

2015 Traffic Safety Report



Introduction

This report covers the unincorporated roadways in Larimer County that the County has responsibility to maintain. Unincorporated Larimer County has more than 900 miles of roadways, 80 in the urban area surrounding communities, and 820 in the rural portions of the county.

Larimer County strives to make the roadways as safe as possible which includes engineering improvements at specific locations. The Traffic Safety Program Goal is to **reduce the number and severity of crashes on our roadways.** In 2015 there were 469 crashes with 7 of those crashes resulting in 7 fatalities and 82

If you are in a crash, the chances of it being fatal are over twice as high on a county road than on city streets or state highways. County roads continue to have higher fatal crash rates compared to non-county roads.

2015 Colorado Deaths

Caused by...

Cardiovascular Disease
9,204

Influenza & Pneumonia
691

Motor Vehicle Crash
546

Avalanche
11

Unincorporated Larimer County Roadway Crashes
7

Lightning Strike
1

Sources: Colorado Department of Public Health & Environment/Transportation, 2014/2015;

injury crashes. Annual societal cost of these crashes is in excess of \$34.4 million.

The Federal Highway Administration (FHWA) has a newly adopted policy formulated in 2009 called *Toward Zero Deaths: A National Strategy on Highway Safety*. This policy was adopted as an outcome of a workshop, where there was strong agreement that even one death is unacceptable. While this may seem unattainable, the goal is set for something to strive towards and in fact the national fatality rate did drop in 2014 by 2.7 percent compared to the year before. Nationwide, the number of people who died in alcohol impaired driving crashes decreased by 1.4 percent in 2014.

The Colorado Department of Transportation (CDOT) has also adopted this national policy and set performance measures to achieve this goal. The Colorado Strategic Highway Safety Plan, October 2014, sites that *“Colorado has made tremendous progress in reducing the deaths and preventable injuries caused by traffic crashes. In the last 10 years (2002 to 2012), traffic-related fatalities in Colorado dropped 36 percent and serious injuries declined 35%.”*

Early estimates of 2015 national fatality rates (January through September) indicate fatalities are up by 9.3 percent compared to the same period of 2014. Travel is also up 3.5 percent over the same pe-

2015 CRASHES CONTINUE UPWARD TREND

There has been an average of 413 crashes on the unincorporated roads in Larimer County between 2011 and 2015. The 2015 **crashes increased** by almost **14%** compared to the **5 year average**. In 2015, the total number of **crashes increased** by 6.3% over 2014 continuing the upward trend since 2012.

There is generally a correlation between an increase in Vehicle Miles Traveled (VMT) and the number of crashes. Approximately 20 million more miles were traveled in 2015 compared to 2014, a 6.9% increase. The 6.9% increase in miles traveled exceeded the 1.8% growth in population, estimated by the Colorado Department of Local Affairs. This increase in

Fatal crashes: Increased to 7 crashes and 7 fatalities

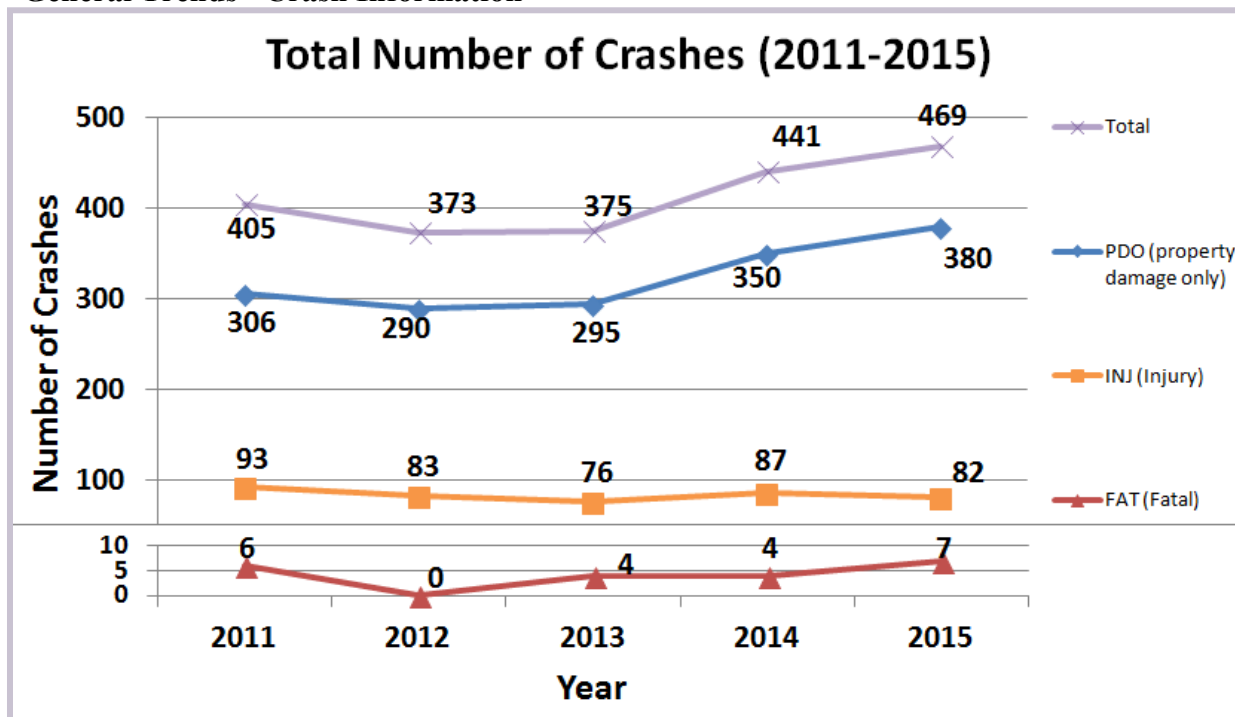
Injury crashes: Decreased by 6%

Property Damage Only: 8.5% increase

Vehicle miles traveled on Larimer County roads increased by 6.9% while the overall population increased by 1.8%, indicating people were driving more miles on average in 2015 than in 2014.

Source: DOLA

General Trends - Crash Information



Distracted and Impaired Crashes Increase

Colorado State Law

- Ban on all cell phone use (handheld and hands-free) for novice drivers (Primary law)
- Ban on texting for drivers of all ages (Primary law)

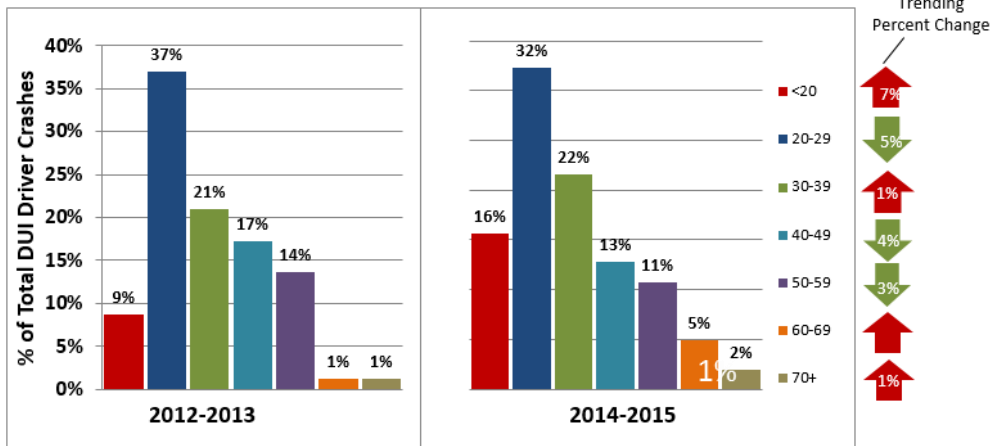
Note: Colorado defines novice drivers as drivers of all ages under the age of 18.

Source: Distraction.gov



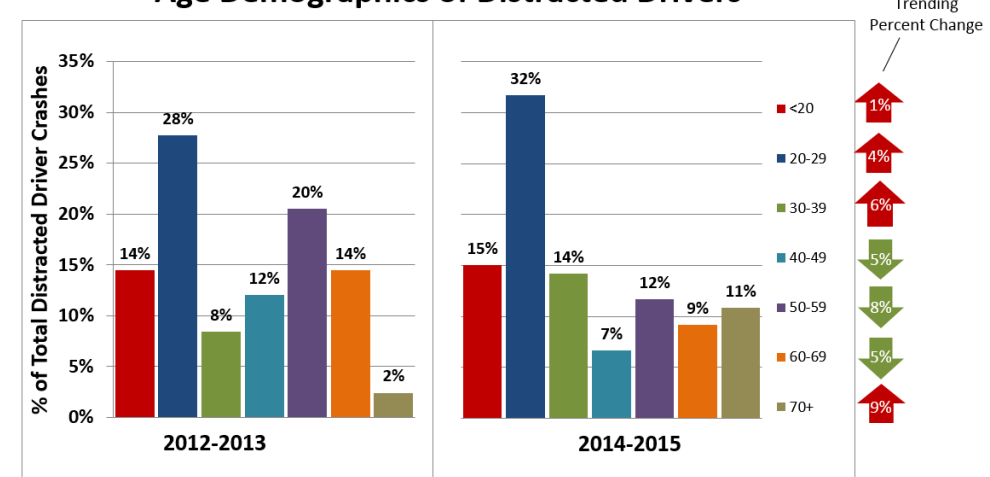
In 2015, **120** crashes were the result of distracted or impaired drivers **up 19%** from the previous year. These crashes produced **25** injuries and **2** fatalities. Distraction led to more crashes than impairment. Causes of distraction are not always easy to identify and are put in the 'Other' category with many believing distractions such as cell phones are underreported.

Age Demographics of DUI Drivers



Timeframe

Age Demographics of Distracted Drivers



Timeframe

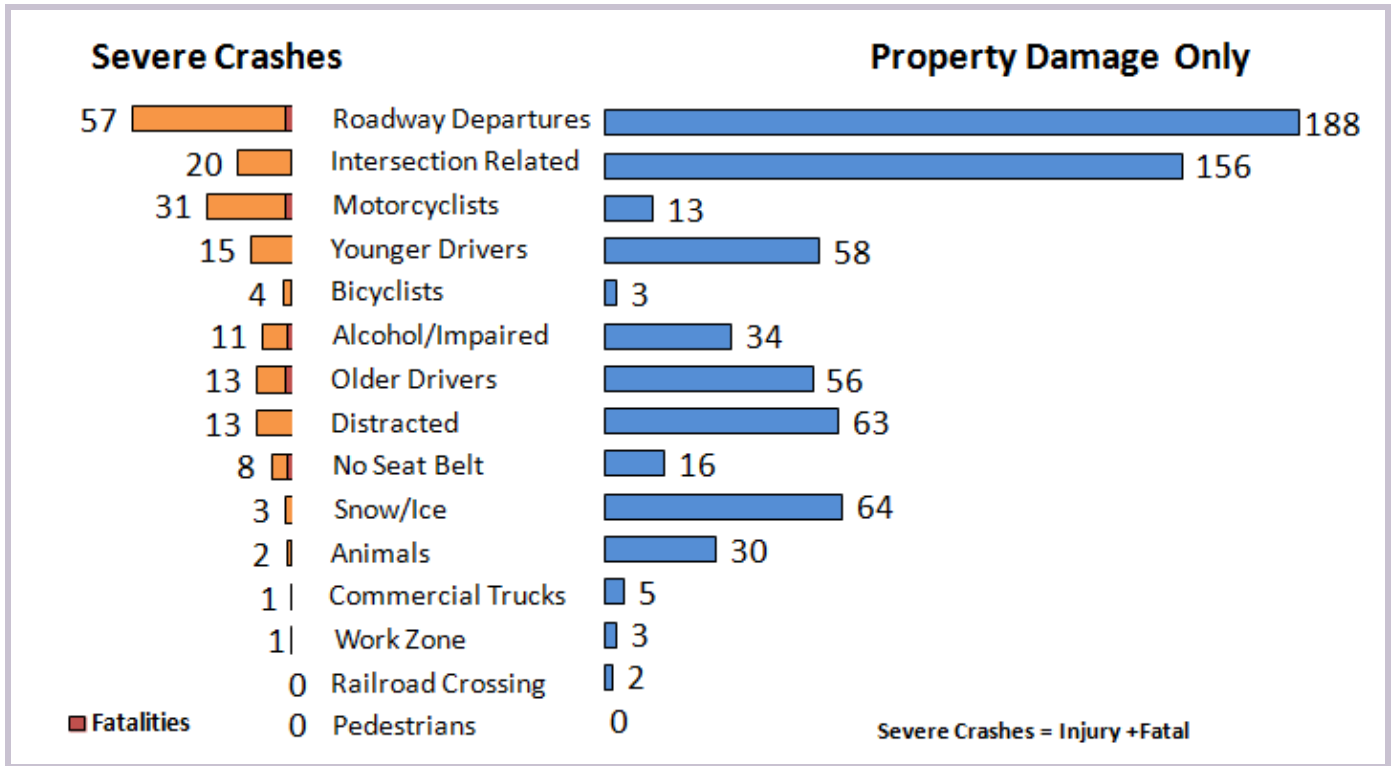
According to CDOT, the number of cannabis related fatal crashes increased significantly in 2014 and is 4.1% higher than the 5 year average (2010-2014)

Overall

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. Crash data are obtained from Colorado State Patrol crash reports.

The chart below shows the number of crashes in 2015 relative to a variety of factors. Crashes may be listed in more than one category. The table below shows the trends in each category.

Unincorporated Larimer County Crashes – 2015



Compared to 2014 **Roadway Departures** are the most common accident even with a decrease from 2014

DUIs are down 12%

Distracted driving is up 81%

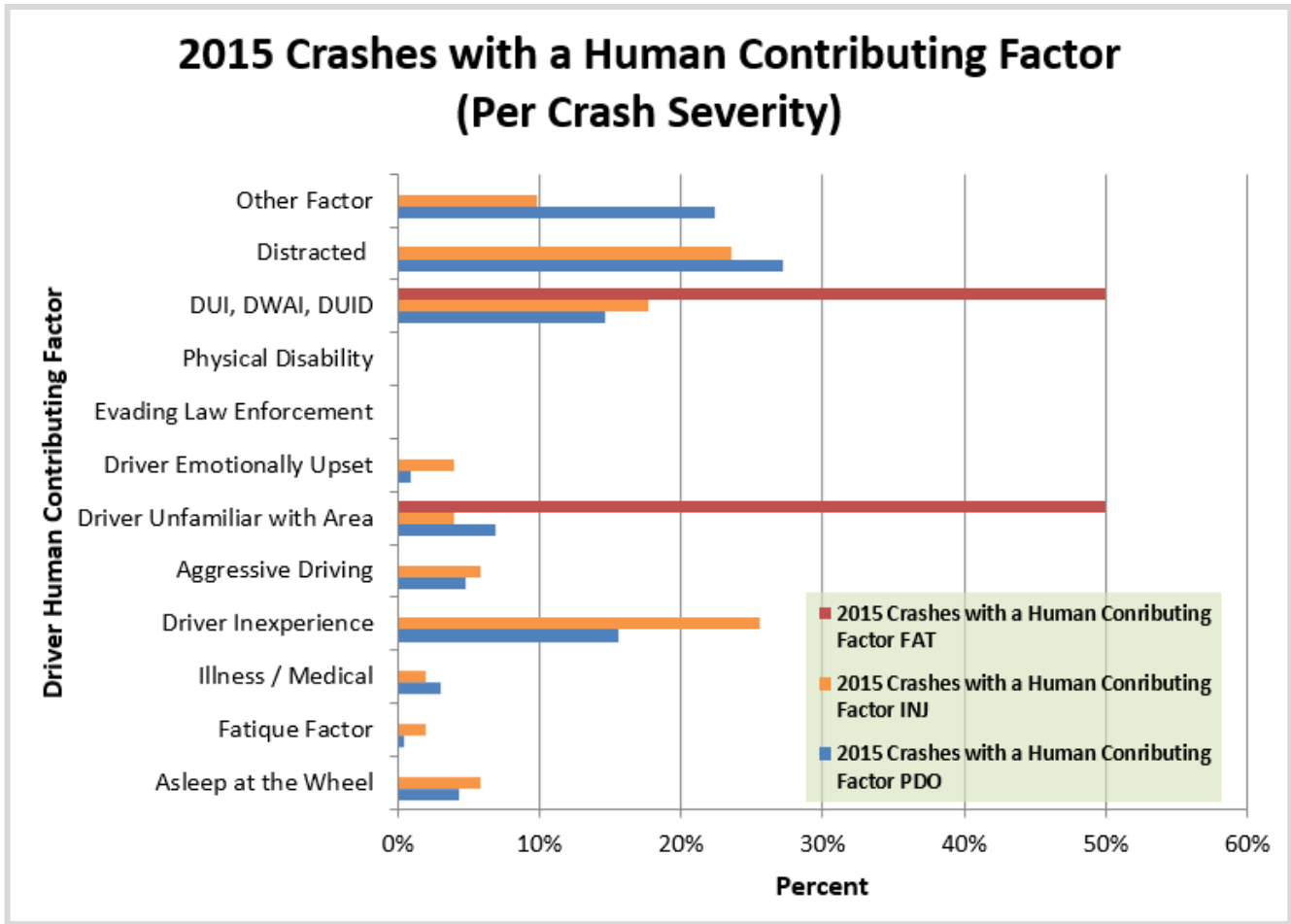
25% increase in injury or death not using a **seatbelt**

Crashes that have an **animal** involved increased 14%

Older Drivers (60+) involved in crashes increased significantly by 88%

Crash Characteristics	% Change between 2014 and 2015	2015 Total Crashes
Roadway Departures	-6%	245
Intersection Related	66%	176
Motorcyclists	13%	44
Younger Drivers	6%	73
Bicyclists	17%	7
Alcohol/Impaired	-12%	45
Older Drivers	88%	69
Distracted	81%	76
No Seat Belt	-33%	24
Snow/Ice	-34%	67
Animals	14%	32
Commercial Trucks	-54%	6
Work Zone	300%	4
Railroad Crossing	-33%	2
Pedestrians	-100%	0

Overall Continued



Out of those 287 crashes the leading causes of injury or death are:

- Distracted
- Driver Inexperience
- Impaired

These top categories are consistent with the state as a whole.

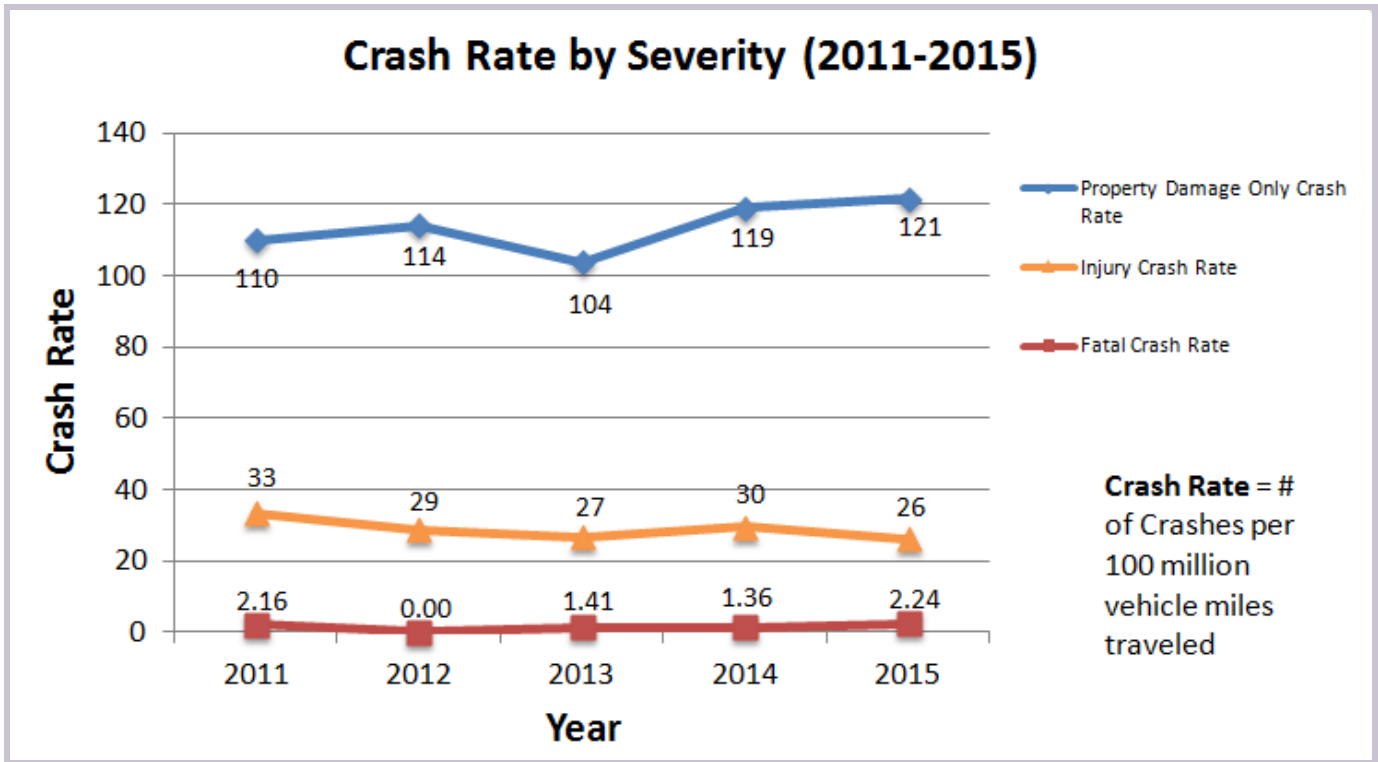
Driving is about human interaction with the vehicle, the natural elements and with other drivers on the roads.



There were 469 crashes in 2015 and 287 of those crashes, almost 62%, had human contributing factors

Crash Rates

This graphic shows the crash rate by severity, and indicates that property damage only and injury crash rates have **increased 2%** and **4%** respectively in the past year. Fatal crash rates also increased from the previous year. This increase is consistent with the overall increase in crashes in 2015 and shows a higher increase in severe crashes.



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.

Cities and towns do not report crash rates making it difficult to compare crash information within Larimer County. The Colorado Problem Identification Report, Colorado Department of Transportation, Fiscal Year 2015, shows the average 5 year (2009-2013) **statewide injury crash rate** per 100 million VMT is **21.2** while **Larimer County (2010-2014) is 28.9**. The crash rates on the unincorporated County road system is higher than the State system that includes both the interstate and state highway system.

Fatal Crash Review

There were seven fatal crashes on the unincorporated County road system in 2015 that resulted in 7 fatalities, the highest number in the past 5 years. The generally low number of fatalities makes it difficult to establish statistically significant details about the crashes. Using the total number of fatalities in the **past five years (2011-2015)**, generalities or trends can be noted.



Overturn

59%



On road

41%



Male

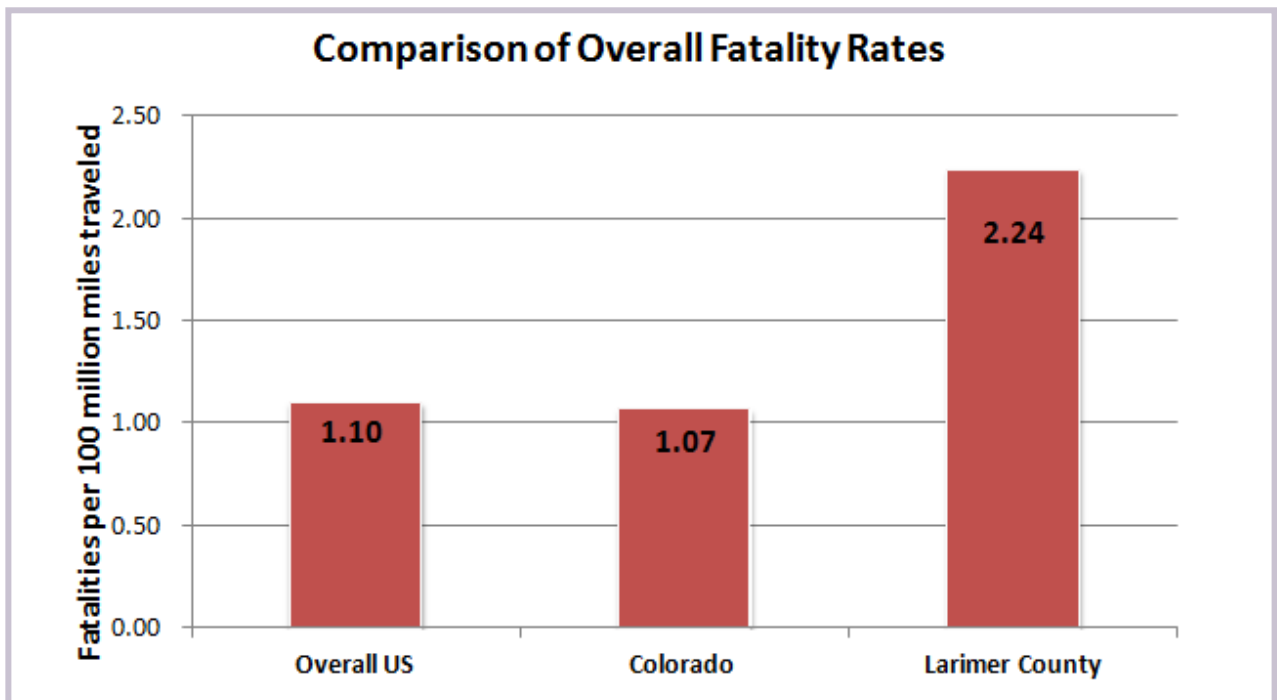
Male

86%

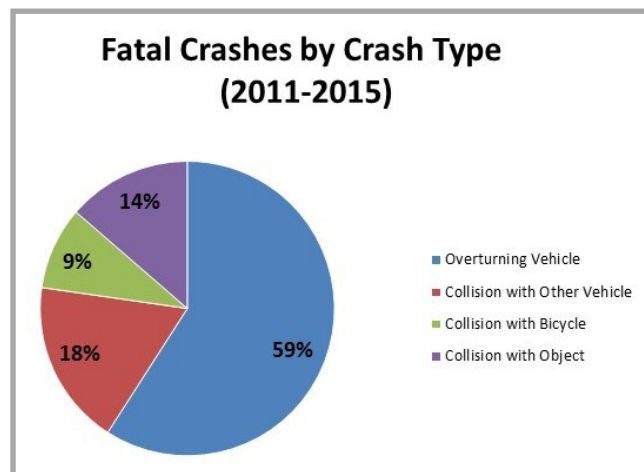
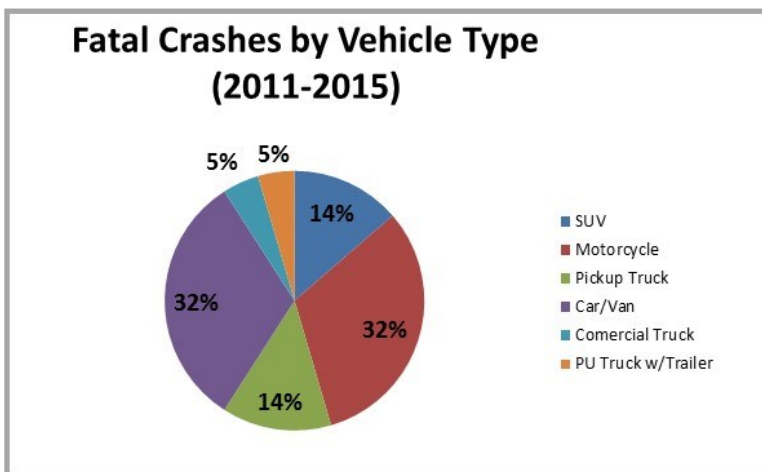


Motorcycles

32%



Sources: National Highway Traffic Safety Administration (2014) Colorado: CDOT Colorado CDOT Colorado Problem Identification (2014 report using 2013 data)
Larimer County value from: County records (2015)



2015 Fatal Crash Descriptions/Locations

County Rd 31 230 feet north of County Rd 8E (Carter Lake area) – 6/14/2015: Two motorcycle roadway departures followed by collision with an embankment; resulting in one fatality and one injury. Occurred during daylight on an at grade roadway curve. Suspected cause of this fatal crash was driver DUI.

County Rd 36 107 feet west of I-25 East Frontage Rd (Kechter Rd) – 6/26/2015: Large delivery truck on a narrow roadway collision with a bicycle ; resulting in one fatality. This collision took place during daylight hours and is due to a lane violation.

County Rd 8E 0.17 miles west of CR 27E – (Carter Lake area) 8/27/2015: Single motorcycle animal collision in roadway, vehicle overturned and ejected driver; resulting in one fatality. This collision occurred on a straight and level roadway during dark and unlighted conditions.

County Rd 27 0.67 miles north of Bar-D-Ranch Rd (Masonville area) – 9/5/2015: Two vehicle, motorcycle crash located on the roadway where the motorcycle overturned, traveled into the oncoming lane, and collided with an SUV; resulting in one fatality. This collision occurred at a curve on grade during daylight conditions. The suspected cause of this fatal crash was excessive speed.

County Rd 18 0.4 miles east of CR 3 (Johnstown area) – 11/1/2015: Single vehicle crash, a passenger car traveled off the left side of the roadway and overturned multiple times; resulting in one fatality. This crash occurred on a straight and level roadway during dark and unlit conditions. The suspected cause of this fatal crash was excessive speed and driver DUI.

County Rd 12 277 feet west of Wild Wing Dr (West of Loveland around Carter Lake area) – 11/24/2015: Single vehicle crash, pick-up truck towing a cement mixer. Vehicle ran off the right side of roadway colliding with a fence and multiple embankments; resulting in one fatality. This crash occurred at a curve on grade during daylight conditions. The suspected cause of this fatal crash was a lane violation.

County Rd 54G At US 287 (Laporte area) – 10/11/2015: Two vehicle crash located on the roadway where a vehicle (passenger car) attempted a left hand turn onto US 287 in front of another vehicle (SUV); resulting in one fatality and two injuries. This collision occurred on a level and straight roadway during

ing

Summary of 2015 Fatal Crashes

85% were **Male** drivers 3 of the 7 were on **motorcycles**

5 of the 7 crashes were in **daylight** 4 of the 7 were **on the roadway**

Roadway Departure Crashes

The two-lane rural roads are in fact the most dangerous part of the road system. In 2015, **52%** of all crashes involved a vehicle leaving the roadway (roadway departure crash). Here's what we know about those crashes:

There is no singular cause of roadway departure crashes; in fact most have no apparent contributing factor. Trends over the past five years have been very consistent.

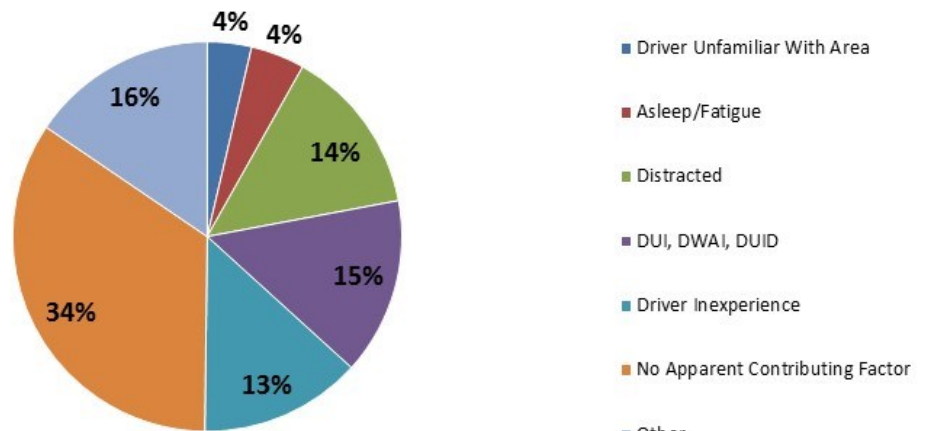
There is one notable change from 2014. Distracted driving has doubled as a contributing factor to the roadway departure crashes. It is unclear if this is due to different reporting methodology or there is a significant increase in distraction, likely both.

Road Condition: 67% of the crashes occurred on dry roads

Light Condition: 57% occurred during daylight hours

Fatal Crashes: 57% are Roadway Departure Crashes

2015 Causes of Roadway Departure



2015 Roadway Departure Top 5 Worst Locations

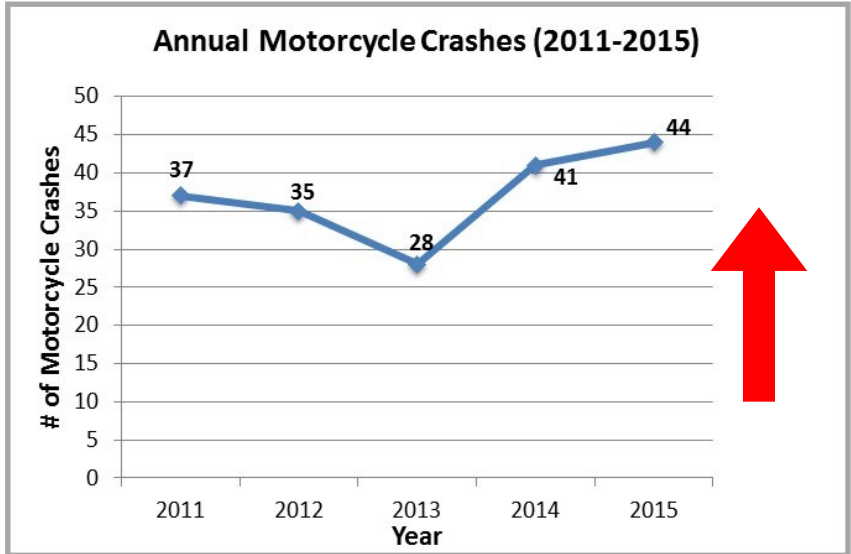
- **CR 15** [11 Crashes Total] - Concentrated mostly between SH 1 and Daryn Lane
- **CR 19 (Taft Hill Rd)** [11 Crashes Total] - Hotspots near CR 10 and CR 54G
- **CR 38E** [10 Crashes Total] - Concentrated mostly between Westridge Dr. and CR 19
- **CR 74E (Red Feather Road)** [10 Crashes Total] - Large concentration between Weymouth Rd and Roberts Ranch Rd
- **CR 30** [9 Crashes Total] - Between CR 13 southbound and CR 13 northbound (Near Donath Lake)

Motorcycles Crashes Continue To Rise

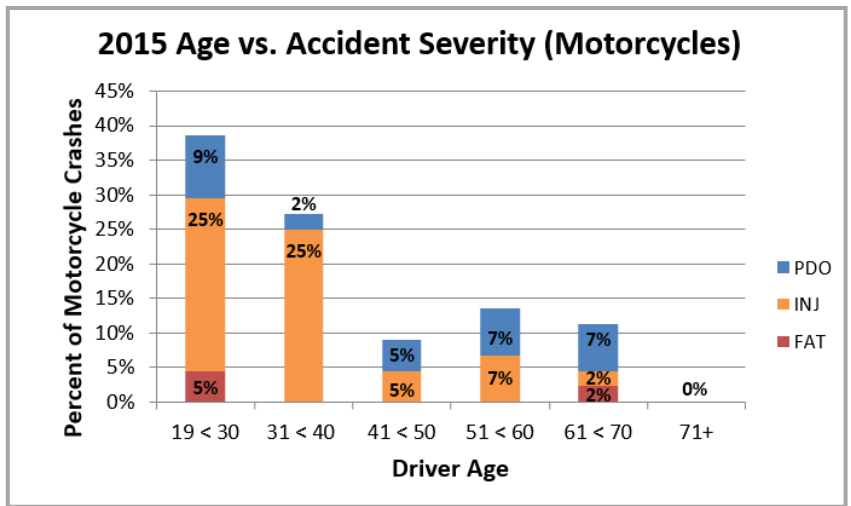
The percent of motorcycle crashes compared to the total number of crashes has remained fairly constant between 2011 and 2015, typically around 9%. However, the chance of injury or death is disproportionately higher. In 2015, **69% of motorcycle crashes resulted in injury or death compared to 19% in other vehicles, account-**



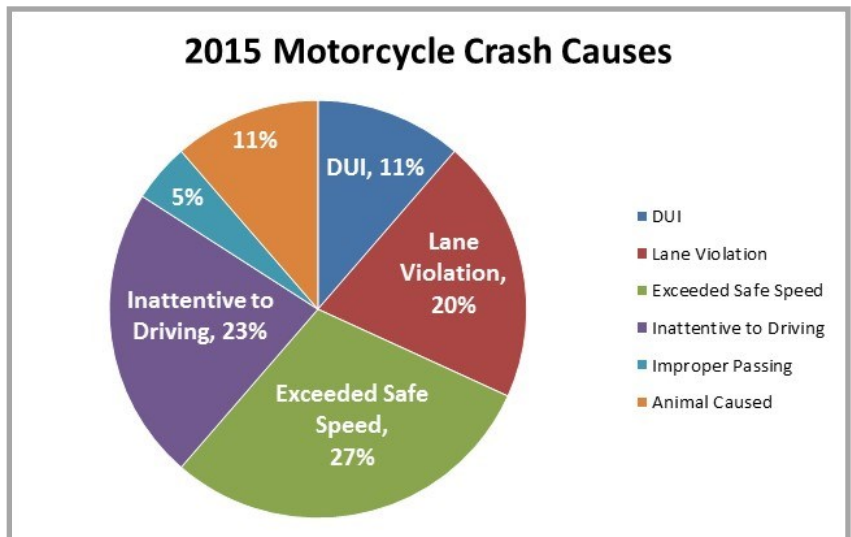
Motorcycle in the Poudre River



The majority of crashes still involve male drivers though the age distribution has changed from the previous year. The 51 to 60 age bracket dropped 15% however the 31-40 year old range experienced a 15% increase.



The majority of motorcycle crashes, 50%, are caused by Speed and Inattentive Driving, followed closely with Lane Violations at 20%



Bicycle Crashes

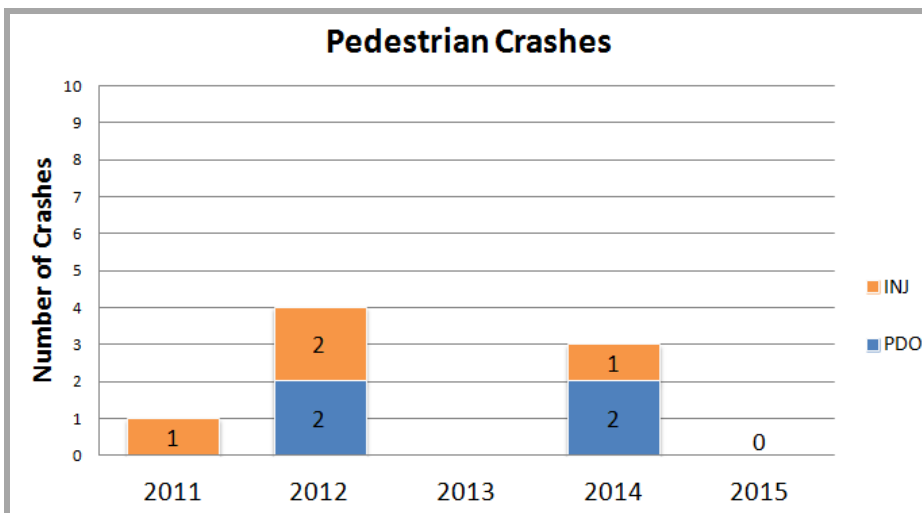
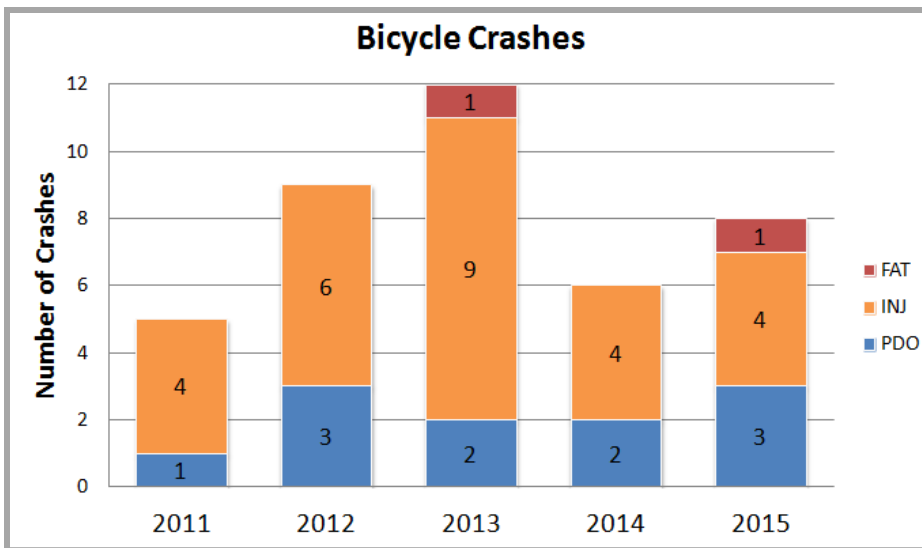
Bicycling is a popular activity in Larimer County whether riding for commuting or pleasure. Many of the cities and towns actively promote bicycling and many events are requested and held on county roads in the summertime.

There are not a large number of reported bicycle related crashes, with seven for the year. However, similar to motorcycles, the severity of the crashes is much higher than for a motor vehicle.

63% of the bicycle crashes resulted in injury or death.



Ghost bike—honors a victim of a bicycle related fatality



Pedestrian Crashes

The number of pedestrian crashes is low in Larimer County with 8 during the last five years. As the crashes reported here are in the unincorporated area of the county there are generally fewer pedestrians.

The City of Fort Collins averages 45 total pedestrian crashes per year. The majority of these crashes occur at signalized intersections or non-designated pedestrian crossing locations in areas with high pedestrian volumes. Larimer County does not have many areas with high volume pedestrian traffic; which reflects the low number of pedestrian crashes.

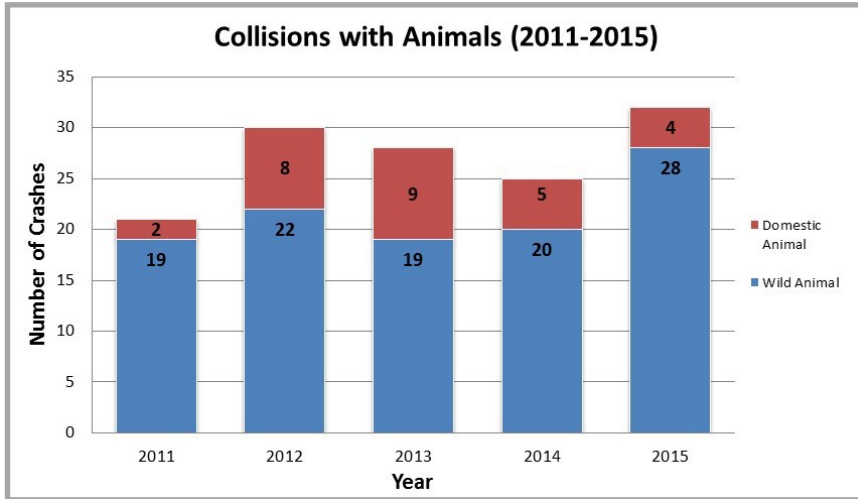
Animal Related Crashes

The total number of animal collisions in 2015 was 32. That is an increase in animal related crashes from the previous year by 78% all of them included large animals both wild and domestic that can cause more damage and injury

Animals on the roadway can also cause a crash even if the animal is not part of the crash. There were 8 additional crashes from this cause.



KDVR, Moose tries to cross I-25



The total number of animal crashes increased in 2015 to 32 from 25 the previous year.

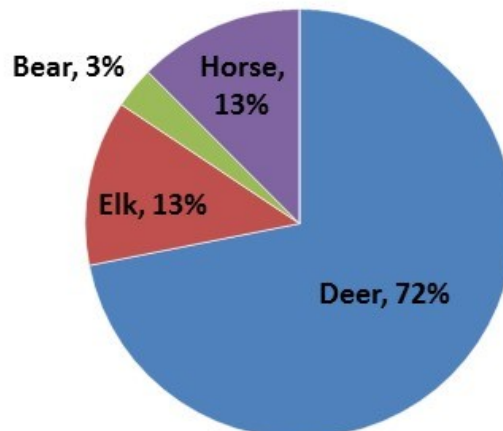
The most common animal crash is with deer, 72% of all animal crashes. New signs will be posted in areas with higher densities of wildlife crashes. 71% of wild animal crashes occur at night when visibility is limited.

Deer have been the most common animal crash for the past 3



New sign in 2015

2015 Animal Type



Traffic Safety Program Review

Larimer County implemented a Low Cost Safety Program that started in 2008 in conjunction with other improvements that are part of more extensive capital improvement projects. Safety is inherent in every project that the county undertakes and below are examples of locations that have received low cost safety improvements.

SAFETY IMPROVEMENTS

Segment	Time Frame	Number Crashes Per Year						Date Improved	Notes
		PDO	INJ	FAT	Total Avg	Minor	Severe		
Intersection of CR 70 (Owl Canyon) and CR 15	Type of Improvement	4-way stop with flashing beacons, added signing, rumble strips						March, 2008	Average of 3 years before improvements and 7 years after
	Before Improvements	1.00	2.00	0.00	3.00	1.00	2.00		
	After Improvements	0.00	0.00	0.00	0.00	0.00	0.00		
	Change	-100%	-100%	0%	-100%	-100%	-100%		
Intersection of CR 23E and CR 4	Type of Improvement	Added pavement markings, cross street warning signs, and speed limit signs						2/5/2010	Average of 5 years before improvements and 5 years after
	Before Improvements	1.20	0.40	0.00	1.60	1.20	0.40		
	After Improvements	0.60	1.20	0.00	1.80	0.60	1.20		
	Change	-50%	200%	0%	13%	-50%	200%		
Intersection of CR 11C and CR 46E	Type of Improvement	Relocated signs, upgraded material, added cross street warning signs, pavement markings, painted minor street centerline						11/19/2010	Average of 4.5 years before improvements and 5 years after
	Before Improvements	4.00	0.67	0.00	4.67	4.00	0.67		
	After Improvements	1.50	0.50	0.00	2.00	1.50	0.50		
	Change	-63%	-25%	0%	-57%	-63%	-25%		
CR 13 Northwest of CR 30 - Sharp Turn near irrigation ditch	Type of Improvement	Upgrades to existing signing and additional signing						11/15/2011	Average of 4.5 year before improvements and 4 years after
	Before Improvements	1.56	0.67	0.00	2.22	1.56	0.67		
	After Improvements	2.68	0.24	0.00	2.93	2.68	0.24		
	Change	72%	-63%	0%	32%	72%	-63%		
Intersection of CR 16 and CR 7	Type of Improvement	Upgraded sign materials, added stop ahead pavement markings						11/19/2009	Average of 6 years before improvements and 6 years after
	Before Improvements	1.78	0.67	0.00	2.44	1.78	0.67		
	After Improvements	0.83	0.17	0.00	1.00	0.83	0.17		
	Change	-53%	-75%	0%	-59%	-53%	-75%		
Intersection of CR 17 and CR 54	Type of Improvement	Upgrade sign materials, added pavement markings						11/1/2009	Average of 5 years before improvements and 6 years after
	Before Improvements	1.20	0.20	0.00	1.40	1.20	0.20		
	After Improvements	1.17	0.00	0.00	1.17	1.17	0.00		
	Change	-3%	-100%	0%	-17%	-3%	-100%		

The table shows how they performed before the improvement and after the improvement. Generally, the improvements reduce the number of overall crashes and those crashes are less severe.

The sharp turn on CR 13 north of Donath Lake is an exception. Even with upgrades of additional signs, a problem has persisted. Late in 2015, more adjustments were made to the signing and two sets of rumble bars approaching the turn from the north were installed. Since this installation the number of crashes has dropped but further review will be needed.

During 2016, the intersection of CR 23E and CR 4 will be reviewed for additional safety measures.

Traffic Safety Mitigation

Safety improvements completed on the County Road system during 2015.

CR 17 – Shields St Improvements: As part of capital construction projects, The bridge over the Poudre River and CR 17 from Vine Dr to Willox Ln was reconstructed. The former 2 lane road was widened to a 3 lane cross section with a continuous 2-way center left turn lane and six foot bike lanes. Concrete sidewalks were added from the Poudre Bridge south to Vine Dr. The improvements also included new walkways accessing the Poudre Trail that runs underneath the bridge and a new off-road parking area for Poudre Trail users.

CR 27 –Buckhorn Rd – Permanent Flood Repairs: As part of the permanent flood repairs from the 2013 flood, several structures on CR 27 were replaced through the narrows was reconstructed and paved opening the road up to unrestricted use by the public. The new road sits at a higher elevation above Buckhorn Creek and has a wider platform that allows for 2 full vehicle lanes through the narrows area.

Low Cost Safety improvements during 2015 included: A cost estimate was received for converting the pedestrian flasher system to a pedestrian hybrid beacon on CR 11C south of 30. It has been determined that quotes will need to be received for this work. The conversion should take place later in 2016.

Safety improvements that involved traffic sign upgrades and pavement marking improvements were made at the following locations:

- Turn on CR 13 south of SH 392 at Donath Lake – Additional signing and the placement of preformed thermoplastic rumble bars in response to southbound run off the road crashes.
- CR 52E – Rist Canyon Rd - Additional signing and upgrades to existing signs to address run off the road crashes on winding roadway in Rist Canyon.

Pavement markings were upgraded and replaced using preformed thermoplastic markings throughout the county.

Traffic Safety Mitigation 2016

Low Cost Safety:

- County wide evaluation of all crash data and select locations for individual safety audits
- Continue work to convert CR 11C pedestrian flasher to a pedestrian hybrid beacon.

2016 Safety Projects:

- A new traffic signal will be installed at the intersection of CR 13E (Monroe Ave) and CR 28 (57th St) on northeast side of Loveland during 2016. This intersection has been experiencing increased traffic and an increase in broadside crashes during the past few years. The traffic signal will allow the intersection to accept more traffic as the detour route for CR 11C reconstruction later in the year.
- Milepost Markers will be installed on many of the county roads in the foothills and mountainous areas of Larimer County. The milepost markers will have geographically referenced locations on the Larimer County GIS road inventory system. The milepost markers are used for reference in emergency response situations and road maintenance. The markers also assist law enforcement as reference points to better locate crashes that occur on remote roadways.
- During 2016, the intersection of CR 23E and CR 4 will be reviewed for additional safety measures.