



2013 Traffic Safety Report

Introduction

Every year on the more than 1,000 miles of unincorporated Larimer County roadways, about 375 vehicular traffic crashes occur. Those crashes include about 75 severe crashes that involve an injury or fatality for close to 100 people. Annual societal cost of these crashes is in excess of \$6 million dollars each year.

This Traffic Safety Annual Report summarizes the general trends in roadway safety, analyzes specific areas of interest, and monitors ongoing traffic safety efforts in the County.

Traffic Safety
Program Goal:

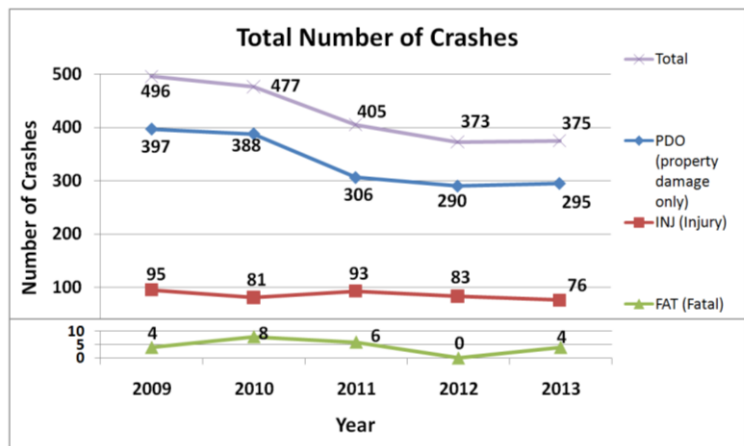
**Reduce the
numbers and
severity of crashes
on our roadways.**

Crash Information

The total number of crashes has decreased **25%** in the past five years, but this downward trend may be leveling off.

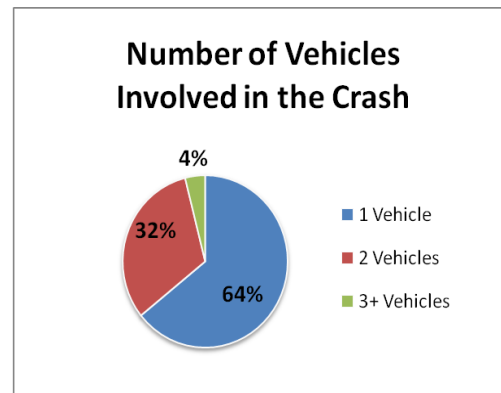
21% of all crashes were severe crashes (injuries or fatalities).

There were **four** fatal crashes in 2013, similar to previous years except 2012 when there were no fatal crashes.



The number of vehicles involved in each crash in 2013 indicates that **almost 2/3** of all crashes in the unincorporated areas of Larimer county involved just one vehicle.

That number has **increased by about 10%** in the last five years.

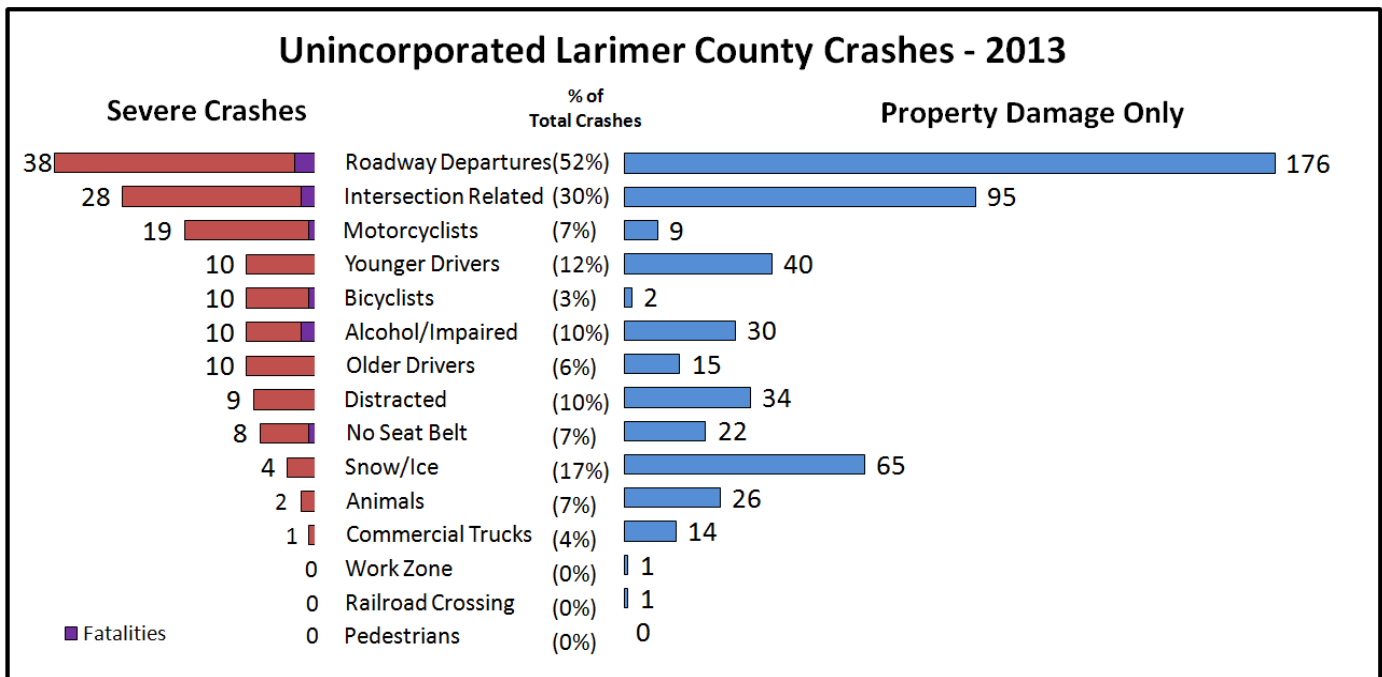


Only **30%** of crashes occurred at intersections.



49% of crashes in 2013 were the result of a single vehicle leaving the roadway.

The visual below indicates the number of crashes during 2013 relative to a variety of factors. Crashes can be listed in more than one category. The table below shows the trends in each category.



Items of note in this visual include:

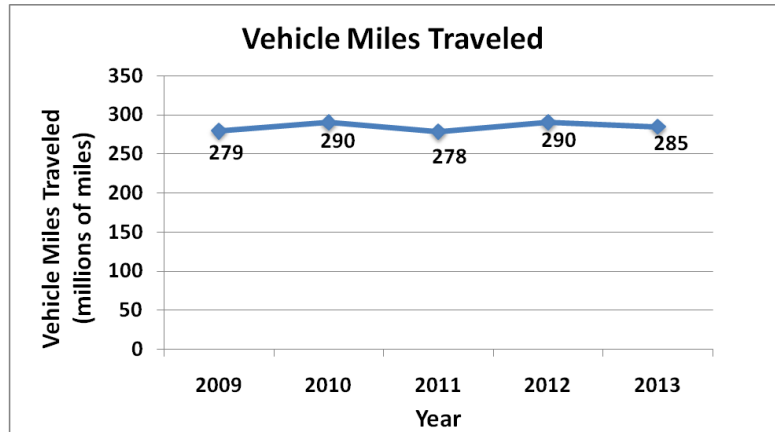
- Roadway departure crashes are by far the most prevalent crash
- Young drivers crash more often than older drivers
- Bicycle crashes are the only ones trending upward (significantly) over the past five years.
- Crashes involving alcohol and distracted driving each account for about 10% of all crashes
- Crashes occurring in snow / ice conditions tend to be more minor property damage only crashes.

Crash Characteristics	% Change between 2012 and 2013	5 Year Trend**
Roadway Departures	14%	-24%
Intersection Related	-5%	-40%
Motorcyclists	-20%	-15%
Younger Drivers	-26%	-42%
Bicyclists	9%	53%
Alcohol/Impaired	-2%	-29%
Older Drivers	14%	-20%
Distracted	19%	-32%
No Seat Belt	-21%	-44%
Snow/Ice	130%	-46%
Animals	-3%	-5%
Commercial Trucks	7%	-29%
Work Zone	0%	-78%
Railroad Crossing	0%	0%
Pedestrians	-100%	-29%

**Percent Change between 2009, 2010 and 2012, 2013

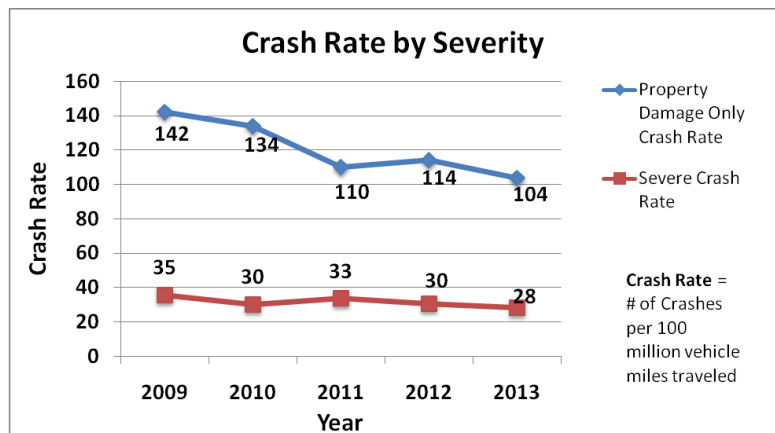
Vehicle Miles Driven and Crash Rates

The number of vehicle miles driven on unincorporated roadways has remained very similar for the past five years, in fact varying by less than five (5) percent.



In order to account for varying amounts of traffic, a measure of crash **RATE** is used in addition to crash **NUMBERS**. A crash rate is expressed in the number of crashes per 100 million vehicles miles traveled.

This graphic shows the crash rate by severity, and indicates that both minor and severe (injury or fatal) crash rates have decreased **9% and 7%** in the past year and by **26 and 20%** respectively in the past five years.



Fatal Crash Review

Thankfully there are not high numbers of fatal crashes on the County roadway system. Therefore it is difficult to establish statistically significant details about the crashes. However, using the total number of fatal crashes in the past five years, generalities or trends can be detected. These include:

78% are male
65% are single vehicle

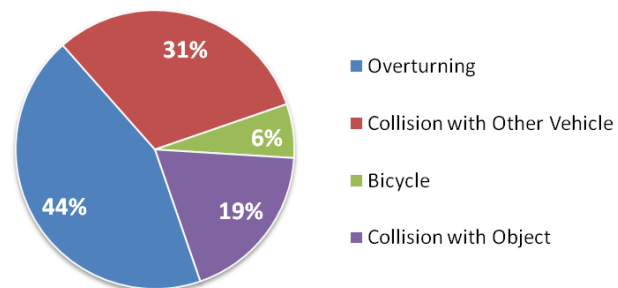
59% are DUIs
26% involve a motorcycle

A surprising 96% of fatal crashes occur on dry roads, and 57% occur during daylight hours

In combination, more than half (**52%**) of all fatal crashes involve a male driver in a single vehicle leaving the roadway.

The harmful event in fatal crashes is shown at the right.

Harmful Event in Fatality Crashes



Data Includes: 2009, 2010, 2012, & 2013

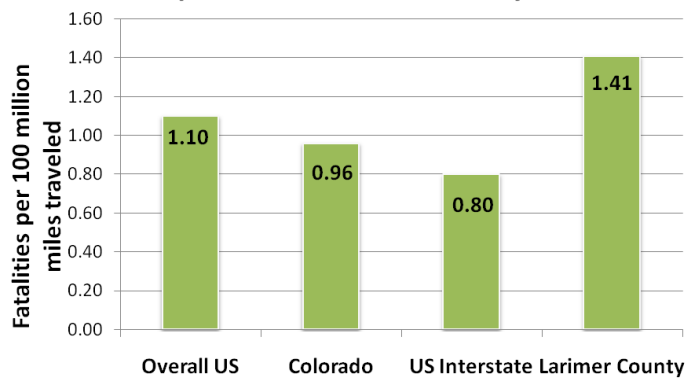
It is difficult to compare crash information among entities as calculations are completed in a number of different ways. However, fatality crash rates can be used to gain a general understanding of how the County's road system compares to the state and national averages.

Rural two-lane roads are the most dangerous part of the road system.

Larimer County's fatality rate is

28% higher than the national average and **47% higher** than the State average.

Comparison of Overall Fatality Rates



Source:

US: National Highway Traffic Safety Administration (2011)

Colorado: CDOT Colorado Problem Identification Report (2013 using 2011 data)

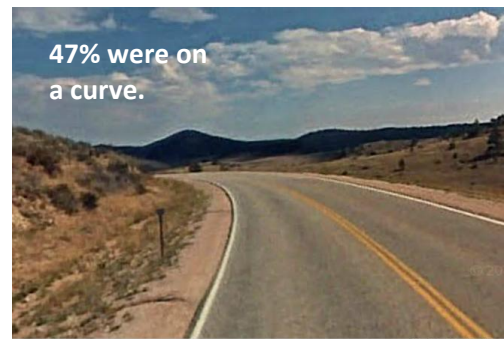
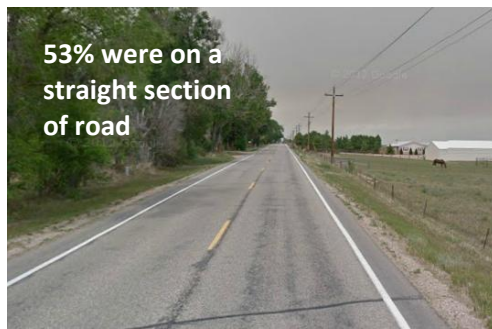
US Interstate: Federal Highway Administration (2004)

Larimer County value from: County records (2013)

Roadway Departure Crashes

In 2013, **52%** of all crashes involved a vehicle leaving the roadway (roadway departure crash). Here's what we know about those crashes:

Location:

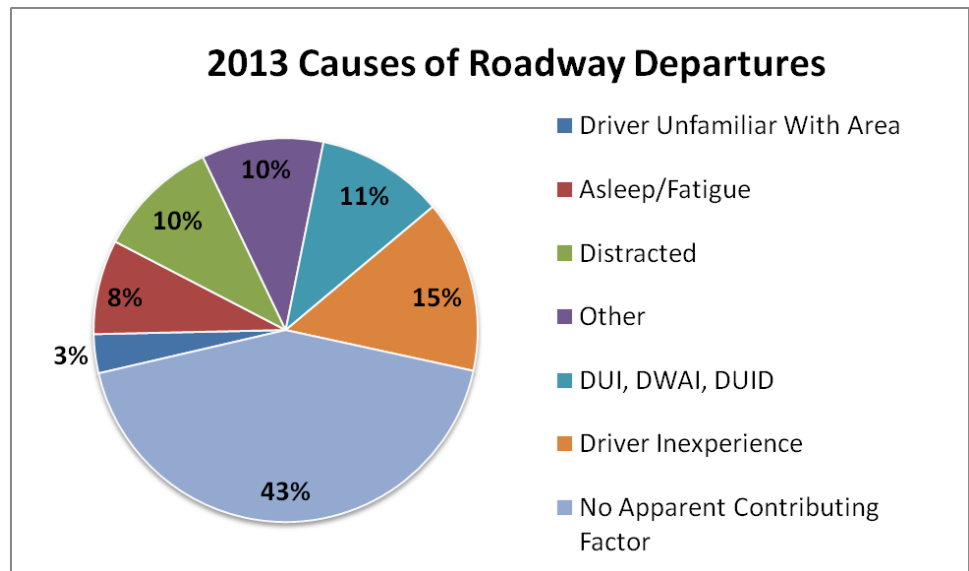


Road Condition: 72% of the crashes occurred on dry roads

Light Condition: 55% occurred during daylight hours

There is no singular cause of roadway departure crashes; in fact most have no apparent contributing factor. This makes it more difficult to identify applicable mitigation measures.

Trends over the past five years have been very consistent with these statistics.



Crashes Involving Bicycles

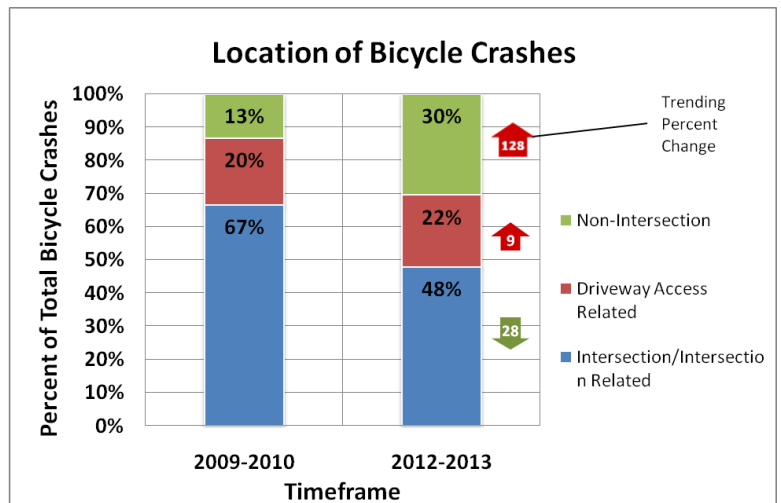
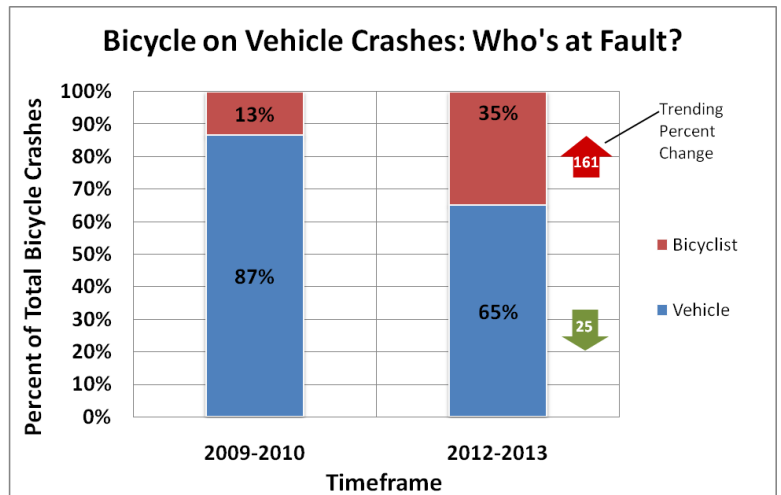
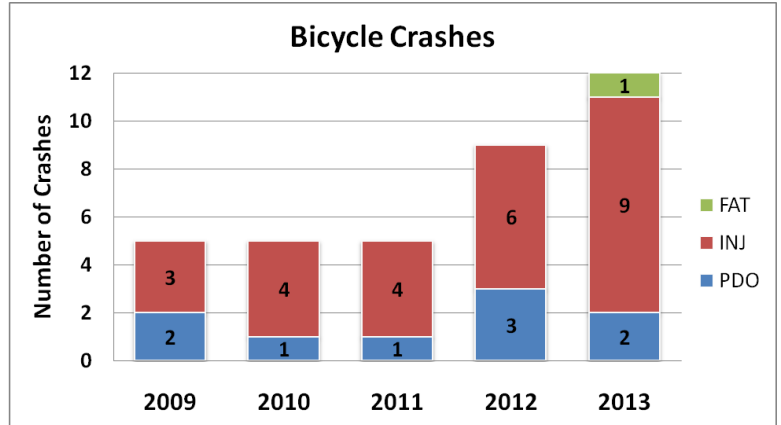
Bicycle crashes are an increasing concern in unincorporated Larimer County. The number of bike crashes has more than **doubled** in just the last two years.

More than **75%** of the crashes are severe, and in 2013, this included a fatal bike crash.

The indication of fault in bike related crashes shows that about **2/3** of crashes are the fault of the vehicle; this percentage is down by 25% in the past five years, and percentage of crashes with the cyclist at fault is up by 160%.

In the past five year, the location of bicycle crashes is increasingly occurring alongside the road and is not as frequently related to driveways, accesses, or intersections.

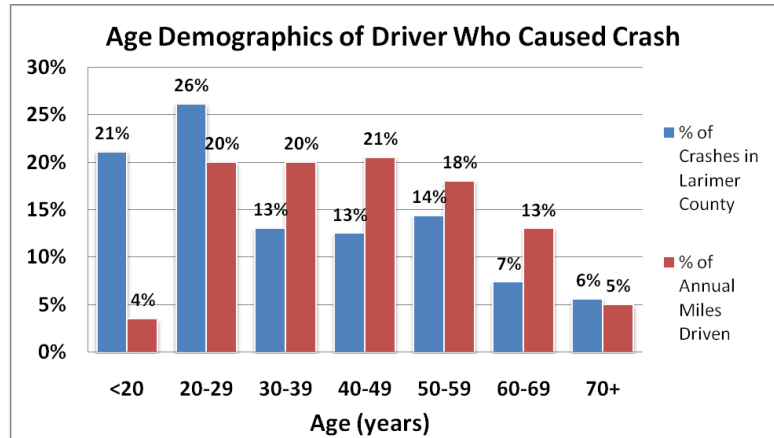
All the crashes involving bicycles during 2013 occurred during daylight hours on paved, dry roads.



Crashes Involving Young Drivers

Teenaged drivers (those less than 20 years of age) are typically overrepresented in crashes.

The graph to the right shows that teenaged drivers account for **21%** of all crashes, but only drive about **4%** of vehicles miles driven.



Of the crashes in 2013 involving young drivers,

Severe Crashes: **20%**

Male Drivers: **64%**

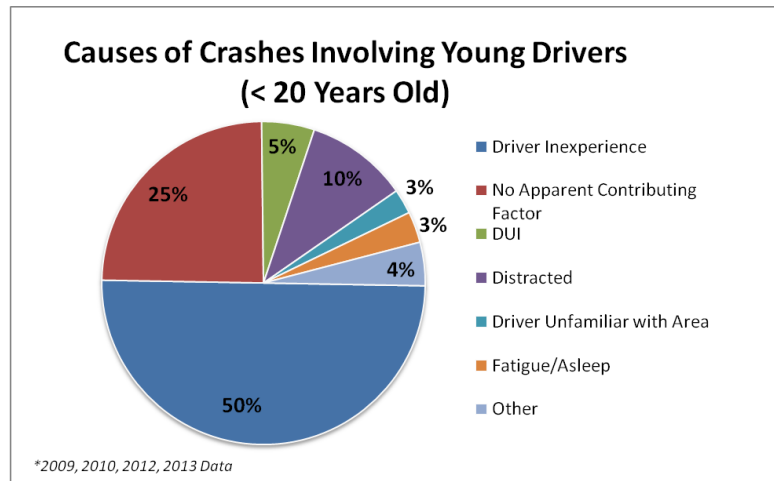
These statistics mirror the statistics related to all crashes. That is, no significant differences were seen between the characteristics of crashes involving young drivers and characteristics of all crashes.

Contributing factors in crashes involving young drivers do not show a particular pattern. Driver inexperience accounts for half of the crashes.

Source:

% of Crashes: Larimer County data – 2013.

% Vehicle Miles Driven: Federal Highway Administration – Office of Highway Policy Information (2011)



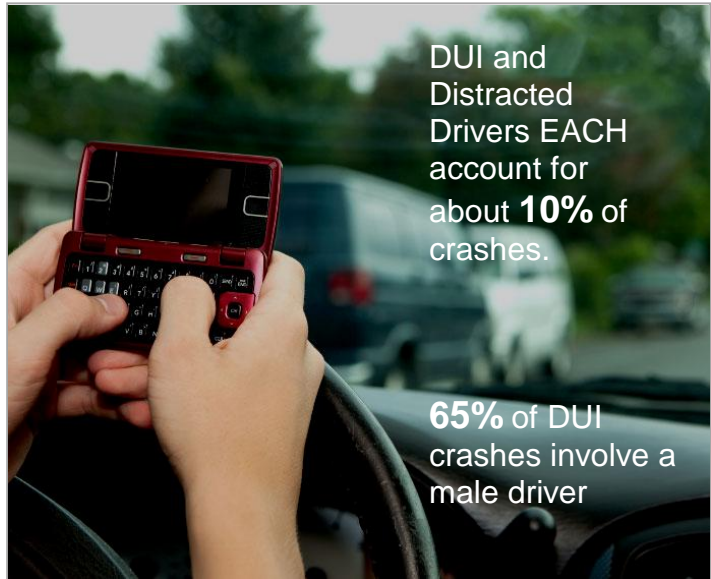
In reviewing crashes involving young drivers over the past five years, no significant changes in trends were identified.

Distracted and Impaired Crashes

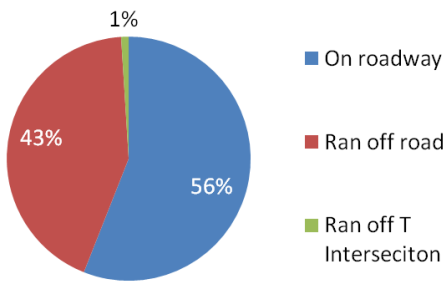
In 2013, **83** crashes were the result of distracted or impaired drivers. These crashes produced **20** injuries and **2** fatalities.

Age demographics over the past five years for these crashes show that:

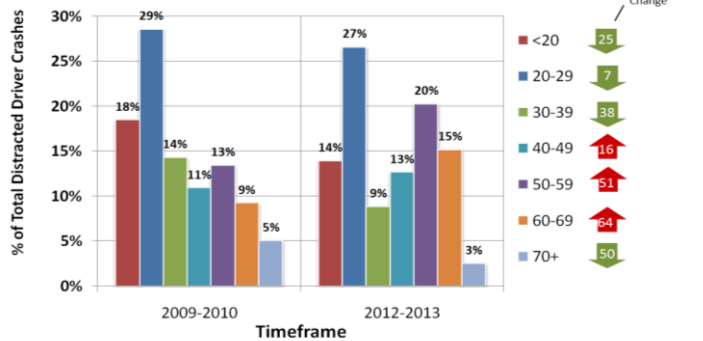
- Distracted drivers are increasingly in the middle age category (ages 40+).
- DUI drivers involved in crashes exist in every age category.



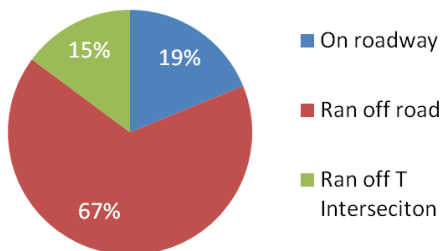
Location of Distracted Crashes



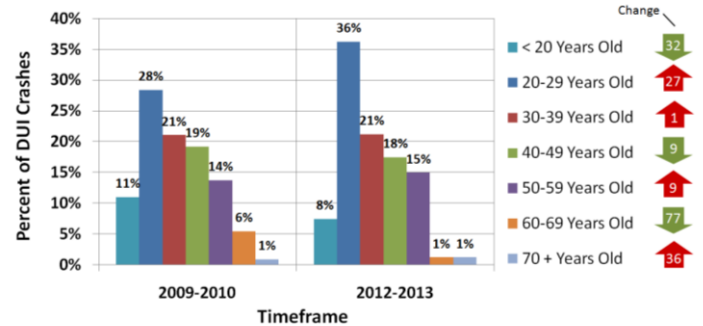
Age Demographics of Distracted Drivers



Location of DUI Crashes



Age Demographics of DUI Crashes

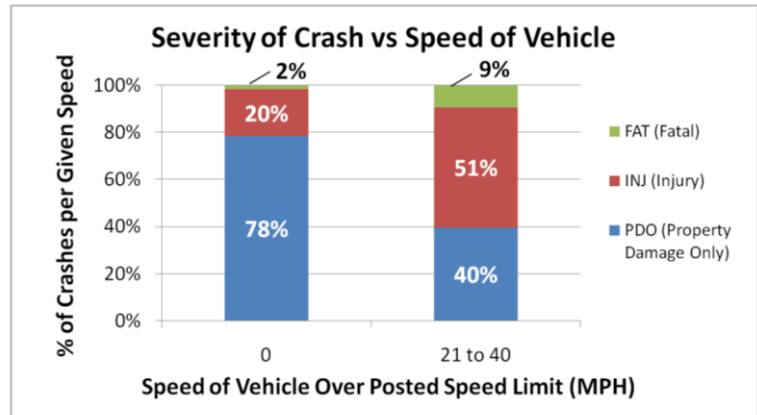


Driver Decisions Impacts Lives

Traffic safety is not always in the control of a single individual driving, but there certainly are decisions made every day that significantly impact traffic safety.

Speed Kills

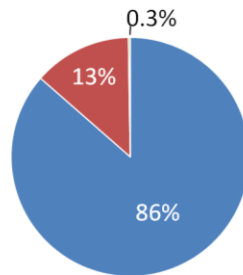
For vehicles traveling at least 20 mph over the speed limit, the likelihood of being injured or killed is **three** times higher than vehicles traveling at or below the posted speed.



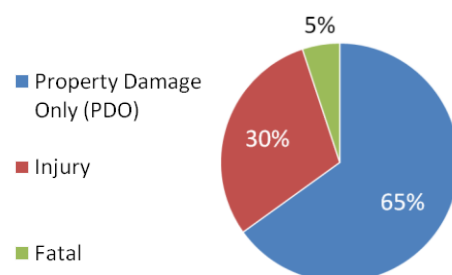
Seat Belts Make A Difference

In a crash, drivers not wearing seatbelts are **3** times more likely to be injured or killed than drivers wearing seatbelts.

Driver Wearing a Seat Belt



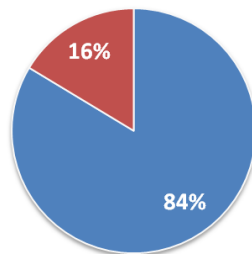
Driver NOT Wearing a Seat Belt



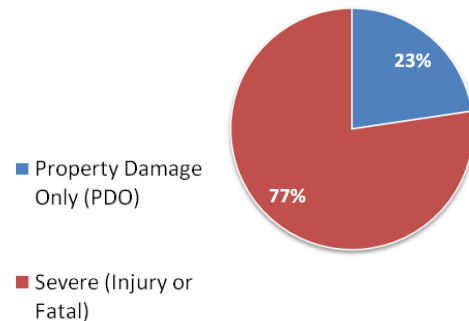
Motorcycle Crashes are Unforgiving

In a crash, drivers riding a motorcycle are almost **five** times more likely to be injured or killed than motorists in vehicles.

Vehicular Crashes



Motorcycle Crashes



Traffic Safety Mitigation

Each year, Larimer County traffic staff systematically identifies, reviews, prioritizes, and implements transportation safety investments with the goal of reducing the number and severity of crashes. Typically, up to two dozen locations are reviewed and several are selected for low cost improvements including signing, striping, thermoplastic pavement markings, rumble bars, etc. Other locations are recommended for higher cost mitigation measures including guardrail, roundabouts or other capital improvements.



Traffic safety audits were completed during the summer of 2013, and thermoplastic was installed, but more significant improvements were delayed in the aftermath of the 2013 fall flood. However, monitoring and evaluation of past improvements is on-going in the five-year old program.

Low Cost Locations and Other Safety Projects:

A total of 18 locations have been improved through this program. This includes nine (9) intersections and nine (9) roadway segment projects. Improvements include warning signs, upgraded sign material, additional pavement markings, center turn lane, improved sight distance, etc. At these locations there is a **31%** reduction in minor crashes and an **81%** reduction in severe crashes for a total of 25 fewer crashes per year.

Roundabout Safety

Two (2) roundabouts are in use in unincorporated Larimer County. They replaced stop controlled intersections. Overall there is a **92%** reduction in severe crashes at these locations.

New Guardrail Projects

Four guardrail projects have been funded with both local funding as well as Federal Hazard Elimination Grants. All locations have seen positive impact on safety with crashes reduced by **50 to 90%**.



Upcoming Capital Improvements

There are several locations where low cost improvements didn't prove to be adequate or effective in reducing crashes. This includes the intersections at CR 11 / CR 30 and CR 11C / CR 30. These intersections have been selected for conversions to a roundabout that will be constructed this summer (2014).