



*New School Flasher at Larimer County Road 27*

# 2020 TRAFFIC SAFETY REPORT



*New Pedestrian Crossing at Larimer County Road 38E*

**LARIMER COUNTY ENGINEERING DEPARTMENT**

200 W. Oak St, Suite 3000 • Fort Collins, CO 80521 • 970.498.5700 • Larimer.org



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# Introduction

This report covers the unincorporated roadways in Larimer County which the County has responsibility to maintain. Unincorporated Larimer County has 887 miles of roadways—104 miles in subdivisions, 81 in urban areas surrounding communities, and 702 in rural portions of the county.

Larimer County strives to make roadways as safe as possible. The Traffic Safety Program Goal is to **reduce the number and severity of crashes on our roadways.**



## **Colorado Health Information Dataset Mortality Statistics (2019)**

### **Cause of Death:**

**Cardiovascular Disease<sup>1</sup>**  
10,393

**Influenza & Pneumonia<sup>1</sup>**  
461

**COVID-19 (2020)<sup>2</sup>**  
3907

**Motor Vehicle Crash<sup>1</sup>**  
612

**All Larimer County Roadway  
Fatalities, 2019<sup>1</sup>**  
27

**Unincorporated Larimer County  
Roadway Fatalities, 2020**  
6

Source: <sup>1</sup>[www.colorado.gov/pacific/coepbt/death-data-statistics](http://www.colorado.gov/pacific/coepbt/death-data-statistics)

<sup>2</sup><https://www.coloradoan.com/story/news/2020/12/01/covid-19-colorado-track-cases-deaths-hospitalizations-december/6471929002/>

Crashes are categorized into three classes by severity: Property Damage Only (PDO), Injury, and Fatal. A property damage only crash indicates that no one was injured or killed in the crash. In an injury crash at least one person was injured in the crash but no one was killed. In a fatal crash at least one person lost their life although there may also have been injuries sustained by other persons.

Property damage only crashes were down nearly 25% from 2019. Injury crashes were down slightly in 2020 compared to 2019. Larimer County saw 6 fatal crashes resulting in 6 fatalities in 2020, an increase of 1 over 2019.

Crashes and crash severity are often influenced by the choices people make. Examples of these choices include speeding, distracted driving, driving under the influence of alcohol or drugs, and seat belt or helmet use.

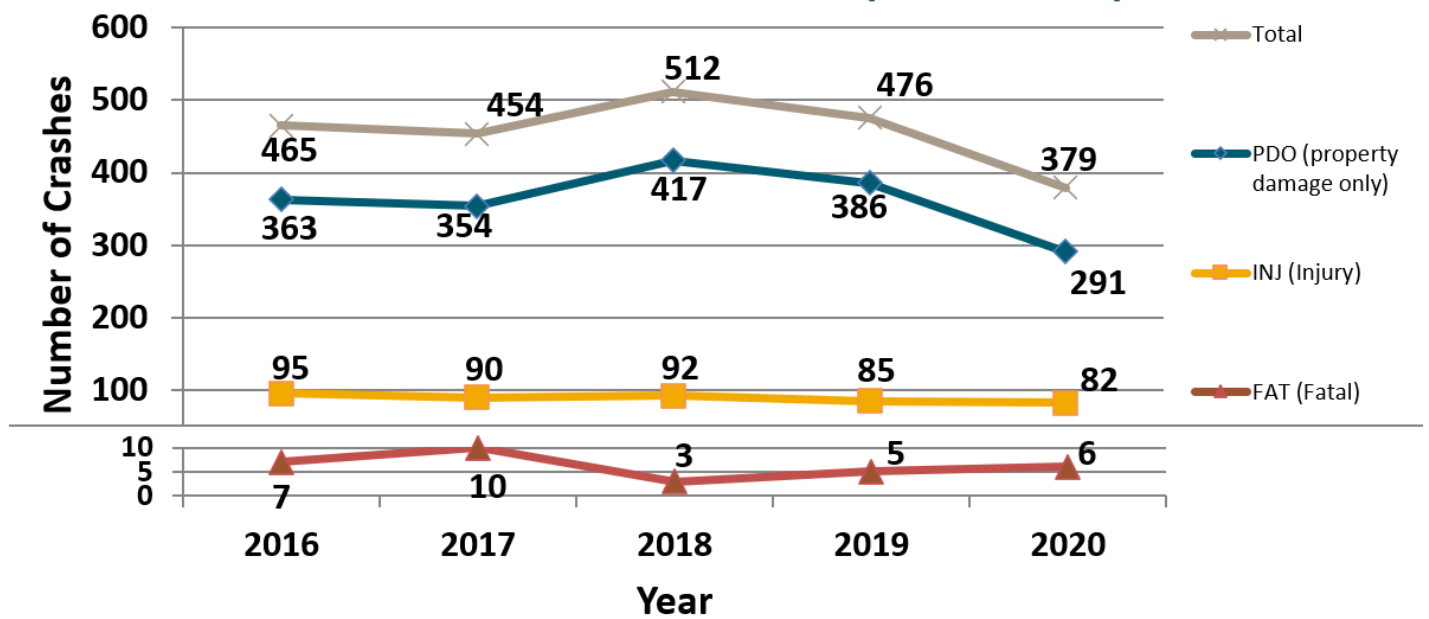
This report summarizes crashes in unincorporated Larimer County by a variety of factors that are focused on areas of interest and identification of trends to be addressed through safety improvements and education.

# 2020 Crash Trends

In 2020, there were 379 crashes on unincorporated roads in Larimer County which is a decrease of 20% from 2019 at 476 crashes. This is a significant drop in the 5 year average from 2016 to 2020 of 457 crashes.

There were 6 fatal crashes in 2020 which is a rise from 2019 of 5 deaths but slightly below the 5 year average of 6.2 deaths per year.

## Total Number of Crashes (2016-2020)



Fatal crashes: 6 crashes (6 fatalities) **Increased 20%** from 2019

Injury crashes: **Decreased by 3.5%**

Property Damage Only: **Decreased by 24.6%**

There is generally a correlation between an increase in Vehicle Miles Traveled (VMT) and the number of crashes. Approximately 356 million miles were traveled on Larimer County roads in 2020, no change compared to 2019. There may have been an actual decrease in VMT due to Safer at Home orders in response to COVID-19 since the counts used in calculating the unincorporated Larimer County VMT were collected during the summer months when restrictions were less severe.

# Overall Crashes

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 is obtained directly from Colorado State Patrol crash reports and other law enforcement entities as needed.

## Most Significant changes in 2020:

In 2020, the % of **Serious** crashes compared to Total crashes were up by **5%** from 2019

The total **Motorcycle** involved crashes were up from 31 in 2019 to **44** in 2020. Motorcycle crashes were **10%** of total crashes in 2020, up from 5.8% in 2019.

The total **Work Zone** related crashes saw an increase from 3 in 2019 to **10** in 2020

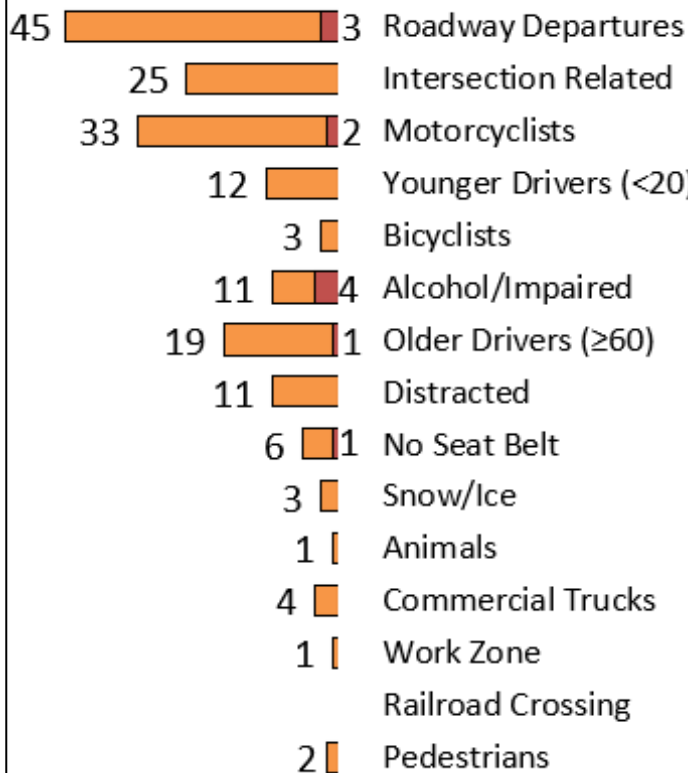
The amount of **DUI** related crashes were slightly down from 11% of total crashes (60 crashes) in 2019 to 10% of total crashes(42 crashes) in 2020

Crash Characteristics	% Change between 2019 and 2020	2020 Total Crashes
Roadway Departures Intersection Related	-17%	191
Motorcyclists	-33%	122
Younger Drivers	42%	44
Bicyclists	-29%	53
Alcohol/Impaired	0%	4
Older Drivers	-30%	43
Distracted	-3%	77
No Seat Belt	-13%	55
Snow/Ice	13%	17
Animals	-24%	45
Commercial Trucks	-56%	19
Work Zone	16%	22
Railroad Crossing	233%	10
Pedestrians	100%	2
	200%	2

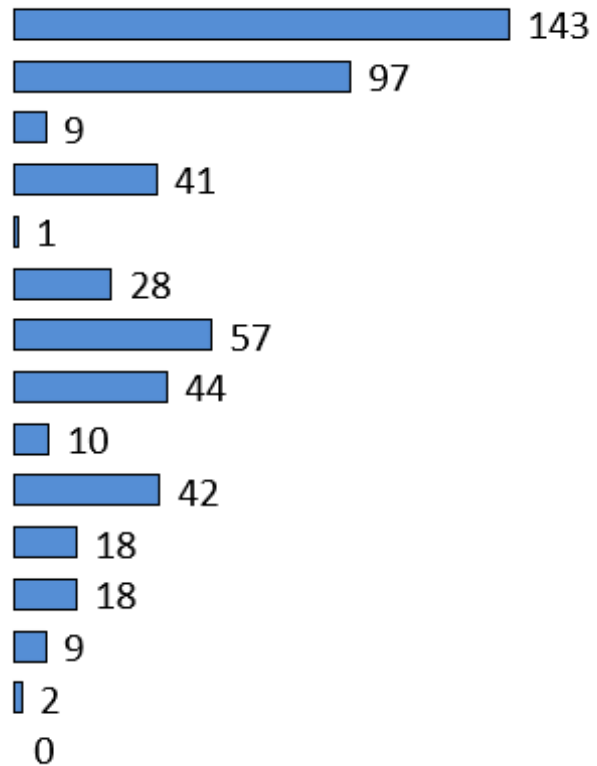
## Unincorporated Larimer County Crashes - 2020

### Severe Crashes

INJ FAT



### Property Damage Only

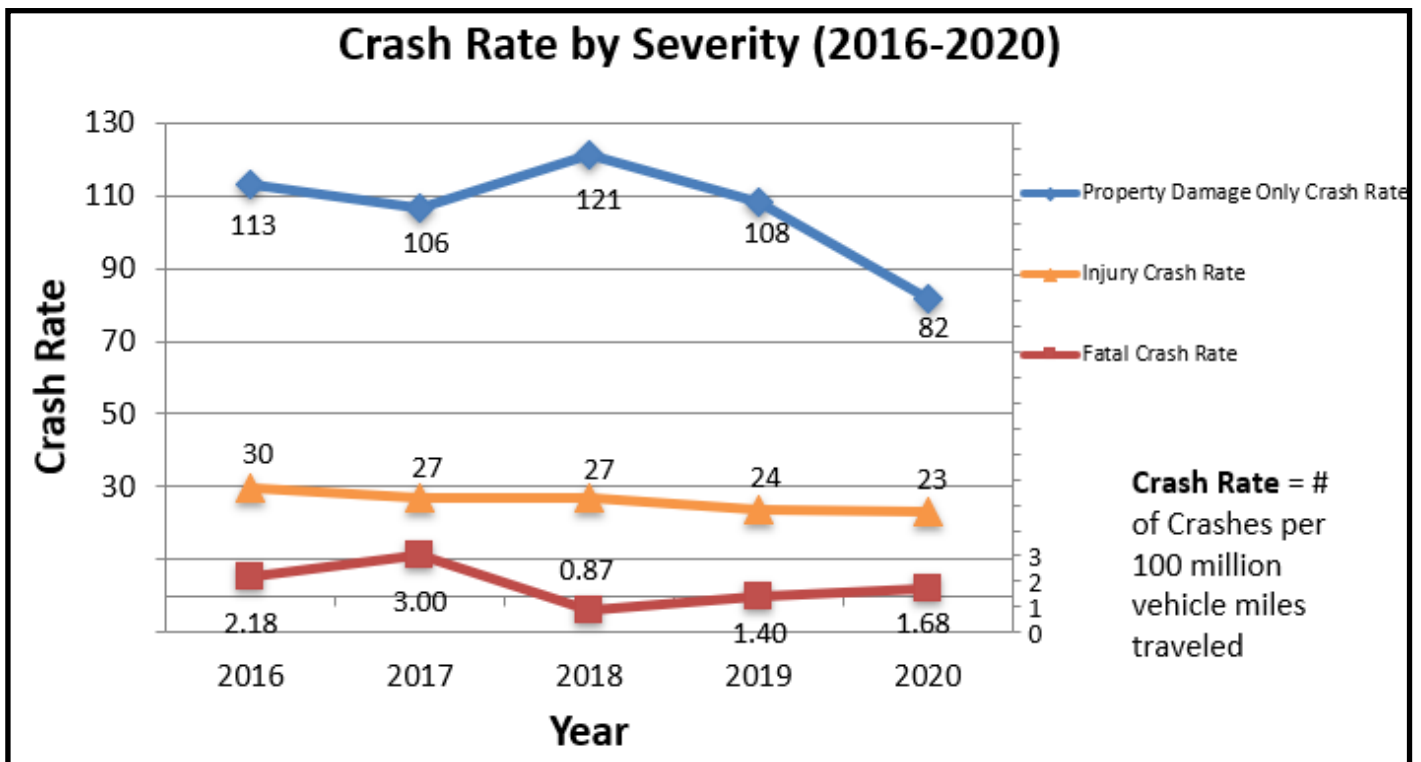


# Crash Rates

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.

The Colorado Problem Identification Report, Colorado Department of Transportation, Fiscal Year 2019, shows the 2017 statewide fatal and injury crash rate per 100 million VMT was 23.0 while Larimer County was 24.7 in 2020.

Crash rates on the unincorporated County road system are higher than the Colorado rates. Several factors contribute to these elevated rates including higher speeds, sharp curves, narrow shoulders, and no medians.

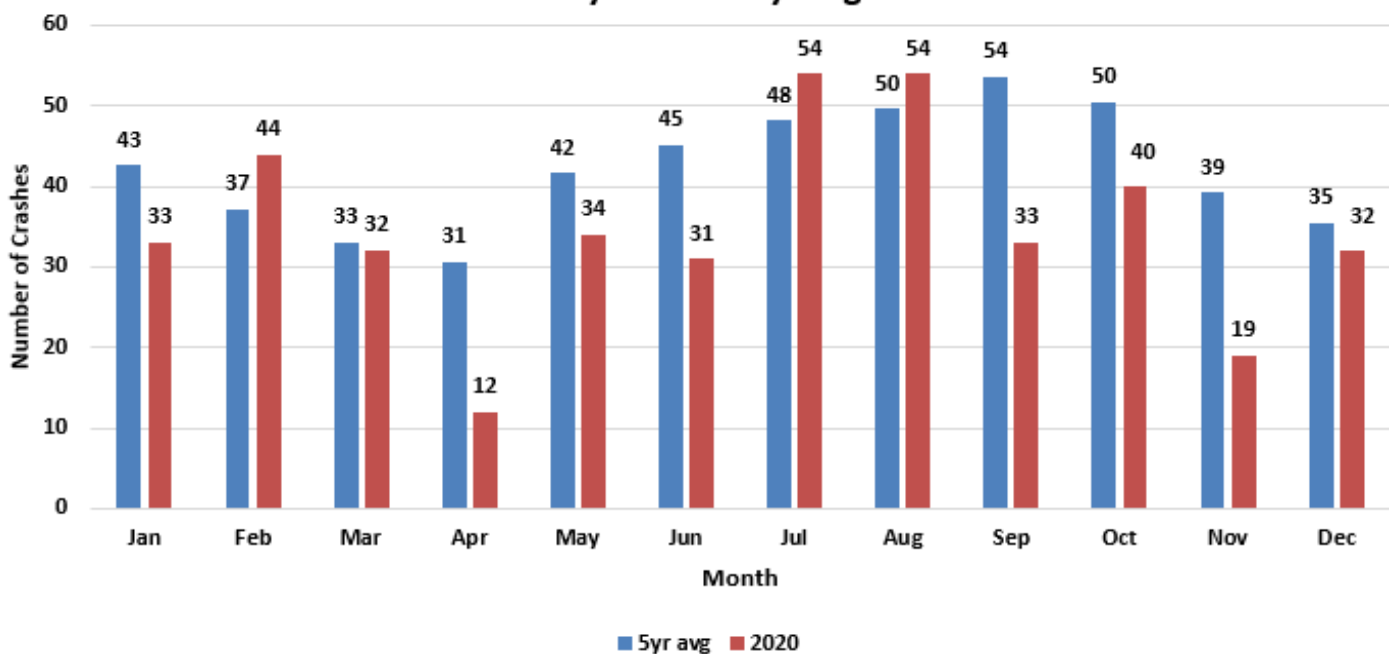


# Covid Effect

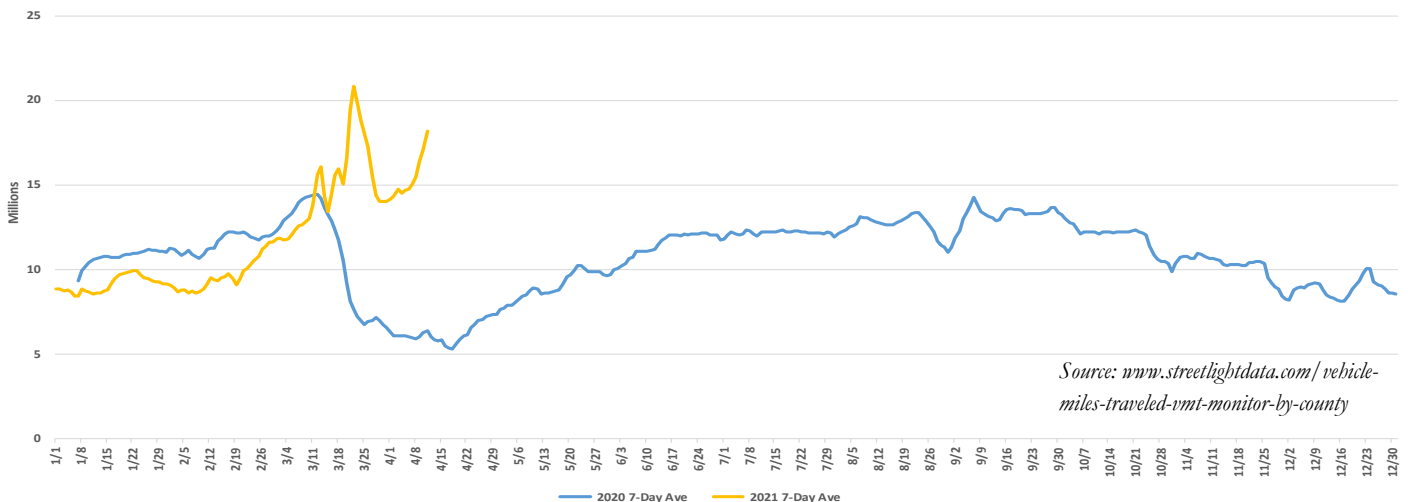
The total number of crashes were down from 527 in 2019 to 418 in 2020. The Covid Pandemic may have been a significant factor. A month by month account of crashes is shown below and seems to track along with the State's Safer at Home orders and COVID-19 Status Levels.

The Larimer County estimated VMT in the chart below is based on all traffic within the borders of Larimer County and includes traffic on State highways and in municipalities. Larimer County VMT used in other parts of this report only includes traffic on mainline county roads only.

Crashes by Month - 5yr avg v 2020



Larimer County Estimated VMT



Source: [www.streetlightdata.com/vehicle-miles-traveled-vmt-monitor-by-county](http://www.streetlightdata.com/vehicle-miles-traveled-vmt-monitor-by-county)

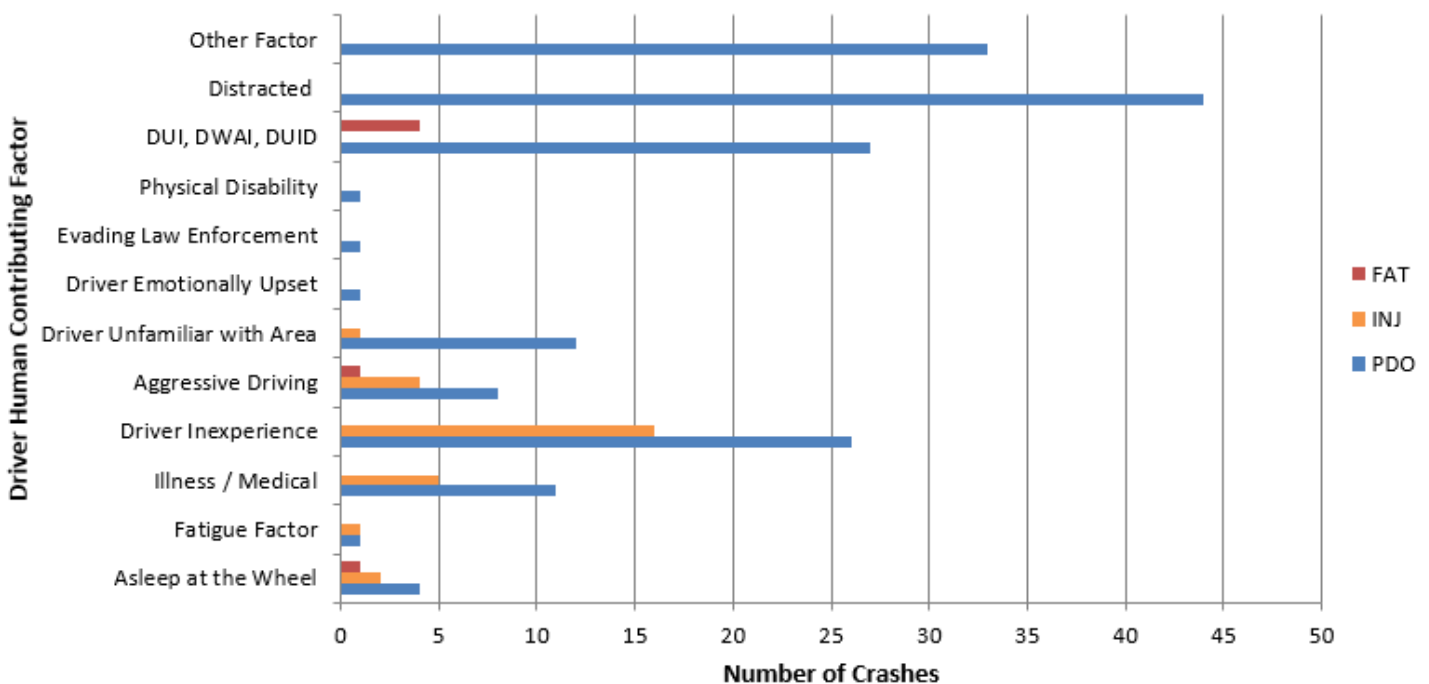
# Human Contributing Factor

Driving is about human interaction with the vehicle, the natural elements and other drivers on the roads. There were 232 crashes or 56% of total crashes in 2020 that had human actions as a main contributing factor in the crash.

Notable Statistics for 2020:

- All 6 fatalities were the result of human factors
  - 4 fatalities were caused by the driver being impaired by drugs and/or alcohol
  - 1 fatality was caused by a driver falling asleep at the wheel
  - 1 fatality was by an aggressive motorcyclist exceeding the speed limit of 30 mph by going 98 mph around a curved section of road
- 57 crashes, or 25% of total human caused crashes, resulted in injuries
- Top 5 Human Factors:
  - Distracted - 27% of total human caused crashes (55 crashes)
  - Driving Under the Influence - 18% of total human caused crashes (42 crashes)
  - Drivers Inexperience - 18% of total human caused crashes (42 crashes)
  - Driver Unfamiliar with Area - 6% of total human caused crashes (13 crashes)
  - Aggressive Driving - 6% each of total human caused crashes (13 crashes)

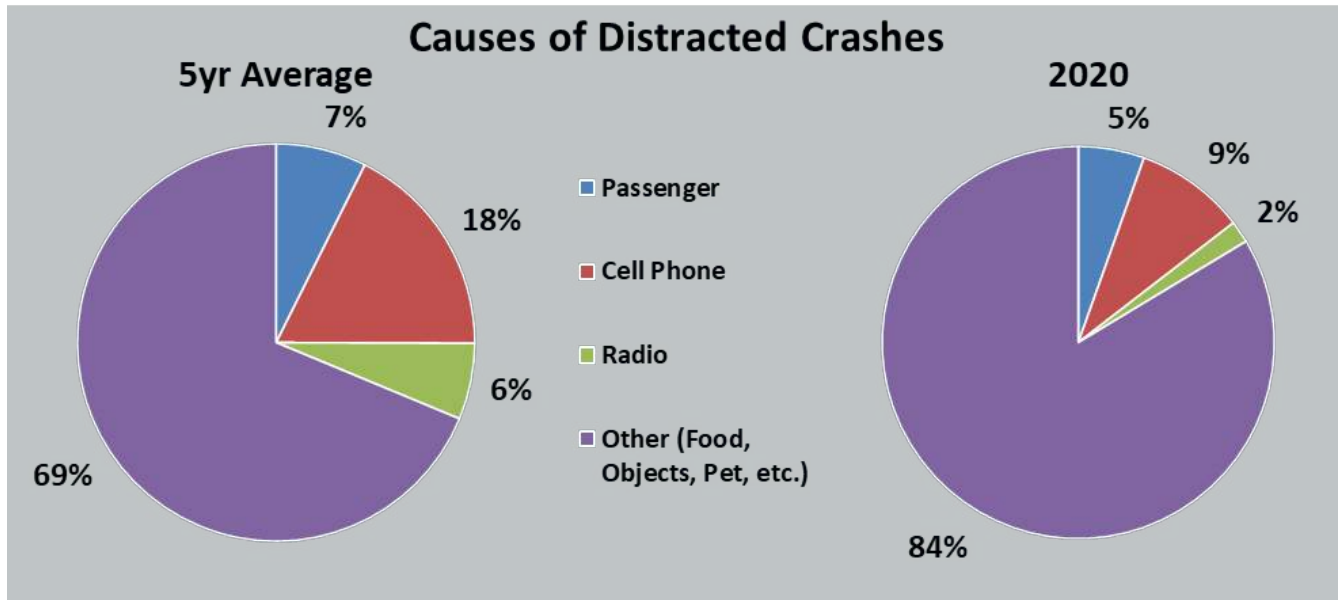
## 2020 Most Apparent Human Contributing Factor by Severity



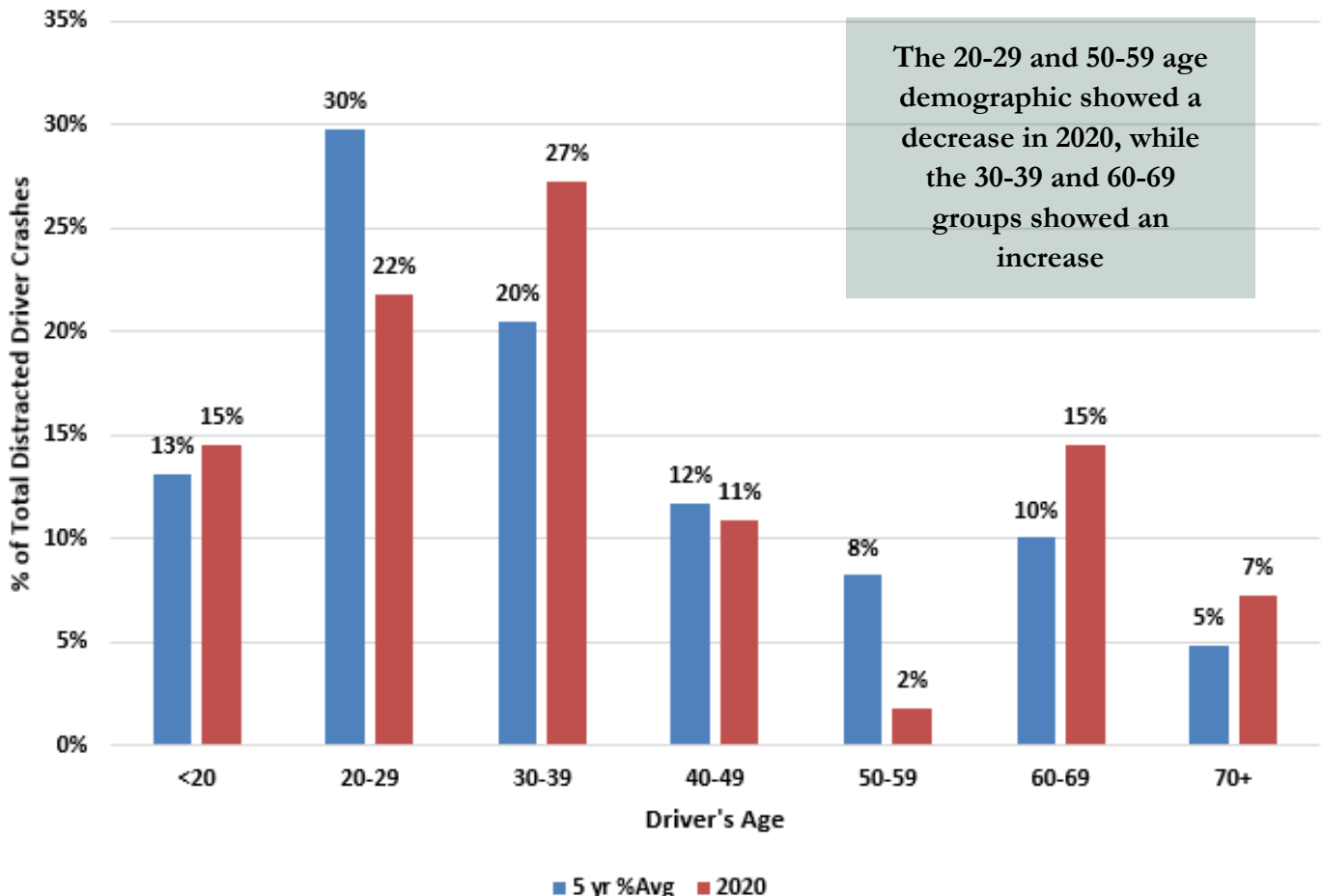


# Crashes Caused by Distracted Drivers

Distracted Drivers accounted for 55 crashes (13% of total crashes) in 2020 (5 yr average is 12%); 11 of the 55 crashes were injury related crashes with 0 fatalities. A breakdown of the specific causes of Distracted Related Crashes is shown below.

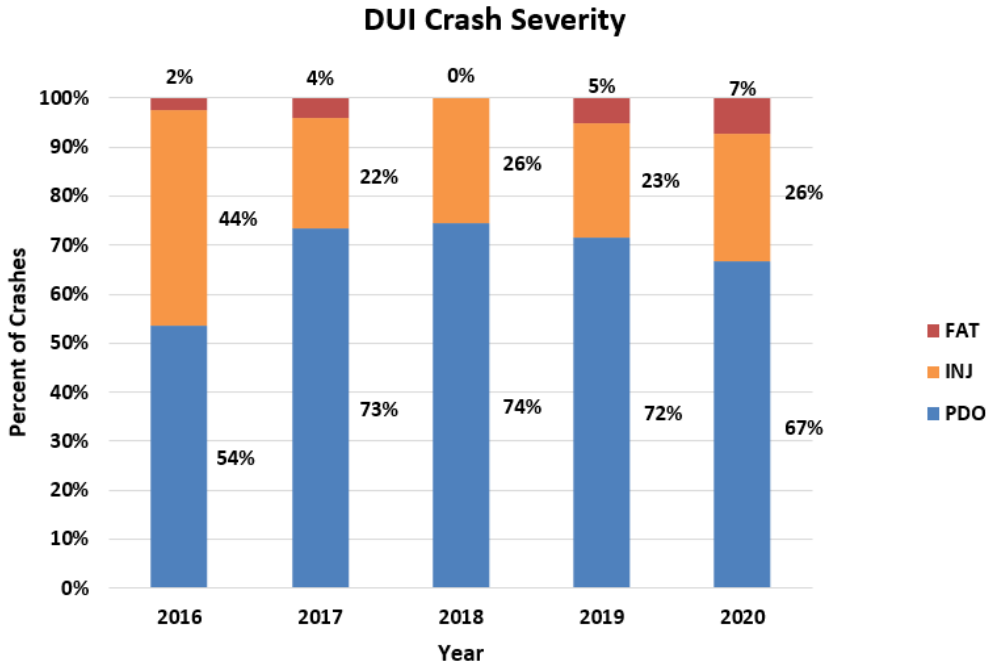


### Distracted Driver Age Demographics



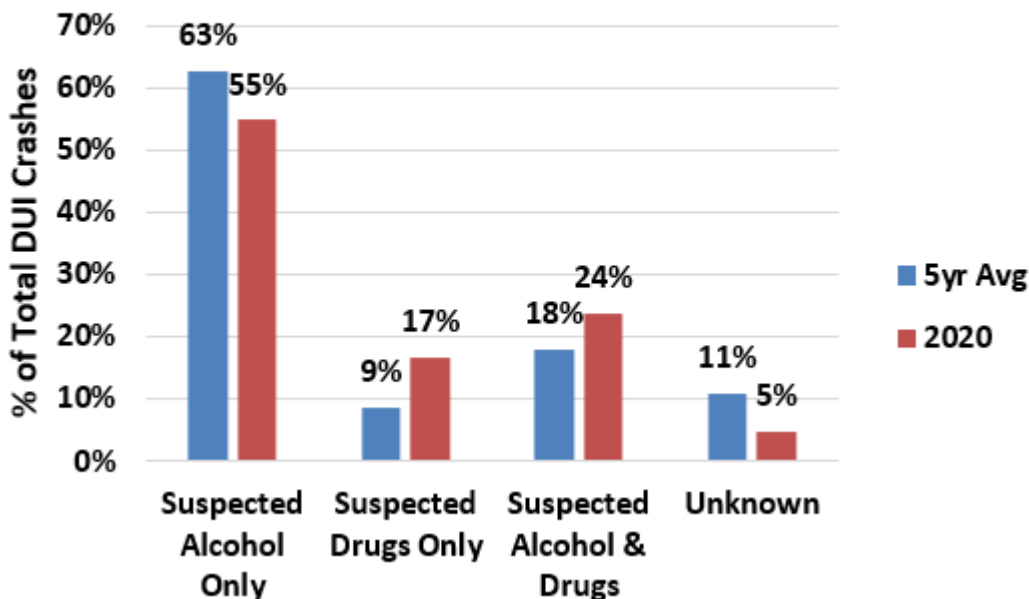
# Crashes Caused by Impaired Drivers

In 2020, 10.3 % of all crashes (43 crashes) on unincorporated Larimer County road system were caused by Impaired Drivers, down from 11.4% of all crashes (60 crashes) in 2019. The Serious Crash Rate for Impaired Drivers increased from 28% in 2019 to 33% in 2020. In 2020 compared to the last 5 years, suspected use of drugs as being part of DUI crashes has increased by 14%.



**4**  
Lives lost in 2020 because of Impaired Drivers

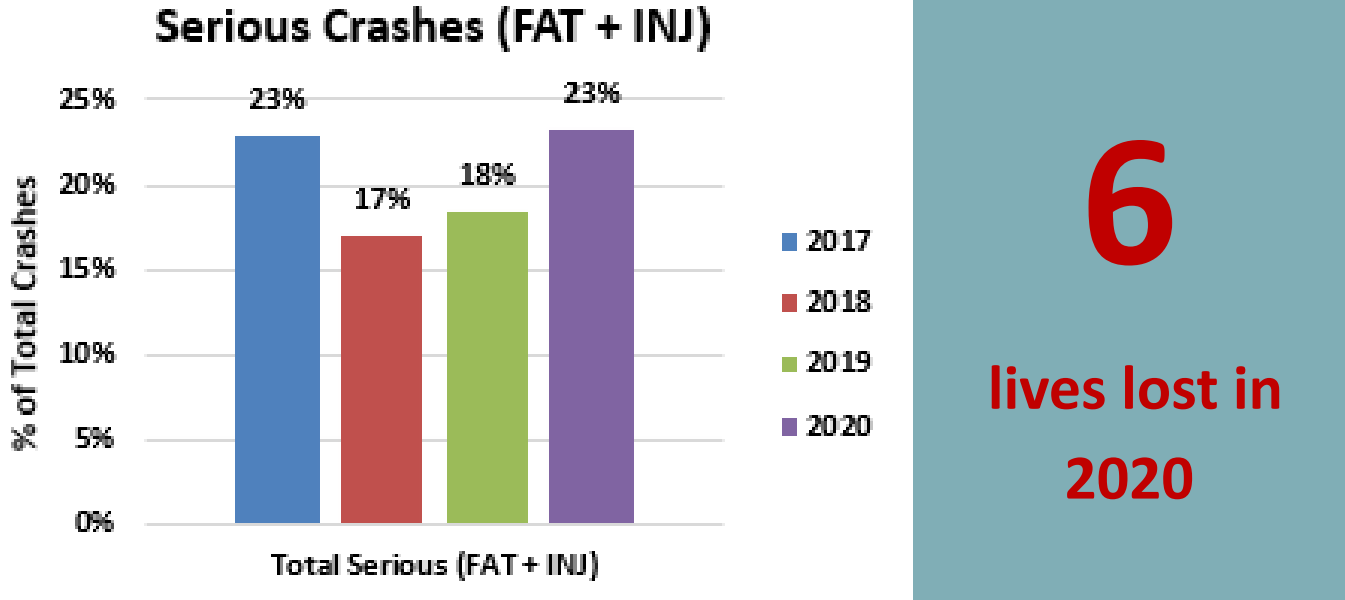
### Type of DUI (Officer's Opinion Only)



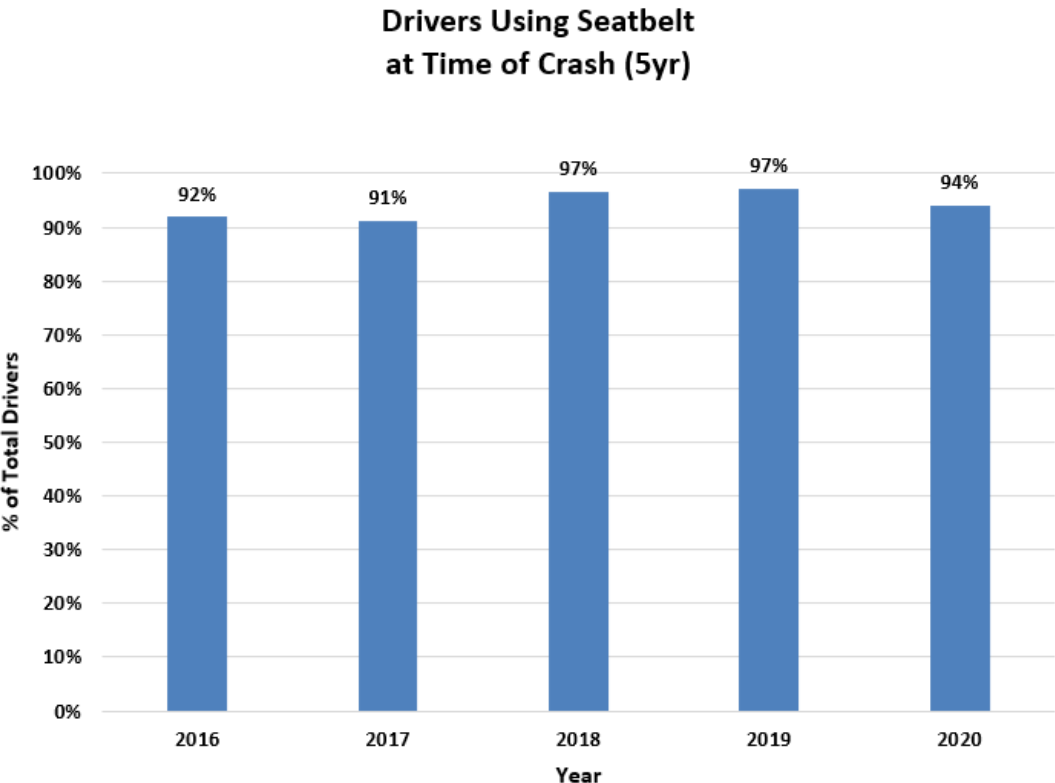
# Serious Crash Review

A serious crash is defined as a crash resulting in evident injury or death. There were 97 serious crashes in 2020 causing 6 lives lost\* and 105 injuries.

\*Specific details of the fatal crashes which occurred in 2020 are presented in Appendix A.



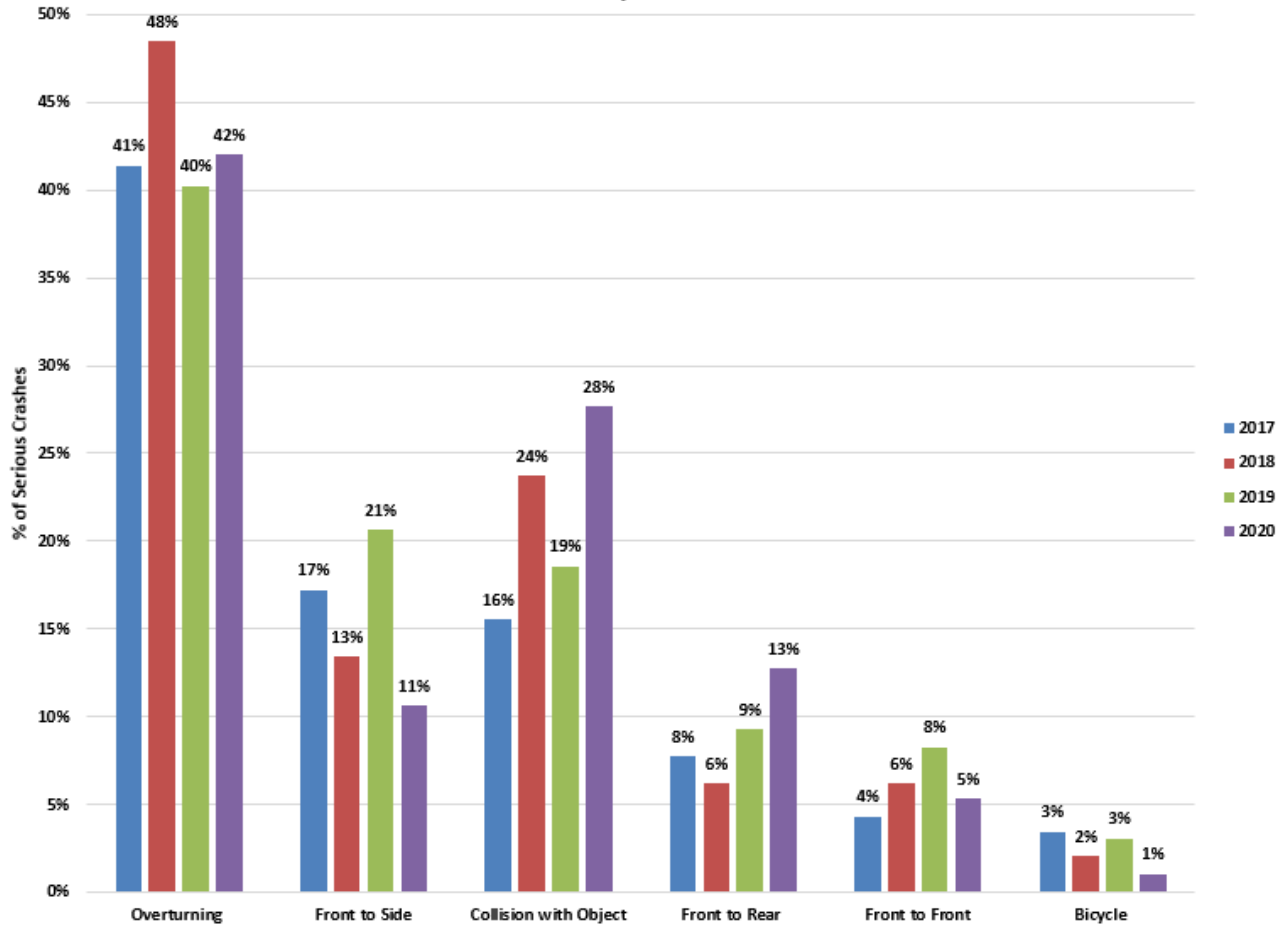
Seatbelt use at the time of crash decreased slightly to 94% in 2020. Three of the 6 fatalities in 2020 did not use any sort of safety equipment. In 2020, when safety equipment was not used, individuals were 58% more likely to suffer a serious injury.



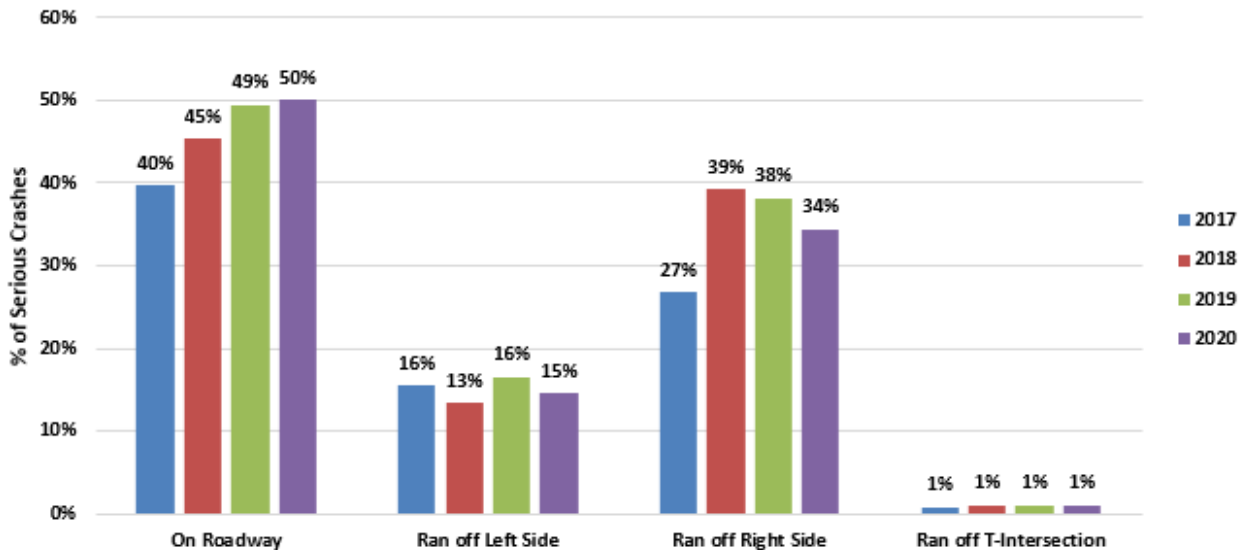
# Serious Crash Review (continued)

40 Serious Crashes (3 Fatalities) in 2020 were caused by a vehicle overturning, which remains the highest harmful event at 42% of total serious crashes. Of the 40 overturned vehicles, 25 also involved roadway departure.

Serious Crashes by Most Harmful Event

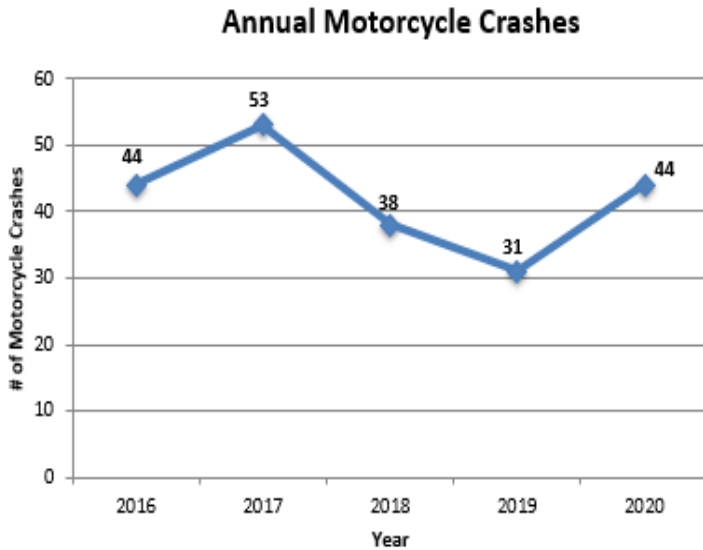


Serious Crashes per Location



# Motorcycle Crashes

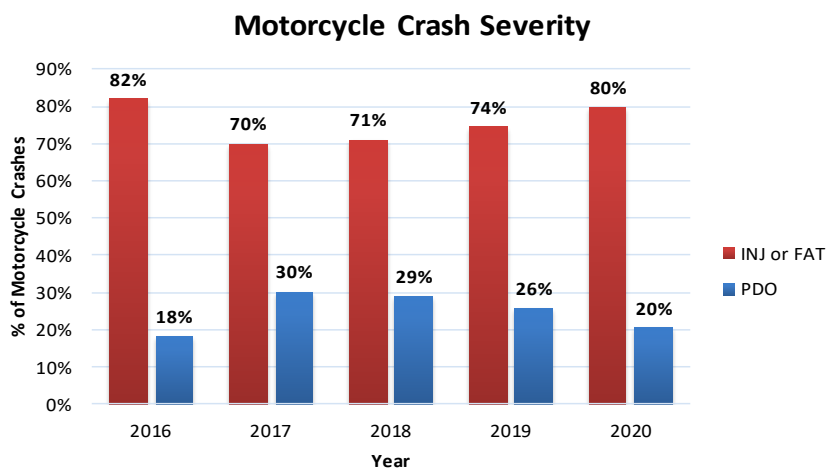
Despite the total crashes being down 20% for 2020 the number of motorcycles increased to 44 crashes (10.5% of total accidents), up from 31 crashes in 2019.



**42%**  
Increase in  
Motorcycle  
crashes from 2019  
to 2020

Notable Statistics for Motorcycle Crashes in 2020:

- 95% of motorcycle crashes were caused by the motorcyclist, up from the 5yr average of 87%
- Lane Violations accounted for a majority of motorcycle crashes at 29% (12 crashes)
- Males accounted for the majority of crashes at 83% , down from 89% in 2019
- Ages 19 to 30 accounted for the highest crash rate at 39% compared to 31% from the previous 5 years
- August saw the highest increase in crashes from 16% in 2019 to 23% in 2020
- Serious injury rate increased from the previous year, as shown in the chart below



**2**  
Motorcycle  
fatalities in 2020

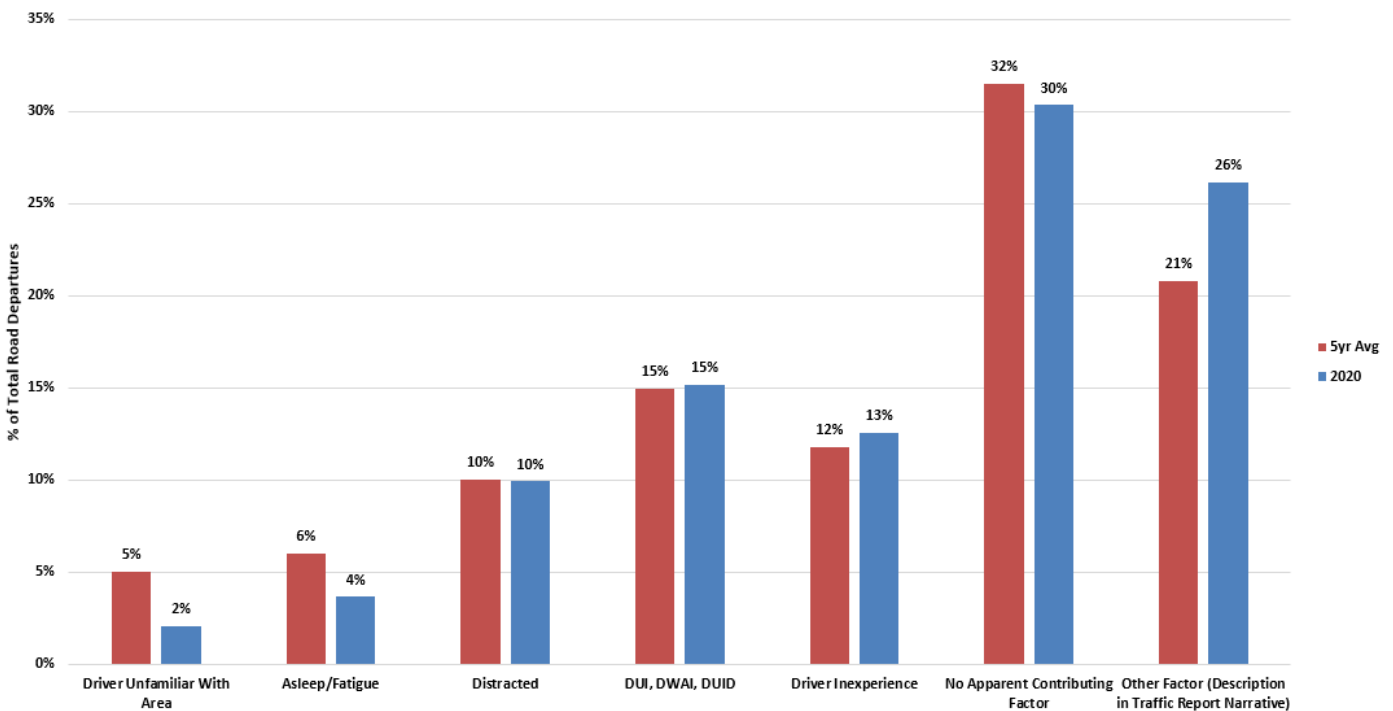
# Roadway Departure Crashes

In 2020, 46% of all crashes (191 crashes) involved a vehicle leaving the roadway, compared to 44% (230 crashes) in 2019.

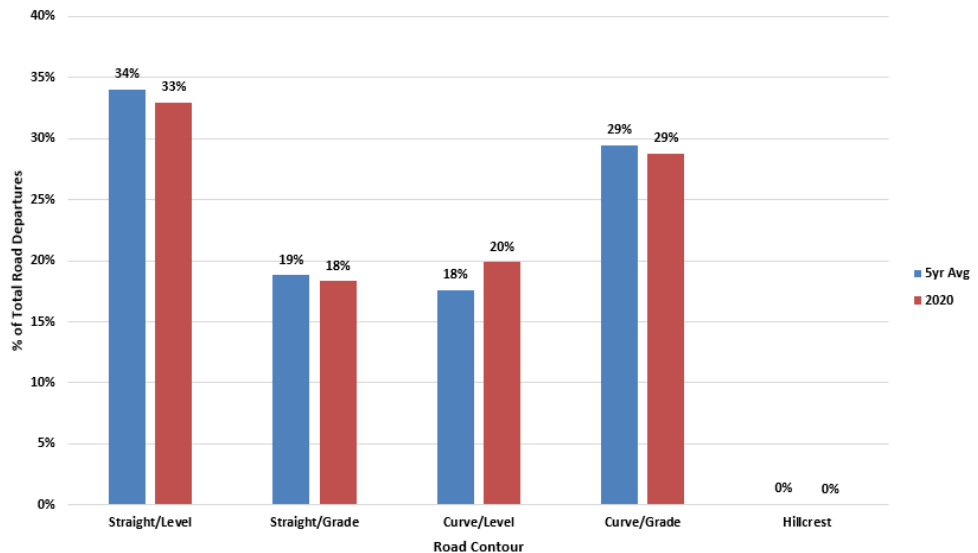
Larimer County is in the process of reviewing all horizontal curves and turns on the Larimer County road system. Safe advisory speeds are being reviewed and adjusted. Locations that would benefit from additional signing are being upgraded with additional chevron or large arrow warning signs at the curve locations.



Most Apparent Human Contributing Factor in Road Departure



Road Contour of Road Departure



**3**

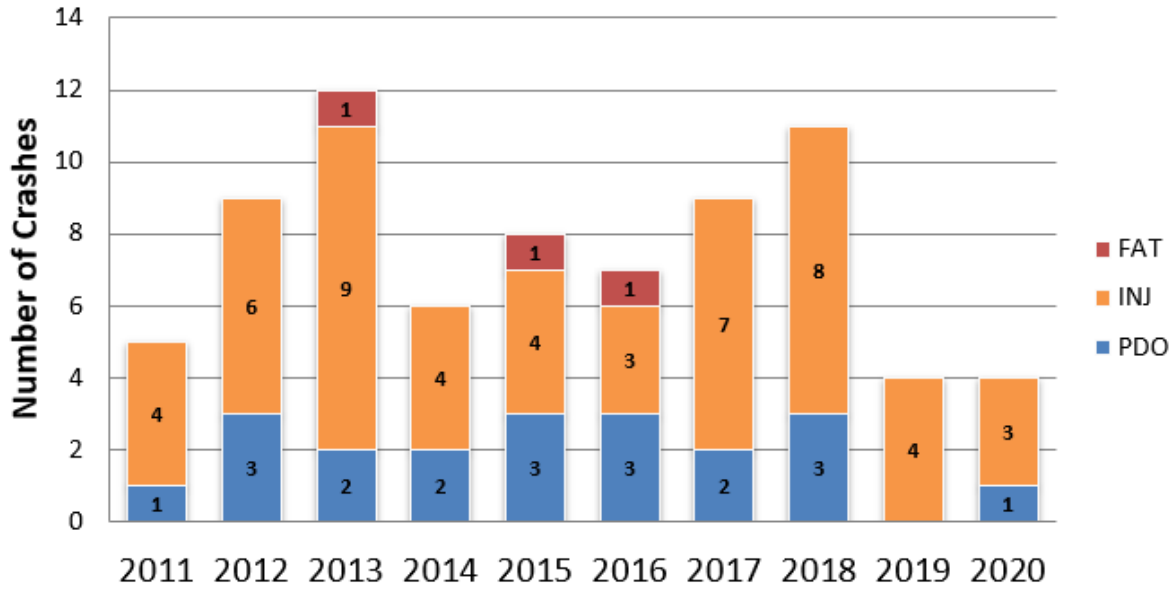
**Lives lost in Roadway Departure Crashes in 2020**

# Bicycle & Pedestrian Crashes

## Bicycle Crashes

There were 4 bicycle related crashes in 2020 on unincorporated Larimer County roadways. All 4 crashes listed the vehicle at fault on the crash report.

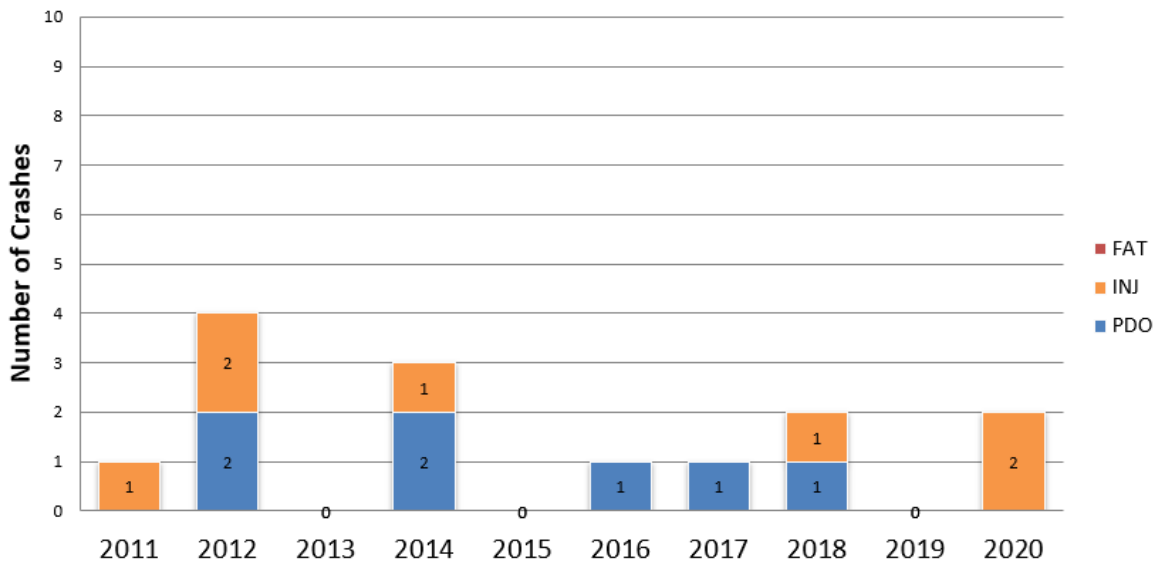
## Bicycle Crashes



## Pedestrian Crashes

There were 2 Pedestrian related crashes on the unincorporated Larimer County road system in 2020. The low number of pedestrian crashes is due to the inherently low pedestrian traffic on rural roads. Locations with significant pedestrian traffic include parks, open spaces, trails, or near city development.

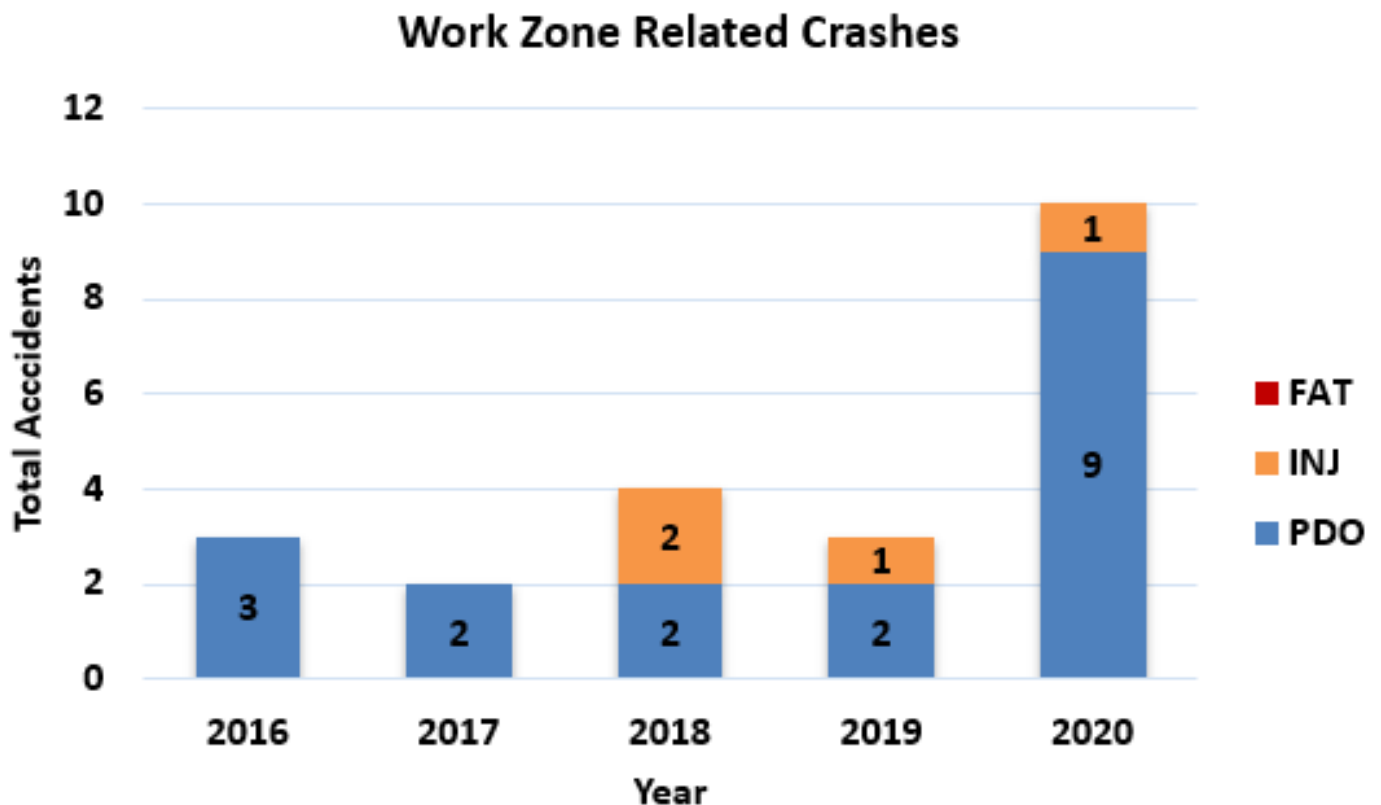
## Pedestrian Crashes



# Work Zone

Work Zone Crashes are any crashes that are within or along a construction/ maintenance zone on the unincorporated road system in Larimer County. Work Zone crashes increased from 4 in 2019 to 10 crashes in 2020. The significant increase was due to construction activities on higher volume roads which have a significant number of crashes under normal conditions. For example, CR 17 had 8 total crashes (4 work zone) which is consistent with the 5 year average of 7.2 crashes per year.

None of the Work Zone related crashes in 2020 involved construction vehicles or construction workers. One injury was reported in 2020 where a vehicle failed to stop when traffic ahead was stopped for construction resulting in the driver of the vehicle to sustain an injury.



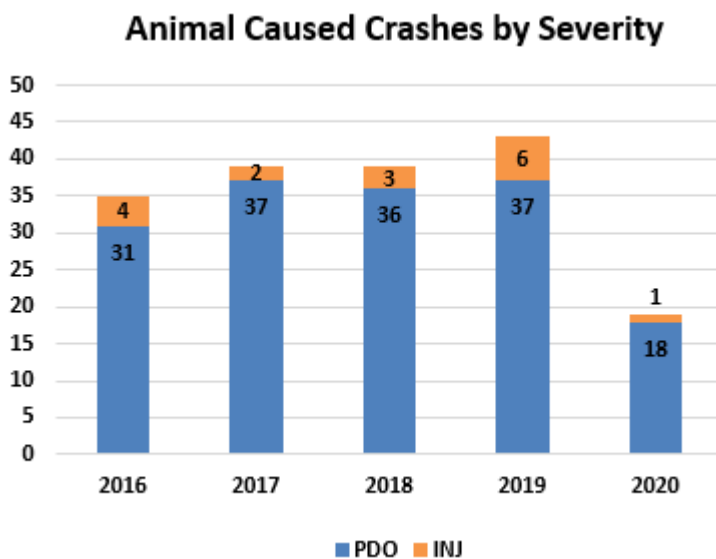
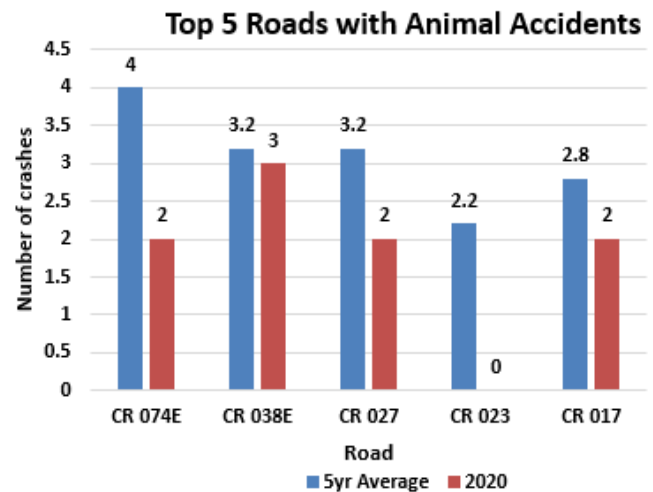
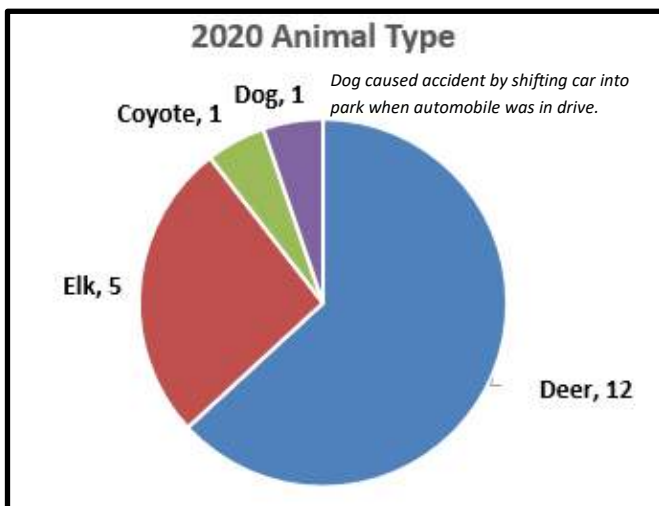


# Animal Related Crashes

There were 19 Animal Related Crashes in 2020, down from 43 in 2019. These numbers do include a crash where an animal was not hit but may have caused the crash.

Notable Statistics for Animal Related Crashes in 2020:

- 18 of 19 reported animal crashes were with wild animals.
- Deer were the highest hit animal at 64%
- Elk rose from 2 in 2019 to 5 in 2020
- 11 of the 19 crashes occurred from Sept to Dec



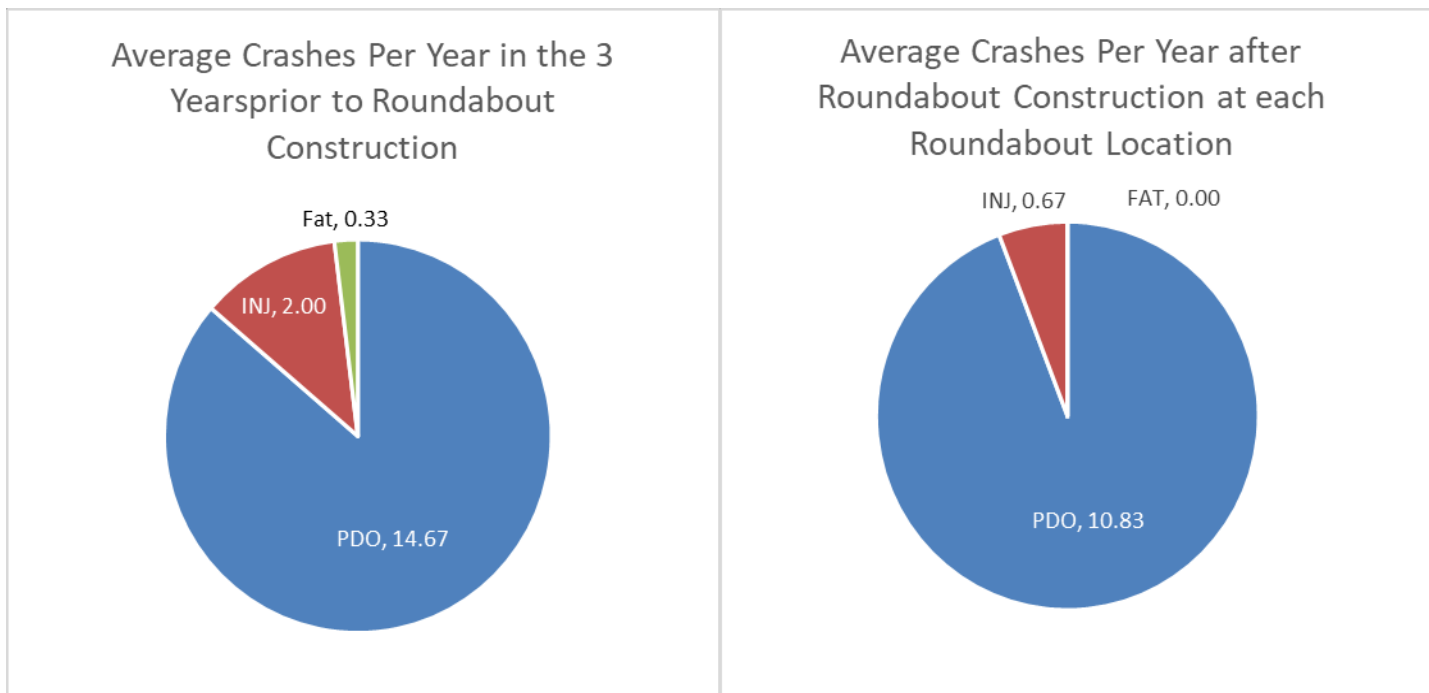
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Injury related  
Crash caused by an  
Animal in 2020

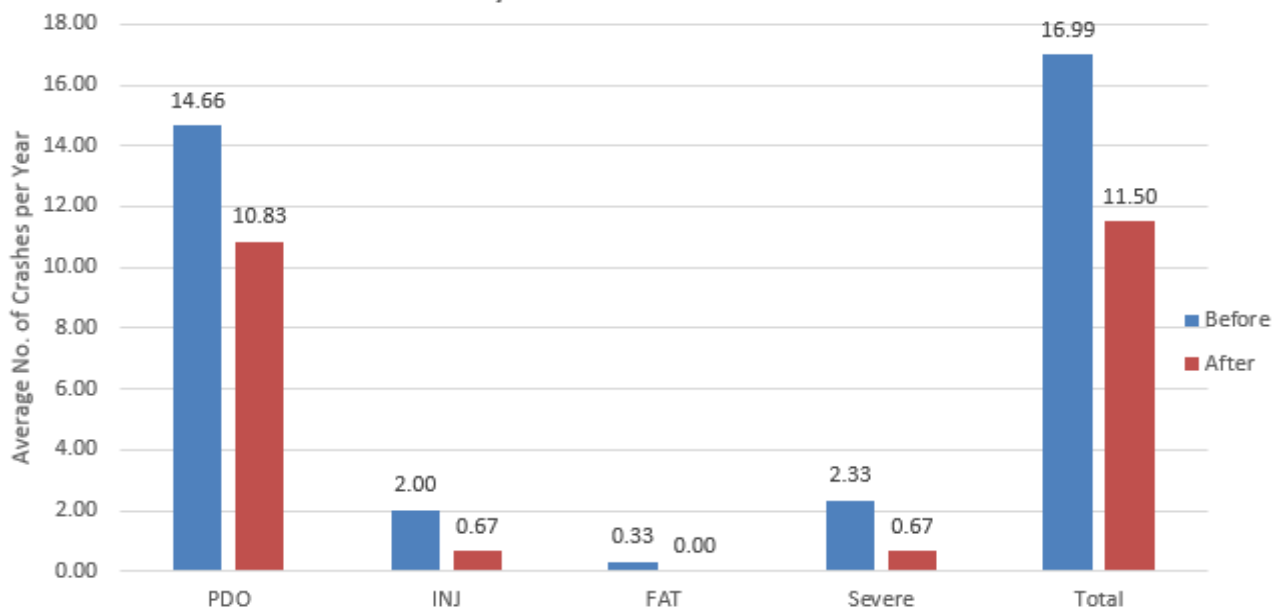
## Roundabout Safety Review:

During the past 15 years Larimer County has converted 6 crossroad intersections to roundabouts. The locations are CR 19 at CR 48 (Vine Dr), CR 9 at CR 30, CR 19 and CR 70, CR 11 and CR 30, CR 11C and CR 30 and CR 11C and CR 28 (57th St). A composite - comparison of crashes on an annual basis (not including the CR 9 and CR 30 roundabout) before and after the roundabout installations is shown below. The “after data” is the average of the most recent six years 2015 – 2020 except for the CR 11C and CR 28 roundabout which only has 1 year of “after” data. There continues to be a moderate drop in the number of overall crashes even though the average daily traffic at these locations has increased. The biggest safety benefit continues to be the large reduction in serious crashes after roundabout construction.

### Intersection to Roundabout Crash Comparison



### Larimer County Roundabout Intersection Crashes



# Traffic Safety Mitigation

## Safety improvements completed on the County Road system during 2020

**CR 38E - Installation of Rapid Rectangular Flashing Beacon Pedestrian Crossing at South Bay of Horsetooth Reservoir.** The pedestrian crossing was installed at a location on the south side of the Horsetooth recreation area where pedestrians frequently cross County Rd 38E to access a market on the south side of the road.



**CR 17- Reconstruction and Widening:** Larimer County Project 317 was completed during 2020. The project added a continuous 2 way center left turn lane and 6-8 foot paved shoulders in both directions from County Rd 14 to County Rd 16. The wider shoulders for bicycle traffic and separating the left turning vehicles from the through traffic should improve safety on this heavily travelled roadway.



# Traffic Safety Mitigation (continued)



## Safe Advisory Speeds

The Engineering Dept has been re-evaluating safe advisory speeds on significant horizontal curves and turns on the county road system. The curves and turns are driven at several different speeds using an electronic ball-bank indicator. The readings from the ball-bank indicator are compared against new federal guidelines for determining safe advisory speeds. There will be adjustments to advisory speeds on some of the turns and curves in the county. About 60% of the turns and curves in the county have been re-evaluated.



## 2020 Low Cost Safety Improvements

### Thermoplastic

### Pavement Markings

The Road and Bridge Dept replaced over 3,300 square feet of pre-formed thermoplastic pavement markings as part of chip seal work in 2020.

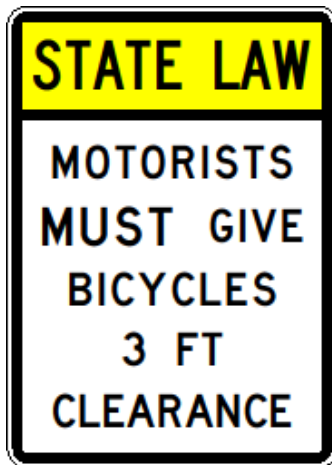


## County Rd 27 - Active School Flasher System at Big Thompson Elementary School

# Traffic Safety Mitigation (continued)

## Planned 2021 Low Cost Safety Work:

- The county will implement the use of radar - vehicle speed feedback signs on some county roads during 2021. The signs display to the driver their current driving speed. The speed limit is also posted to remind the driver of the current posted speed limit in relation to their speed. County roadways in mainly residential areas with lower posted speed limits will be targeted first. The new radar feedback signs will be placed on a temporary basis of 4 - 8 weeks and then rotated to other similar roadways.



The Colorado Department of Transportation recently approved new bicycle signing for placement along public roadways. The county worked with the bicycle community regarding additional signing for bicycles on the Larimer County road system. The county will begin installation of the new bicycle signage on county roads during 2021. The sign installations will take place in three phases over two years. The first phase will begin in the southern part of the county including the Carter Lake area.

## 2021 Capital Projects:

**CR 72 (Owl Canyon Rd) east of US 287 - Project No. 335:** The non-paved section of CR 72 east of US 287 has been the most heavily travelled section of non-paved roadway on the county system for several years. The road will be reconstructed and paved during 2021. The work will include alignment improvements, improvements at the US 287 and County Rd 72 intersection and a new asphalt road surface with 8 foot paved shoulders.

**Larimer County Rd 14 between CR 23 and CR 21 - Project No. 332:** This project was originally scheduled for 2020 and was delayed until 2021. The road will be rebuilt to a new 2 lane roadway with 4 foot paved bike lanes on each side of the road. Currently, there are no paved bike lanes on CR 14. CR 23 and CR 21 west and east of CR 14 both have paved bike lanes. The work on CR 14 will give bicyclists an east / west connection with paved bike lanes between these two north / south segments of road which are part of a popular bicycling route.

**CR 17 (Shields St) from CR 50 (Wilcox Ln) to US 287 - Project No. 327:** CR 17 will be reconstructed during 2020. The north end of the project will have a continuous two-way center turn lane in an area that has several residences and accesses. The project will also add 6 foot paved shoulders in each direction. Similar to CR 14 this project will eliminate a gap in paved shoulders for bike lanes. CR 17 north and south of this section, CR 50—Wilcox Ln and US 287 all have additional paved shoulder area for bike lanes.

# Appendix A

## 2020 Fatal Crash Descriptions/Locations

### Six Fatal Crashes

**County Rd 19:** The crash occurred on County Rd 19 1.46 miles north of County Rd 28 (57th St) on March 16, 2020 at 4:28 AM. A southbound vehicle, SUV, drifted to the left and into the northbound lane of CR 19. The vehicle veered to the right and collided with a northbound vehicle, also an SUV. The southbound vehicle collided its left front with the front of the northbound vehicle. After impact the northbound vehicle rotated counter-clockwise before coming to rest in the southbound lane. The southbound vehicle travelled off the right side of the roadway, coming to rest on its wheels facing south in the roadside ditch. Both estimated vehicle speeds were close to the posted speed limit of 55 MPH. Crash was originally reported as an injury crash, but the driver of the northbound vehicle later died. The southbound driver was also injured and was cited for Careless Driving causing bodily injury. The crash occurred in dark, unlighted conditions and the pavement was dry. The driver of the southbound vehicle was a 29 year old male. The deceased driver of the northbound vehicle was a 68 year old male.

**County Rd 16:** The crash occurred on County Rd 16 777 feet east of County Rd 9 at 5:00 AM on March 25, 2020. The crash was a single vehicle run off the road crash. An SUV travelling eastbound on CR 16 travelled off the north (left) side of the roadway and down a steep embankment sideswiping a utility pole on the drivers side. The vehicle continued through a wood split rail fence. The fence impaled the vehicle. The vehicle continued east went back through the fence, travelled back onto and across the roadway and ran off the right side of the road. The vehicle collided with another fence and drove several hundred feet south into the pasture. The vehicle came to rest on its wheels facing southwest. Estimated vehicle speed was the posted speed limit of 45 MPH. The crash occurred in dark, unlighted conditions and the pavement surface was dry. Most apparent contributing factor was DUI, DWAI, DUID. The driver was a 39 year old female.

**County Rd 74E (Red Feather Lakes Rd):** The crash occurred on County Rd 74E approximately 1580 feet east of the Mountain Shadow Dr. intersection at 1:41 PM on April 26, 2020. The crash was a single vehicle run off the road crash. A small SUV was travelling westbound on CR 74E and failed to negotiate a slight curve to the left in the roadway. The vehicle drove off the right side of the road, travelled approximately 140 feet and launched off of a private driveway. The vehicle was airborne for about 87 feet and landed in a grass field with a slight rise in the ground. The vehicle launched off of the rise and was airborne for about 67 feet. The vehicle landed and travelled approximately 411 feet before launching off an embankment and down to the North Fork of the Cache La Poudre River. The vehicle landed nose first in the river, rolled onto its roof and came to rest, wheels up in about 3-4 feet of water. The crash occurred in daylight hours on a dry road surface. The estimated vehicle speed was 80 MPH in a 55 MPH speed zone on a curve signed with a 50 MPH advisory speed. The most apparent human contributing factor was DUI, DWAI, DUID. The deceased driver was a 72 year old male.

## 2020 Fatal Crash Descriptions—continued

**County Rd 23:** The crash occurred on County Rd 23 0.15 miles north of County Rd 42C at 7:05 PM on May 13, 2020. The crash was a 2 vehicle, on roadway crash. A northbound motorcycle on CR 23 failed to negotiate a sharp turn to the right. The driver left straight skid marks before losing control and turning the motorcycle onto its right side. The motorcycle and the driver slid from the northbound lane into the southbound lane in front of a southbound passenger car. The southbound car slowed to a near stop when the front of the motorcycle collided with the passenger car. The vehicles came to rest in the southbound lane. The driver of the motorcycle was killed in the crash. There were no other injuries or fatalities. The estimated speed of the northbound motorcycle was 45 MPH in a 35 MPH speed zone on a curve posted with a 20 MPH advisory speed. The southbound car's estimated speed was 20 MPH. The deceased driver of the northbound vehicle a 45 year old male. The driver of the southbound passenger car was a 21 year old female. The crash occurred in daylight hours on dry pavement. The most apparent human contributing factor for the motorcycle driver was DUI, DWAI, DUID. The report was later amended to DUID—marijuana based on toxicology tests.

**County Rd 30:** The crash occurred on County Rd 30 0.32 miles east of County Rd 13 near 1117 E. County Rd 13 at 6:50 PM on July 4, 2020. The crash was a single vehicle run off the road crash. A westbound motorcycle entered a curve to the right. The motorcycle skidded out of control and travelled 153 feet. The motorcycle crossed the eastbound lane and ran off the south (left) side of the road and travelled another 44 feet. The motorcycle collided with a wire fence and the driver was ejected. The motorcycle continued another 265 feet and came to rest on its side facing northeast. The crash occurred during daylight hours on dry pavement. The estimated speed of the motorcycle was 98 MPH in a 30 MPH speed zone. Driver action was listed as reckless driving and the most apparent human contributing factor was aggressive driving. The deceased driver of the motorcycle was a 22 year old male.

**County Rd 72 at the intersection of US 287:** The crash occurred on US 287 near the intersection of County Rd 72 (Owl Canyon Rd) involving a left turning vehicle from County Rd 72 at 7:45 AM on July 24, 2020. The crash was an on roadway crash that involved two vehicles. An SUV was turning from westbound CR 72 to southbound US 287. A utility van was travelling northbound on US 287. The SUV turned into the northbound through lane of US 287 against oncoming traffic. Both vehicles attempted to avoid the collision, both vehicles steering toward the southbound lane of travel. The vehicles collided front to front (head on) in a narrow “gore” dividing the lanes of traffic. The SUV rotated clockwise coming to rest on its wheels. The utility van travelled southwest and drove off the southwest side of the roadway and collided with a tree. The van came to rest against a tree on its wheels. Estimated vehicle speed for the SUV was 35 MPH in a 65 MPH speed zone on US 287 and the estimated vehicle speed for the utility van was 55 MPH in the same 65 MPH speed zone on US 287. The 51 year old male driver of the SUV was killed at the scene. The 64 year old male driver of the utility van was injured in the crash. Driver action for the deceased driver was Lane Violation and the most apparent human contributing factor for the deceased driver was DUI, DWAI, DUID. Post mortem toxicology confirmed DUI. The crash location is a split jurisdiction with the Colorado Department of Transportation (CDOT).

## Contact Us

### Larimer County Engineering Department

**Address**

200 West Oak Street, Suite 3000  
Fort Collins, CO 80521

**Mailing Address**

PO Box 1190  
Fort Collins, CO 80522-1190

**Email**

Eng-Traffic@larimer.org

**Phone**

(970) 498-5700  
(970) 498-7986 (Fax)

**Office Hours**

8:00 a.m. - 4:30 p.m.  
Monday - Friday

**On The Web At:**

[www.larimer.org/engineering](http://www.larimer.org/engineering)

