



# Montana Teen Driver Education and Training

## Module 6.2

# How Alcohol and Other Drugs Affect the Driving Task

*Making Life-Saving Decisions*



# Objectives:

## Drinking, Drugs and Teen Driving

### **Responsibility and Risk Management**

- Brain – still under construction
- Effects on brain
- Effects on body
- Alcohol, Blood Alcohol Concentration (BAC ) and elimination
- Other drugs
- Effect of alcohol and other drugs on the driver
- DUI-related crashes in Montana
- Keep impaired drivers off the road

# Let's talk about the consequences of driving under the influence of alcohol and other drugs



**In the U.S., about 5,000 people under age 21 die each year from injuries caused by underage drinking, nearly 40 percent (1,900) in car crashes.**

# Different drugs do different things.

But all chemicals affect the brain—  
that's why drugs make you feel high, low, speeded up,  
slowed down, or see things that aren't there.

*All* drugs affect your driving.





You know drugs  
make you feel  
**FUZZY,**  
but why?

What do drugs do  
to your brain?

How can drugs  
affect your driving?



**WATCH VIDEOS, PLAY GAMES, LEARN MORE**  
Shatter the Myths - <http://teens.drugabuse.gov>



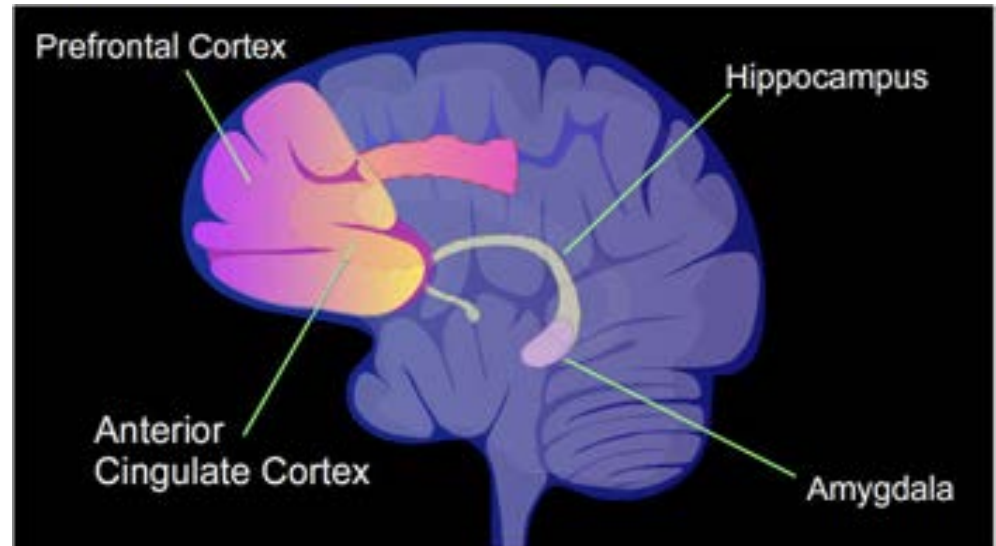
The brains and bodies of teens  
are still developing.

# Your One and Only Brain

The **Prefrontal Cortex** is responsible for executive functioning.  
*It is still developing beyond age 20.*

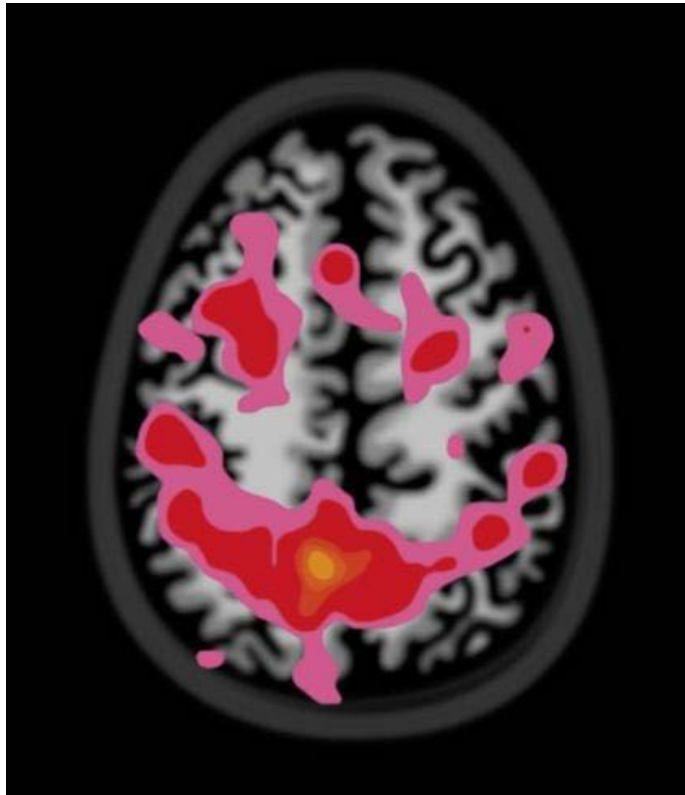
The Prefrontal Cortex is responsible for:

- Selective attention
- Decision-making
- Self-regulation
- Judgment
- Planning





## 15-year-old Non-Drinker



## 15-year-old Heavy Drinker



Pink areas indicate brain activity during memory task

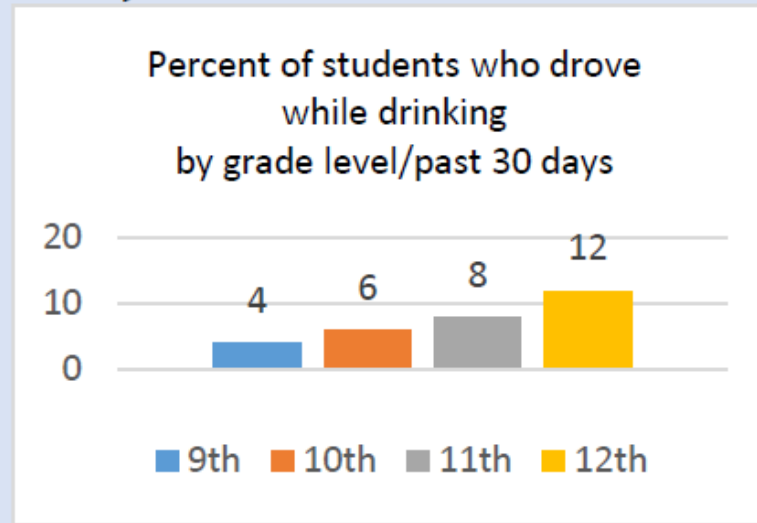
Positron emission tomography - PET Scan brain images  
*Susan Tapert, PhD - Used with permission*



## Alcohol and Driving

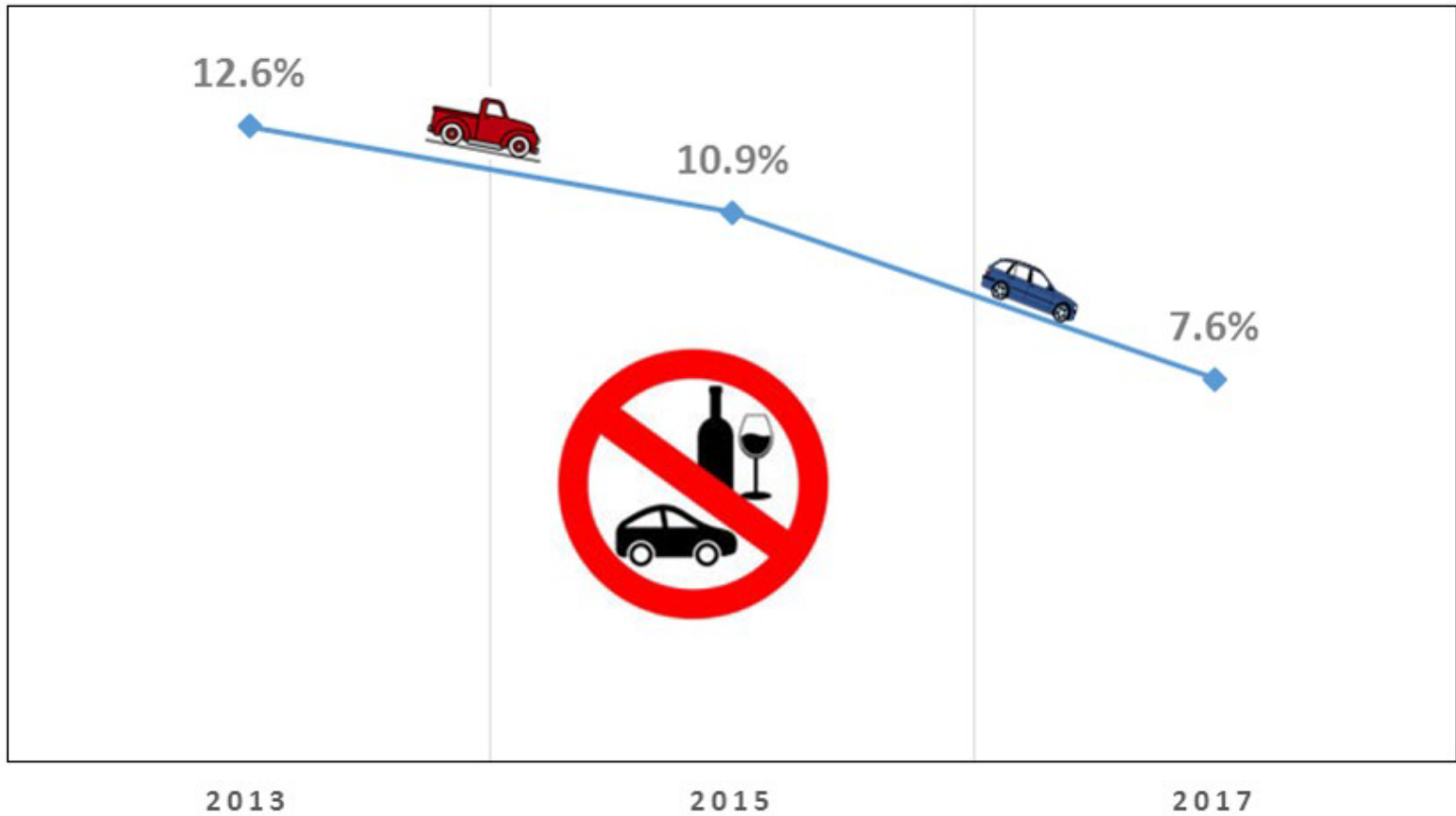
**20%** of students rode with a driver who had been drinking alcohol during the past 30 days

**8%** of students drove when they had been drinking alcohol during the past 30 days





# MONTANA TEEN DRINKING AND DRIVING DECREASING



Montana Youth Risk Behavior Survey Trends 2017

# Our Drinking Culture



# CRUNCHING THE NUMBERS

**WHISKEY 80 Proof**

1 oz.  
0.40

**0.40** ounces of ethyl alcohol



**BEER 4.5%**

12 oz.  
0.045

**0.54** ounces of ethyl alcohol



**WINE COOLER 5.0%**

12 oz.  
0.05

**0.60** ounces of ethyl alcohol



**MARGARITA**

Tequila 80 Proof  
Triple Sec 60 Proof






1.5 oz.      0.5 oz.  
0.4            0.3

0.6 + 0.15 = **0.75**  
ounces of ethyl alcohol



**MARGARITA = 88% more alcohol** than a shot of whiskey  
**WINE COOLER = 50% more alcohol** than a shot of whiskey  
**BEER = 35% more alcohol** than a shot of whiskey

# Likely BAC effects on driving

Blood Alcohol Concentration (BAC) Levels	<b>.15%</b> About 7 beers		<ul style="list-style-type: none"><li>• Serious difficulty controlling the car and focusing on driving</li></ul>
	<b>.10%</b> About 5 beers		<ul style="list-style-type: none"><li>• Markedly slowed reaction time</li><li>• Difficulty staying in lane and braking when needed</li></ul>
	<b>.08%</b> About 4 beers		<ul style="list-style-type: none"><li>• Trouble controlling speed</li><li>• Difficulty processing information and reasoning</li></ul>
	<b>.05%</b> About 3 beers		<ul style="list-style-type: none"><li>• Reduced coordination and ability to track moving objects</li><li>• Difficulty steering</li></ul>
	<b>.02%</b> About 2 beers		<ul style="list-style-type: none"><li>• Loss of judgment</li><li>• Trouble doing two tasks at the same time</li></ul>

# Binge Drinking

4 drinks for a woman, 5 for a man\*

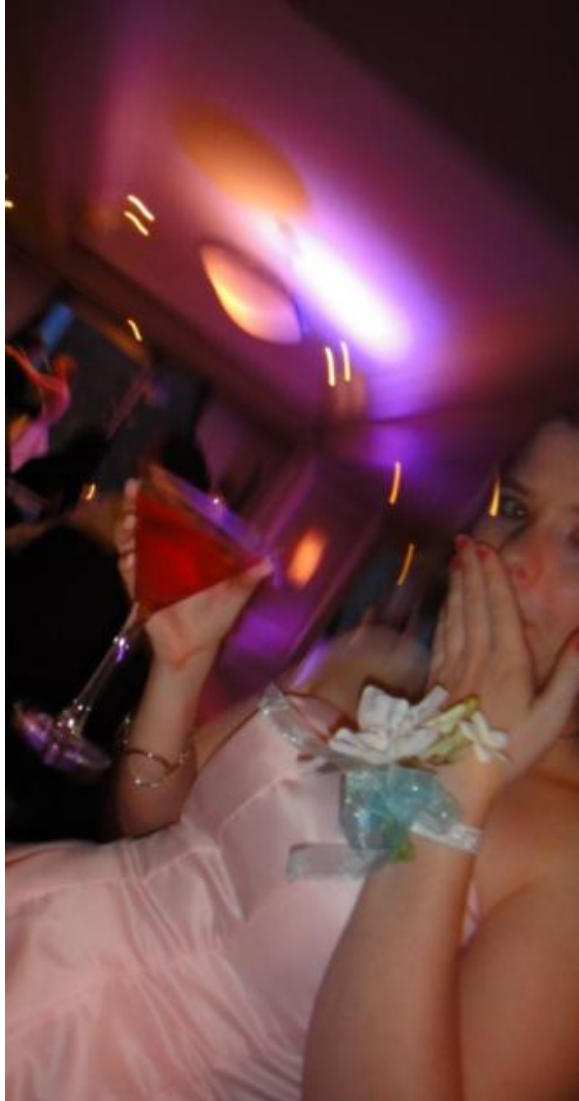
Drinking large amounts of alcohol at one time or very rapidly can cause alcohol poisoning, which can lead to coma or even death.

It can also lead to deadly car crashes.



Alcohol can hurt you-- even if you're not the one drinking.

# What would you do?

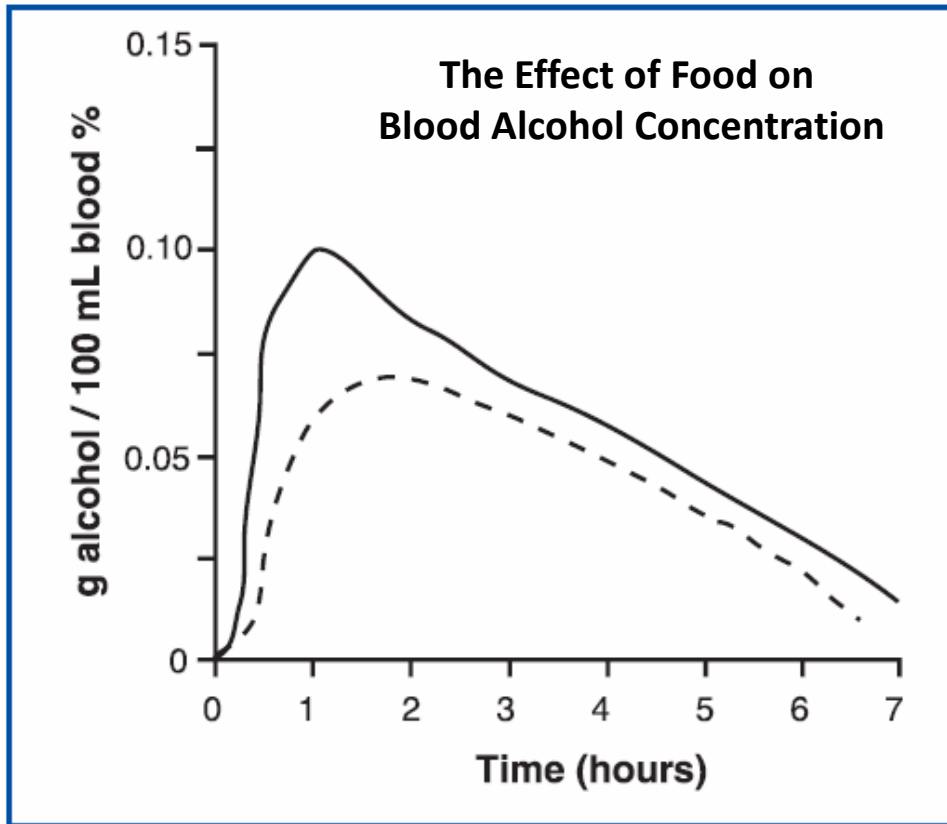


At a party you notice someone has passed out.

What would you do?

Why?

# Elimination Time After Drinking

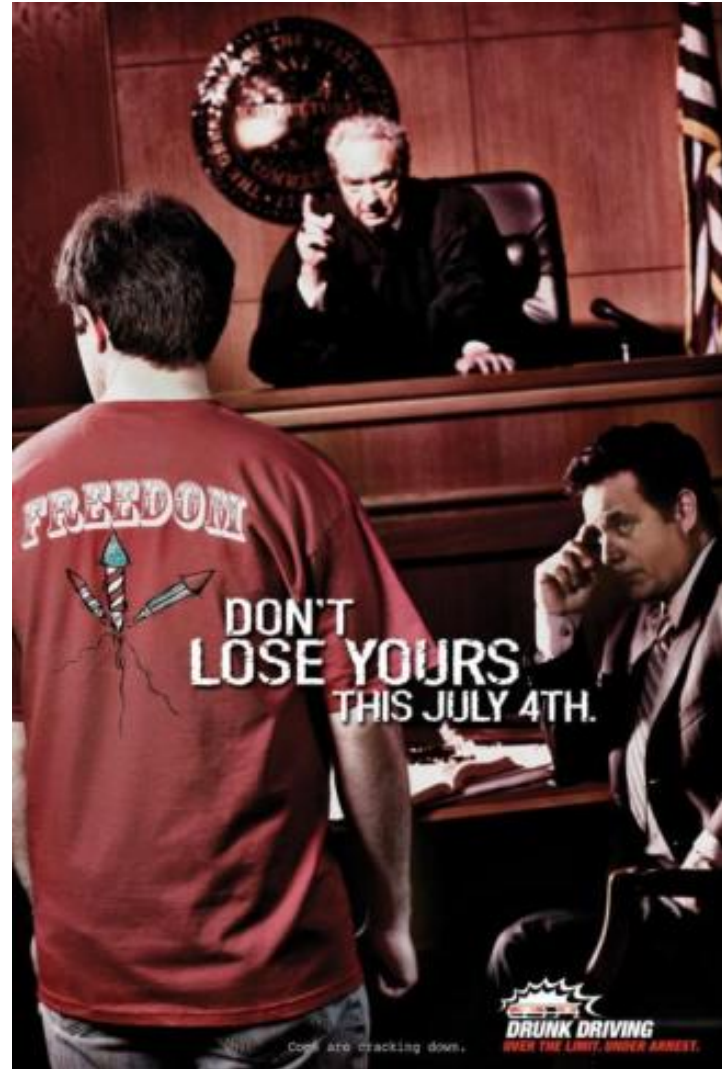


— BAC after consuming alcohol following an overnight fast  
- - - - BAC after consuming alcohol immediately after breakfast

Concentration of alcohol in the breath and urine mirrors the concentration in the blood.

Breathalyzers can detect, measure and calculate a person's blood alcohol concentration (BAC).

# MIP and DUI Consequences



# Make the Safe Decision

**Never drink or use drugs before driving.**

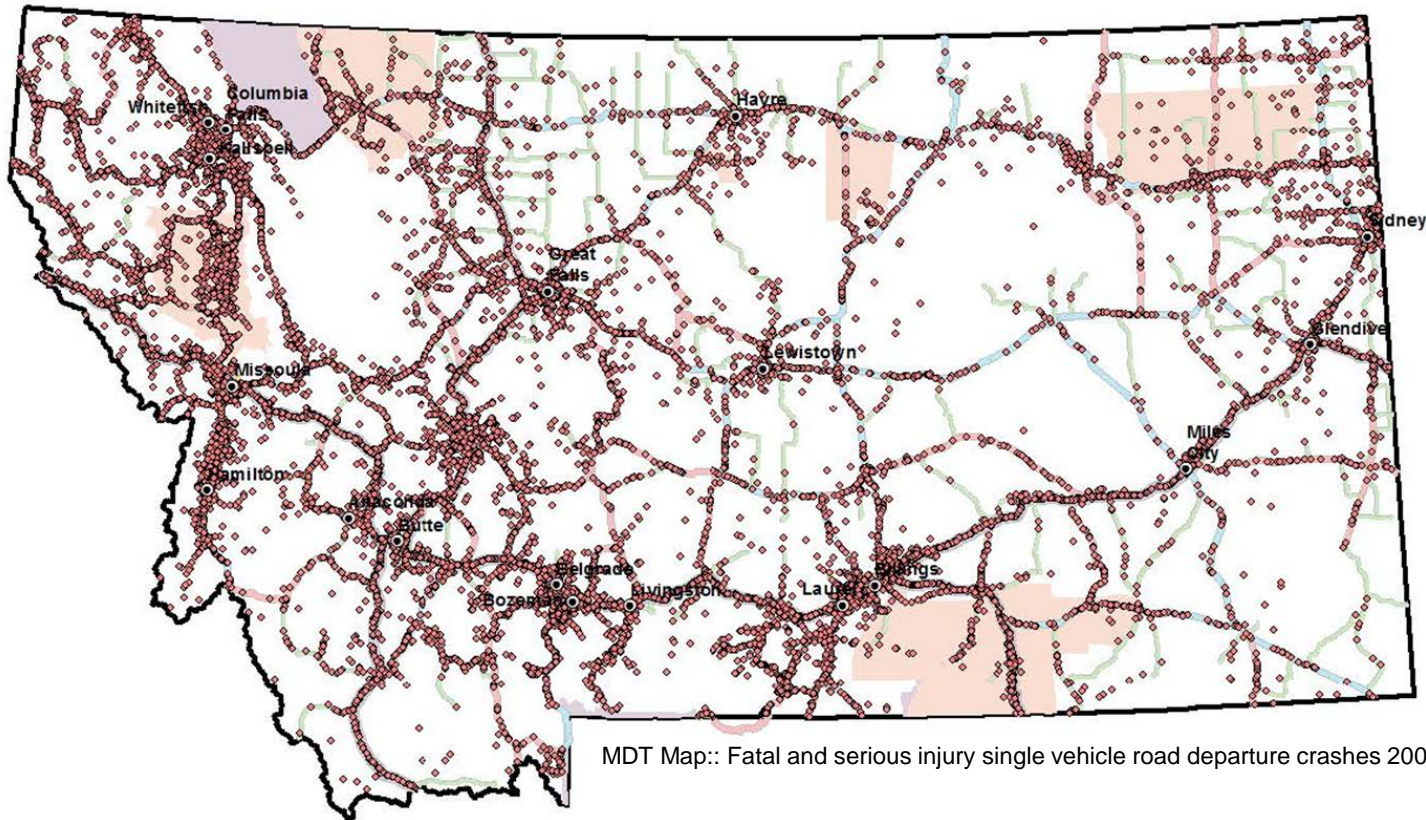


Read the news story about a 22-year-old who killed two people and spent the rest of her life in prison.

Then ask yourself: *Will I drink and drive?*

[http://helenair.com/news/local/schescke-sentenced-to-years-suspended-watch-video/article\\_4e8acbbc-2526-11e3-bb99-0019bb2963f4.html](http://helenair.com/news/local/schescke-sentenced-to-years-suspended-watch-video/article_4e8acbbc-2526-11e3-bb99-0019bb2963f4.html)

# Impact of Drug and Alcohol Impaired Driving



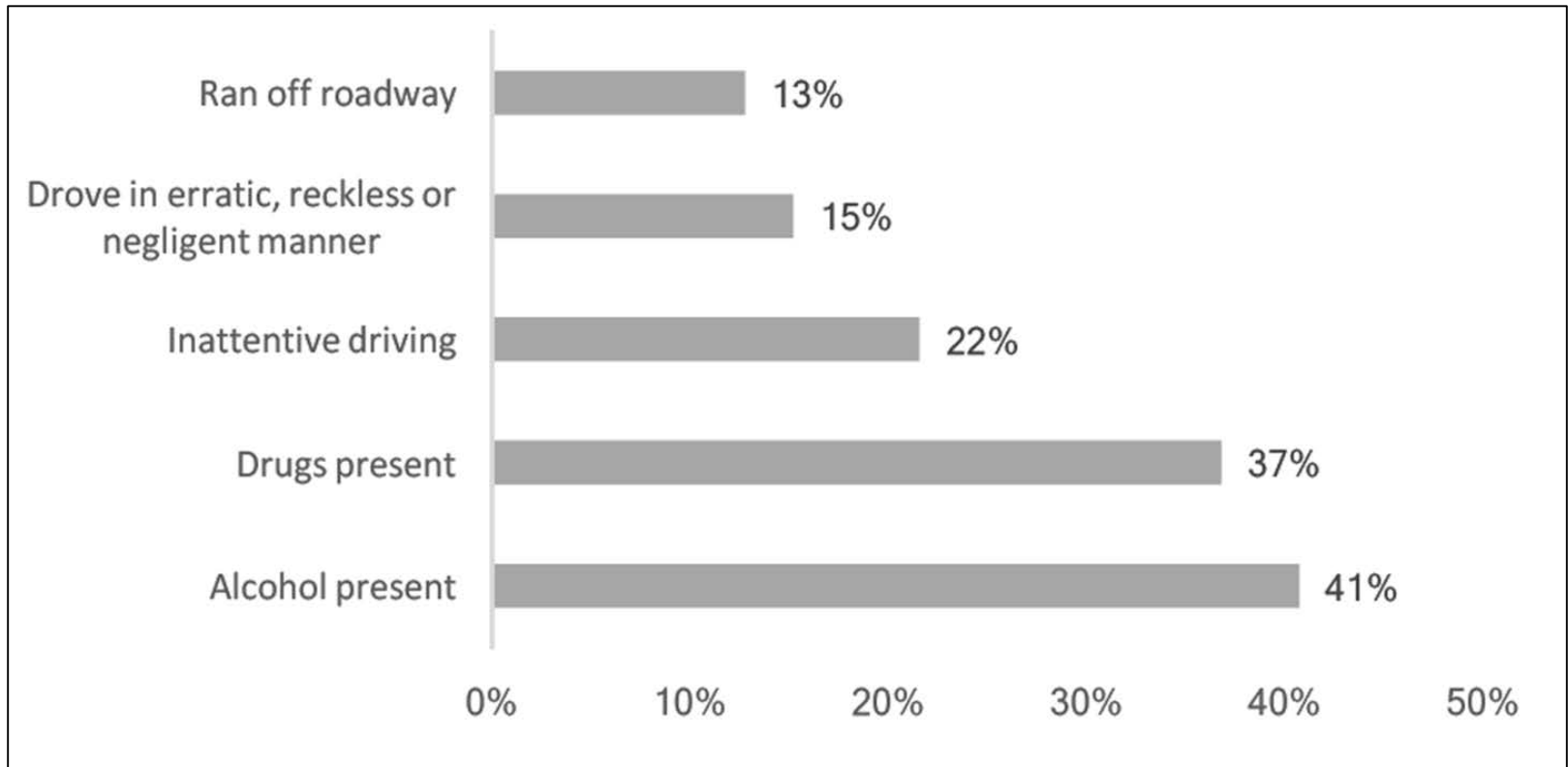
The red dots on this map represent ten years and 7,990 fatalities and severe injuries attributed to road departure crashes in Montana.

Impaired drivers are involved in over half of all fatal crashes and in 3 out of every 10 serious injury crashes.



# Top 5 Contributing Causes of Fatal Crashes

Montana 2015





Think it's harmless to

# DRIVE HIGH?



Research shows that drugs affect a driver's concentration, perception, coordination and reaction time.

How's that for harmless?

Get the facts at [abovetheinfluence.com](http://abovetheinfluence.com)



\*Drug Involvement of Fatally Injured Drivers, U.S. DOT/NHTSA, November 2010.



# Marijuana

Marijuana is a green, brown, or gray mixture of dried, shredded flowers and leaves of the hemp plant (*Cannabis sativa*)



Research shows that drivers on marijuana have slower reaction times, impaired judgment, and problems responding to signals and sounds. DUI consequences apply.

# Synthetic Marijuana

Synthetic marijuana refers to a growing number of man-made mind-altering cannabinoid chemicals sprayed on dried, shredded plant material or vaporized to get high.

The effects of synthetic cannabinoids can be unpredictable and severe or even life-threatening.

## False Advertising

Synthetic cannabinoid products are often labeled "not for human consumption." Labels also often claim that they contain "natural" material taken from a variety of plants. However, the only parts of these products that are natural are the dried plant materials. Chemical tests show that the active, mind-altering ingredients are cannabinoid compounds made in laboratories.



Also called:  
"K2," "Spice,"  
"fake weed,"  
"King Kong,"  
"Yucatan Fire,"  
"Skunk,"  
"Moon Rocks"

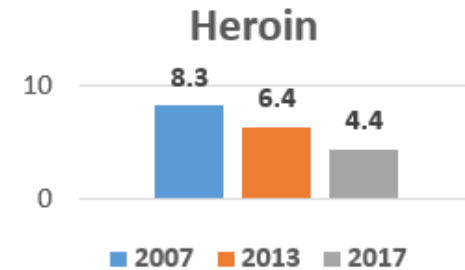
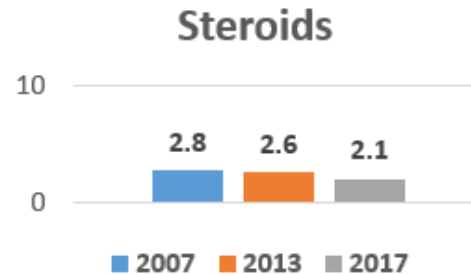
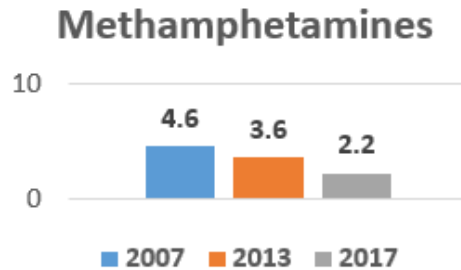
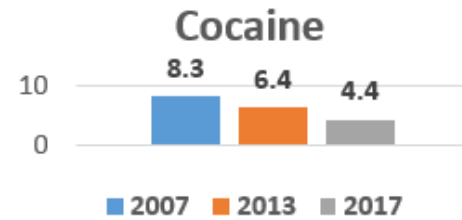
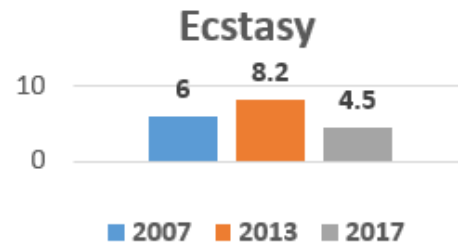
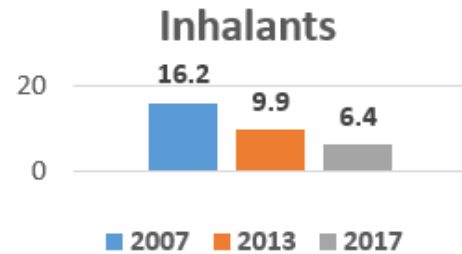
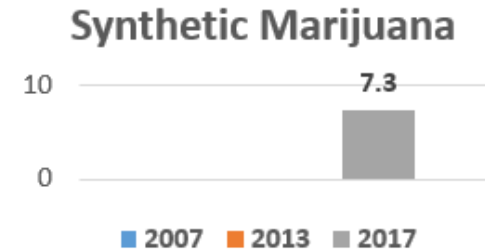
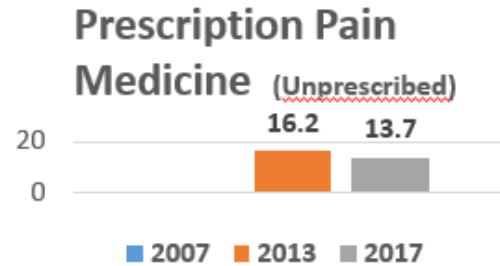
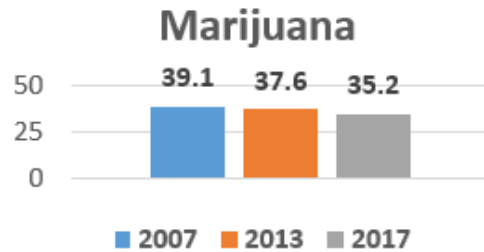


# Montana Teen Drug Use Trends

Source: Montana Youth Risk Behavior Survey Trend Report



Percentage of Montana high school students who ever used the following drugs during their lifetime:



# Inhalants



- Inhalant vapors displace oxygen in the lungs.
- Solvents or aerosol sprays can cause irregular or rapid heart rhythms and can lead to heart failure and death within minutes.
- This "sudden sniffing death" is particularly associated with the abuse of butane, propane, and chemicals in aerosols.
- While high on inhalants, people also can die by suffocation, choking on their own vomit or by fatal injury from accidents, including car crashes.

# Cocaine

- Cocaine is a white powder that comes from the leaves of the South American coca plant.
- Highly addictive central nervous system stimulant increases risk of heart attacks, respiratory failure, strokes and seizures.





# MDMA or Ecstasy

3,4-methylenedioxymethamphetamine



- MDMA is chemically similar to stimulants and hallucinogens and can make a person feel energized and generate a sense of well-being.
- It can also interfere with the body's ability to regulate temperature, leading to hyperthermia (increased body temperature) and dehydration which can cause heart and kidney failure.
- MDMA can also impair memory and generate depression for several days after taking it.

# Methamphetamine

Commonly known as:



Meth

Speed

Chalk

Crystal

Crank

Glass

Ice

## Short-term effects:

Dizziness

Twitching

Tremors

Itchy skin

Constipation

Dry mouth

Restlessness

Irritability

Violence

Obsessive compulsive behavior

Hallucinations

Skin deterioration

Open sores on the skin often caused by compulsive scratching

## Long-term effects:

Heart disease

Psychosis

Anxiety

Brain damage

Impaired memory

Impaired attention

# How can prescription drugs be harmful if they're prescribed by doctors?

Medicines such as codeine and benzodiazepines (sleeping pills, tranquilizers, and anti-anxiety medications) can cause:

- absent-mindedness
- poor coordination and judgment
- reduced ability to control a vehicle



# PRESCRIPTION DRUG ABUSE



Deaths from prescription painkillers have reached epidemic levels in the past decade.

# Over-the-counter drugs (OTC)

- Examples of non-prescription OTC drugs include:
  - Aspirin or other pain relievers.
  - Cold and allergy remedies.
  - Arthritis and back pain medication.
- Physical effects of OTC drugs:
  - Drowsiness, dizziness, slowed reaction times, poor judgment.
  - Always read the labels and know the effects that could occur.



At a party, a friend offers you  
alcohol and a pill.

*What would you do and why?*



# DID YOU KNOW?

- Alcohol is a depressant, or downer, because it reduces brain activity. If you are depressed before you start drinking, alcohol can make you feel worse.
- Repeated drug use can reset the brain's pleasure meter, so that without the drug, you feel hopeless and sad.
- Eventually, everyday fun stuff like spending time with friends or playing with your dog doesn't make you happy anymore.



# You can prevent a tragedy ...



How would you convince a friend impaired by alcohol or other drugs to not drive and to give you the keys?

# *No thanks* -- It's easier to say than you think.



- How do you say no to alcohol when someone offers you a drink?
- It's easier to refuse than you think. Try: “No thanks,” “I don't drink,” or “I'm not interested.” **Or, “I’m driving, better not.”**
- Remember that the majority of teens don't drink alcohol. You're in good company when you're one of them.

# What choice will you make?



<http://teens.drugabuse.gov/peerx/>

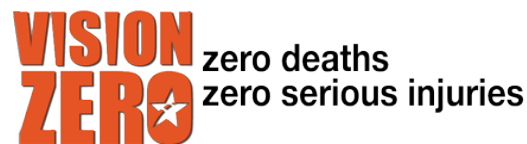
Most Montana teens – 92.4% –  
don't drink and drive



**What else can you do to stay safe on the road?**

# Alcohol & Drugs Research Sites

- Office of Public Instruction: [Youth Risk Behavior Survey](#)
- Montana Department of Transportation - [Vision Zero](#)
- National Institute on Drug Abuse for Teens - <http://teens.drugabuse.gov/>
- Alcohol Screening – [Tips for Teens: The Truth about Alcohol](#)
- Centers for Disease Control - [Alcohol and Public Health](#)
- Mothers Against Drunk Driving – [Safe Roads Warm Hearts](#)
- NHTSA – [Drunk Driving](#)





# Montana Driver Education and Training

## Standards and Benchmarks

### **1. Laws and Highway System**

- 1.1. know the laws outlined in the Montana Driver's manual;
- 1.2. understand the laws outlined in the Montana Driver's Manual; and
- 1.3. consistently demonstrate knowledge and understanding by responsible adherence to highway transportation system traffic laws and control devices.

### **2. Responsibility**

- 2.1. recognize the importance of making safe and responsible decisions for owning and operating a motor vehicle;
- 2.2. demonstrate the ability to make appropriate decisions while operating a motor vehicle;
- 2.3. consistently display respect for other users of the highway transportation system; and
- 2.4. develop positive habits and attitudes for responsible driving.

### **3. Visual Skills**

- 3.1. know proper visual skills for operating a motor vehicle;
- 3.2. communicate and explain proper visual skills for operating a motor vehicle;
- 3.3. demonstrate the use of proper visual skills for operating a motor vehicle; and
- 3.4. develop habits and attitudes with regard to proper visual skills.

### **4. Vehicle Control**

- 4.1. demonstrate smooth, safe and efficient operation of a motor vehicle; and
- 4.2. develop positive habits and attitudes relative to safe, efficient and smooth vehicle operation.

### **5. Communication**

- 5.1. consistently communicate driving intentions (i.e., use of lights, vehicle position, and personal signals);
- 5.2. adjust driver behavior based on observation of the highway transportation system and other roadway users;
- 5.3. adjust communication (i.e., use of lights, vehicle position, and personal signals) based on observation of the highway transportation system and other users; and
- 5.4. develop positive habits and attitudes for effective communication.

### **6. Risk Management**

- 6.1. understand driver risk-management principles;
- 6.2. demonstrate driver risk-management strategies; and
- 6.3. develop positive habits and attitudes for effective driver risk-management.

### **7. Lifelong Learning**

- 7.1. identify and use a range of learning strategies required to acquire or retain knowledge, positive driving habits, and driving skills for lifelong learning;
- 7.2. establish learning goals that are based on an understanding of one's own current and future learning needs; and
- 7.3. demonstrate knowledge and ability to make informed decisions required for positive driving habits, effective performance, and adaptation to change.

### **8. Driving Experience**

- 8.1. acquire at least the minimum number of BTW hours over at least the minimum number of days, as required by law, with a Montana-approved driver education teacher; and
- 8.2. acquire additional behind-the-wheel driving experience with a parent or guardian's assistance in a variety of driving situations (i.e., night, adverse weather, gravel road, etc.).