\_automobile\\_accidents\\_in\\_smokers](https://www.researchgate.net/publication/20823733_Risk_of_automobile_accidents_in_smokers)

<sup>30</sup> [http://onlinelibrary.wiley.com/doi/10.1111/j.1365-](http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2125.2012.04410.x/abstract;jsessionid=B4A6F1774D2FB4D46CDB883702A2BF9E.d03t01?systemMessage=Wiley+Online+Library)

[2125.2012.04410.x/abstract;jsessionid=B4A6F1774D2FB4D46CDB883702A2BF9E.d03t01?systemMessage=Wiley+Online+Library](http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2125.2012.04410.x/abstract;jsessionid=B4A6F1774D2FB4D46CDB883702A2BF9E.d03t01?systemMessage=Wiley+Online+Library)  
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## **LEGALIZATION OF MARIJUANA DOES NOT REQUIRE MORE RESOURCES TO THE CRIMINAL JUSTICE SYSTEM; BUT ADDING TROOPERS DOES**

- In states that have legalized, some crime stats are down and others are up a bit, and the consensus is that it's much too early to determine causation.
- In Denver, the city with the largest concentration of marijuana-related business, overall crime in 2014 fell 2.9% as compared to 2013. Violent crime fell 1.9%.<sup>31</sup>
- In Washington state, violent crime dropped by 10% between 2011 and 2014.<sup>32</sup>
- Clearly, crime has not "spiked" as opponents originally feared:

Critically, lots of crime rates were up in lots of urban and suburban US regions throughout the end of 2014 and through all of 2015; spikes in crime rates in marijuana reform cities might ultimately reflect some broader national trends that have no direct link to marijuana laws and related practicalities. In addition, especially because marijuana reformers reasonably assert that legalization enables law enforcement to refocus energies on more serious crimes.<sup>33</sup>

- However, law enforcement and prosecutors are asking for more troopers, more prosecutors, more resources to fight the alleged influx of marijuana related crime and impaired driving cases that legalization will supposedly create.
- On average each trooper will bring in 200 more cases,<sup>34</sup> of all types of cases.
- Our case load statistics show that we represent 85% of criminal defendants in all criminal cases (5% are private and 10% go pro se).
- To deal with the added caseload *from new troopers* (Legalization) we would need: four additional public defenders, one investigator (\$500,000) and also \$200,000 for expert witnesses. (This is information requested by Senate Finance and provided to them).

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<sup>31</sup> Crime in the City and County of Denver based on UCR Standards," Denver Department of Safety, [denvergov.org/Portals/720/documents/statistics/2014/UCR\\_Citywide\\_Reported%20Offenses\\_2014.pdf](http://denvergov.org/Portals/720/documents/statistics/2014/UCR_Citywide_Reported%20Offenses_2014.pdf).

<sup>32</sup> Status Report: Marijuana Legalization in Washington After 1 Year of Retail Sales and 2.5 Years of Legal Possession," Drug Policy Alliance, July 2015.

<sup>33</sup> [http://lawprofessors.typepad.com/marijuana\\_law/2016/03/assembling-disconcerting-data-showing-crime-spikes-after-marijuana-reform.html?utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed%3A+MarijuanaLaw+%28Marijuana+Law%2C+Po+licy+%26+Reform%29](http://lawprofessors.typepad.com/marijuana_law/2016/03/assembling-disconcerting-data-showing-crime-spikes-after-marijuana-reform.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+MarijuanaLaw+%28Marijuana+Law%2C+Po+licy+%26+Reform%29)

<sup>34</sup> Data provided by RJ Erik, Vermont Criminal Justice Training Counsel (former) Executive Director. Updated data has been requested from the Crime Research Group on March 24, 2016 and has not yet been received.