

Center for Analytics & Research in Transportation Safety

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# Louisiana Traffic Records Data Report 2020

[CARTS.lsu.edu](https://CARTS.lsu.edu)



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September 2021



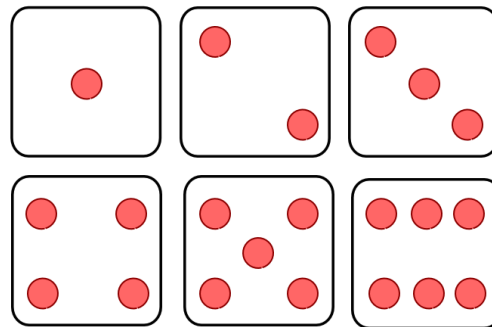


## Overview

- Trends in Crashes, Fatalities & Injuries
- COVID-19 Lockdown Effect - What can we learn from it?
- Driving Under the Influence of Alcohol: Crashes and DWI Arrests
- Occupant Protection (Crashes Only, No 2020 or 2021 Survey)
- Crash Costs

## Some Notes about Interpretation of Crash Data

- Regression to the mean
- Explaining versus predicting
  - Predicting: Does it continue to happen?
  - Explaining: Why did it happen?
- Causation versus correlation
- Confounding
  - Confounding of factors make it difficult to interpret which factor caused the crashes to go up or down.

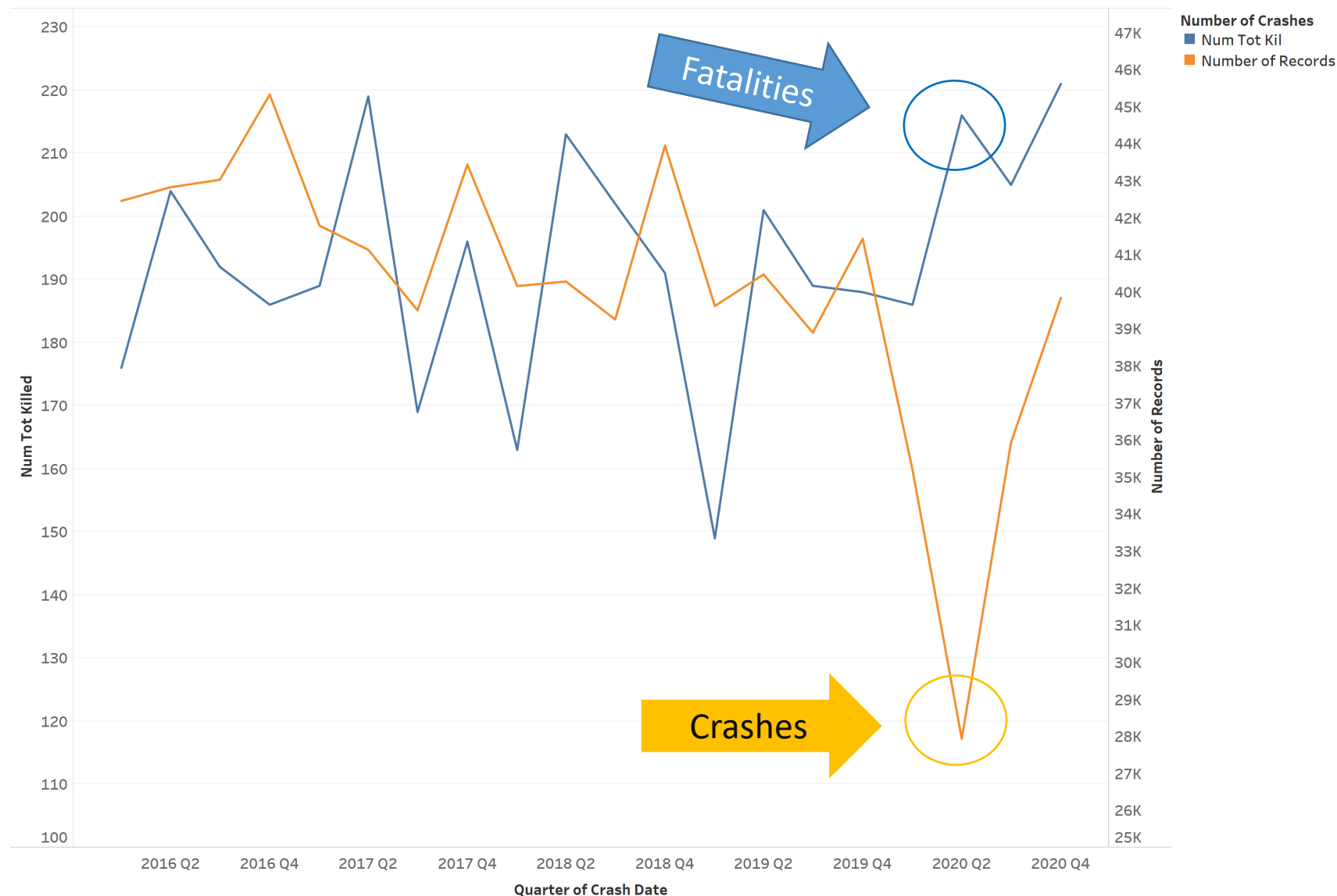


## Trends

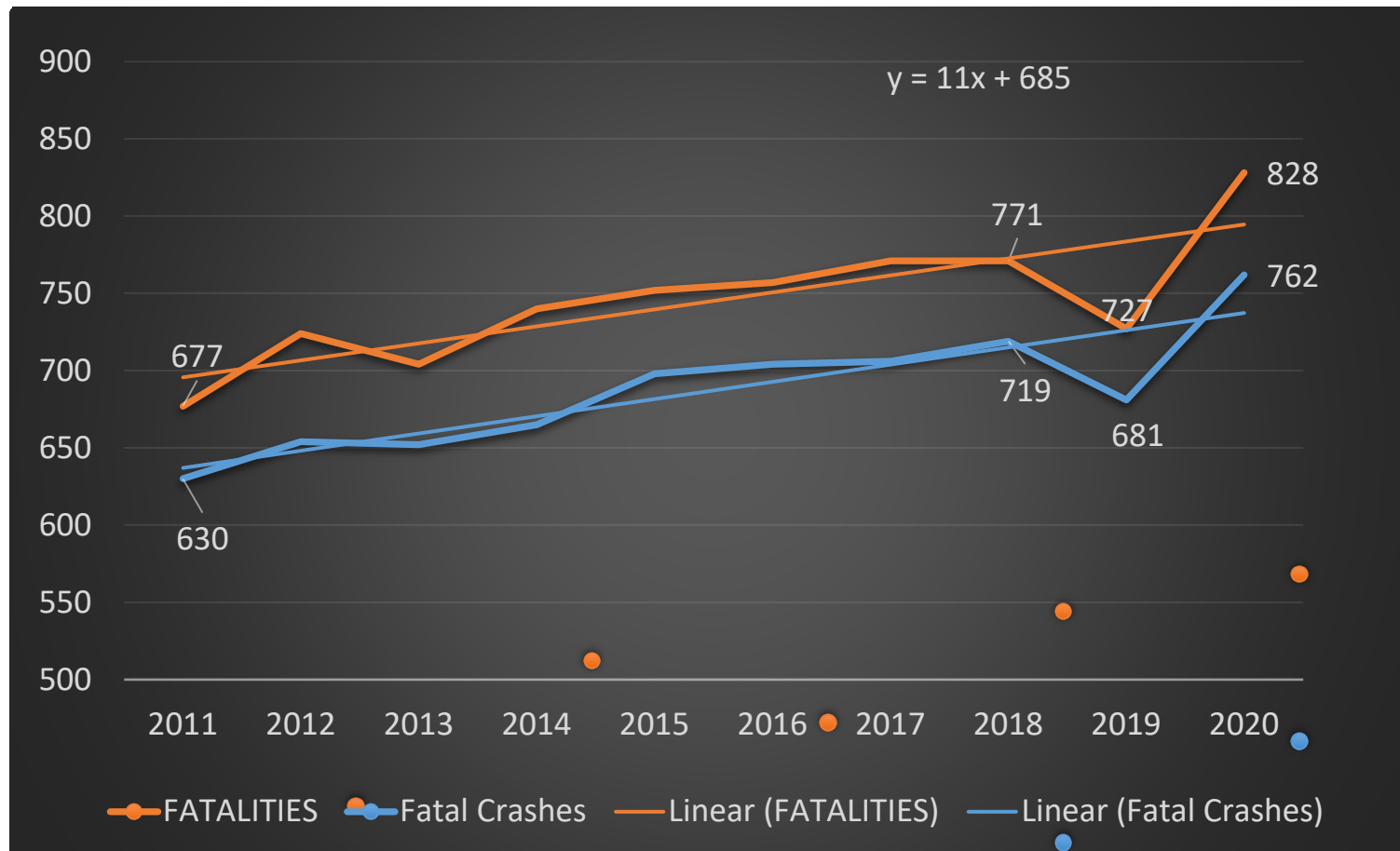
- What are the trends in crashes, fatalities and injuries?
- What are the trend in rates? (No VMT)
- What are one-year changes?
- What are changes from 2019 to 2020?
- Highlights:
  - Interstates
  - Bicycles
  - Pedestrians
  - Motorcycles
  - Young drivers
  - Crash costs

## Fatalities & Crashes by Quarter 2016-2020

2<sup>nd</sup> Quarter Crashes  
declined in 2020  
significantly while  
fatalities increased



# Trends in Fatalities



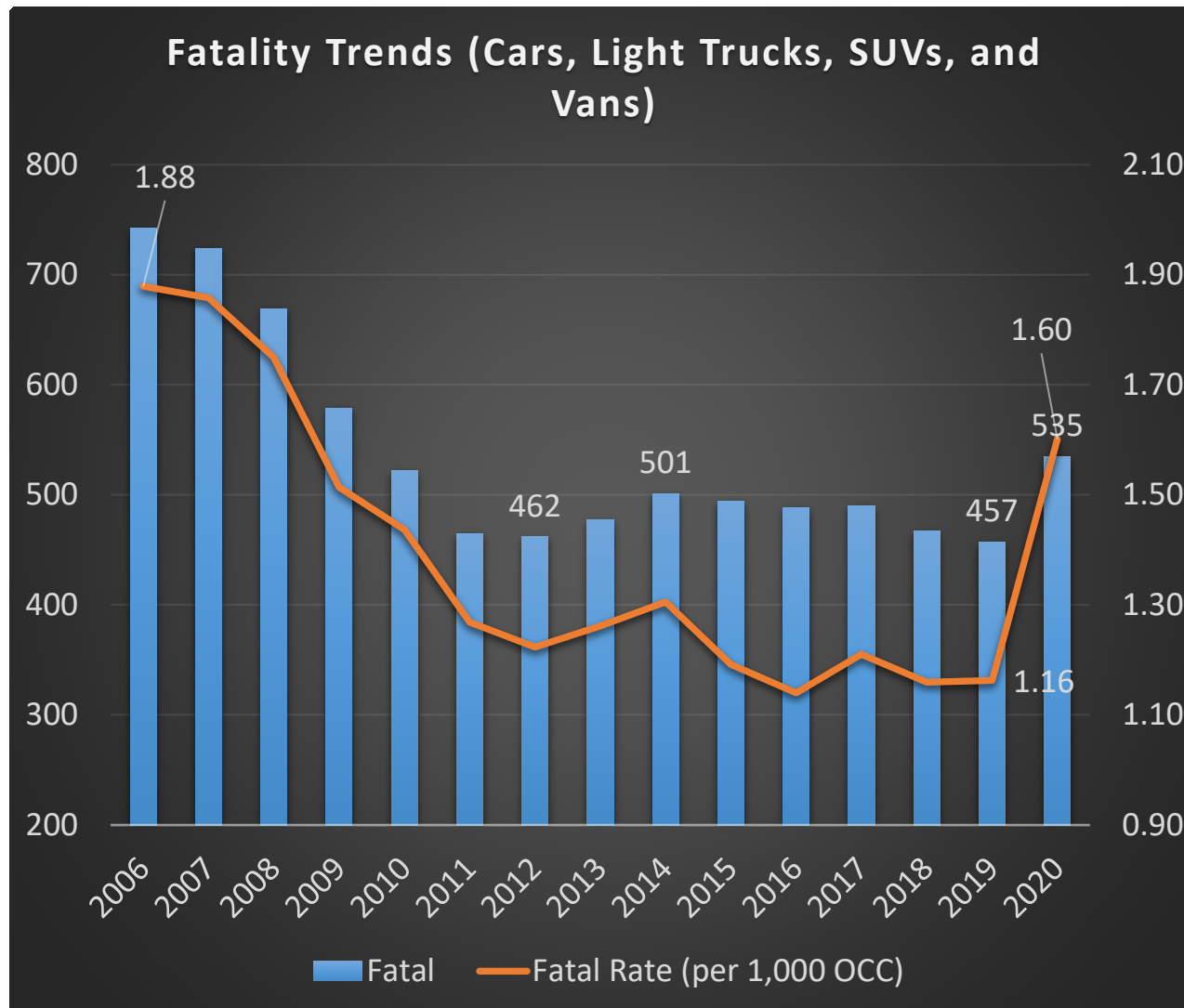
- The increase in fatalities from 2019 to 2020 was 13.9%.
- However, fatalities have increased on average 11 fatalities per year over the past decade.
- The large increase in fatalities was partly due to a drop in 2019.
- 2020 fatalities are more in line with trend than the 13.9% increase seems to suggest.

## Fatality Rate per 1,000 Occupants of Cars, Light Trucks, SUVs, and Vans

Fatality rate declined from 1.81 in 2006 to 1.16 in 2019.

This fatality rate increased to 1.6 in 2020.

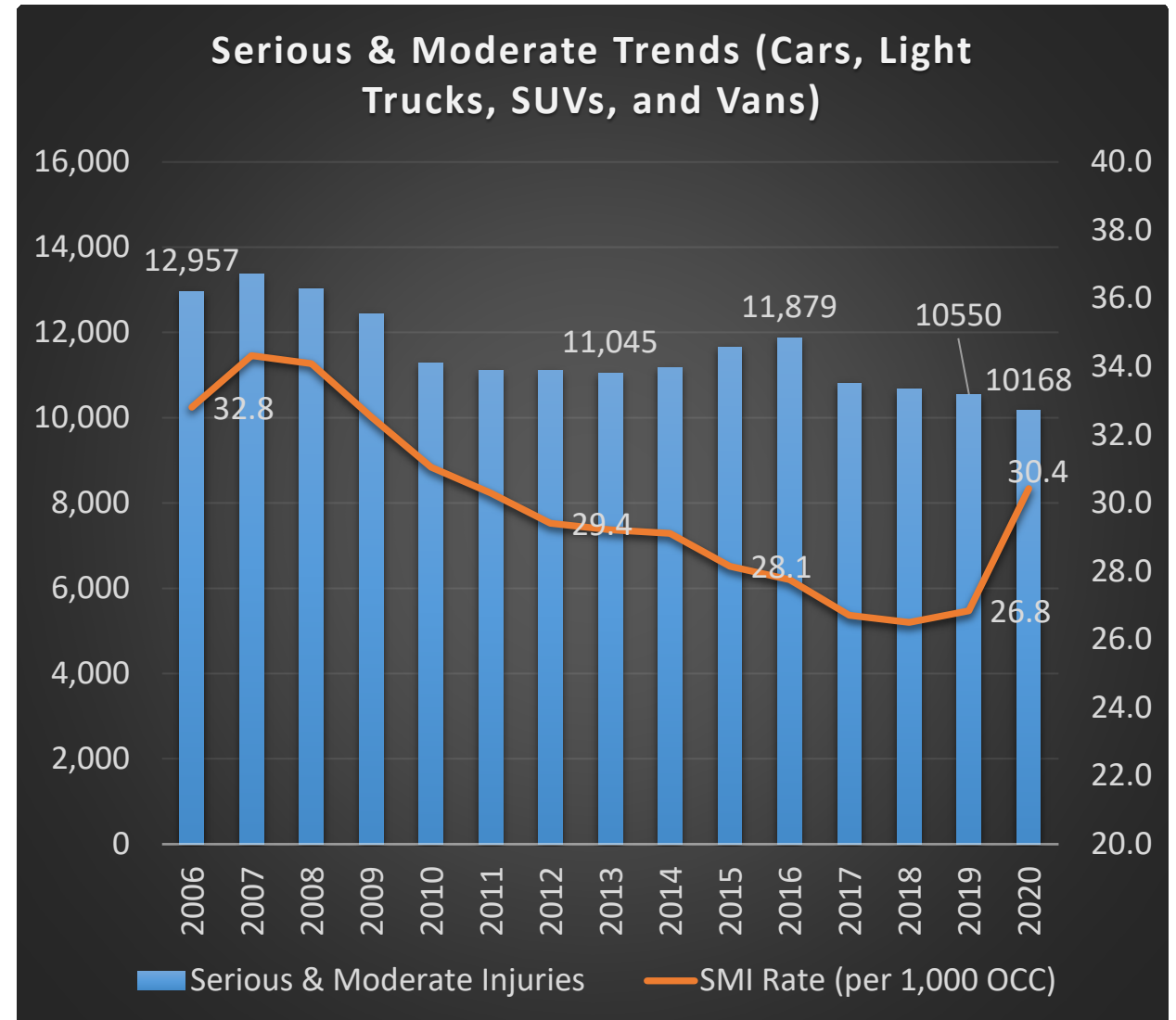
This was likely due to COVID-19 lockdown.



## Moderate and Severe Injury (Cars, Light Trucks, SUVs, and Vans)

**Moderate-to- Severe Injuries:**  
Decreased from  
12,957 in 2006 to 10,168 in 2020

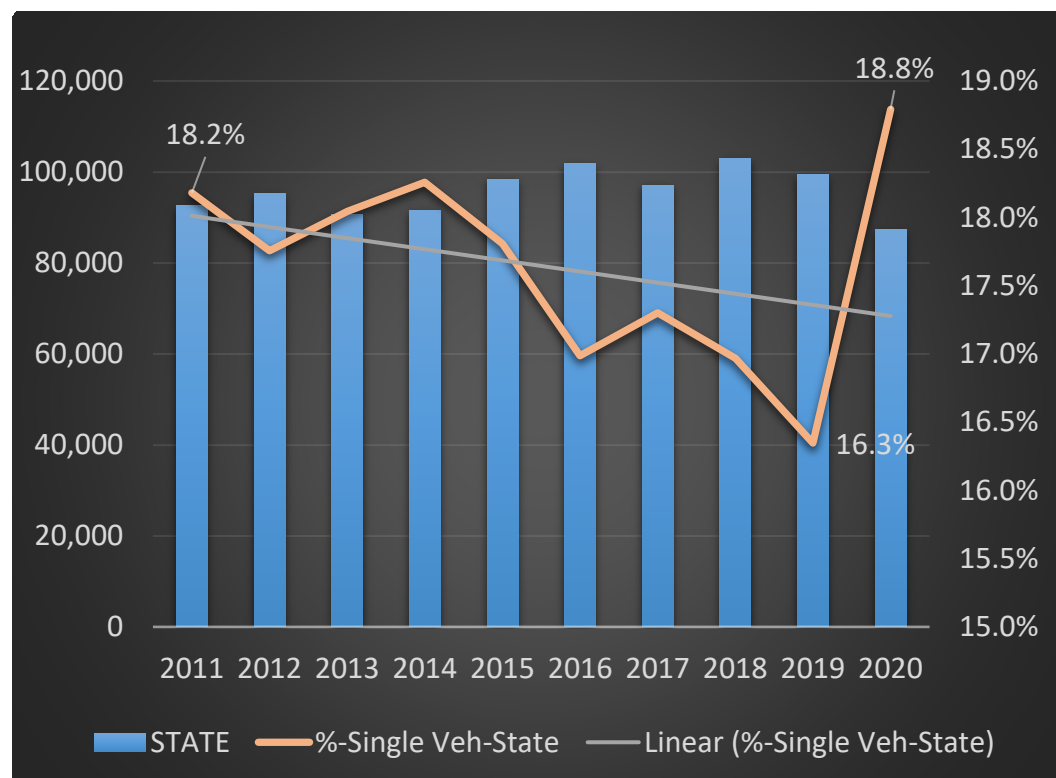
**The Moderate-to- Severe-Injury Rate:**  
(per 1,000 Occupants)  
Decreased from  
32.8 in 2006 to 26.8 in 2019.  
But increased to 30.4 in 2020.



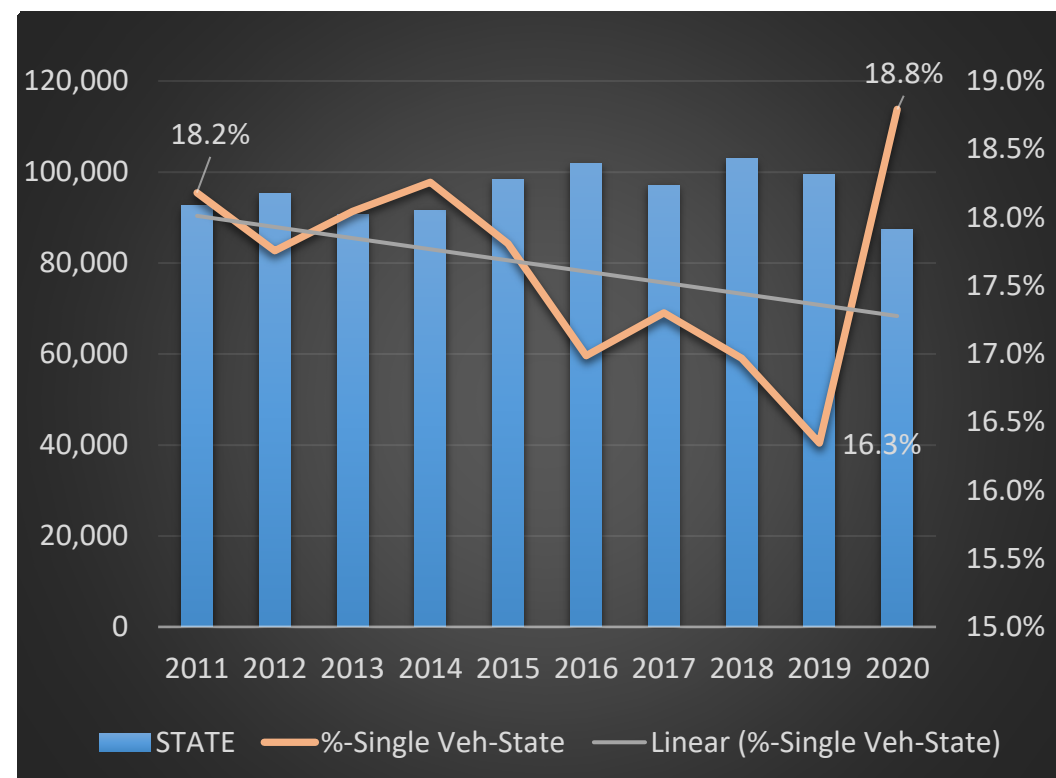


# All Crashes & Percentage Single Vehicle Crashes

## Local



## State



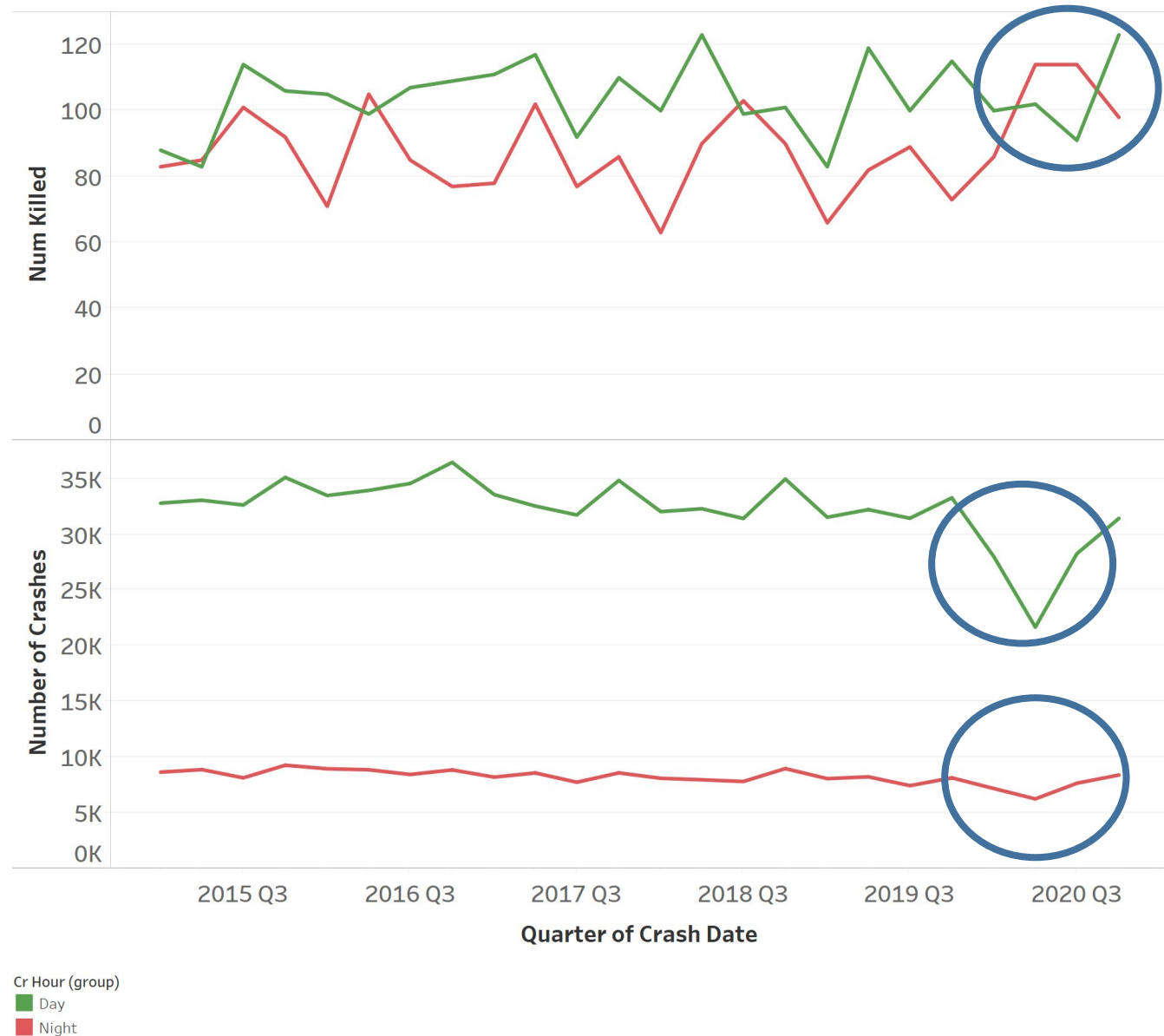
In the 2<sup>nd</sup> quarter of 2020 daytime single vehicle crashes increased by 3.4 percentage points, while nighttime single vehicle crashes increased by 5.4 percentage points from the average percentage over the past 5 years.

## Fatalities and Crashes by Day and Night

Daytime crashes declined considerably  
In the 2<sup>nd</sup> quarter 2020.

Nighttime crashes declined less.

The number of fatalities increased during  
Nighttime hours in the 2<sup>nd</sup> and 3<sup>rd</sup>  
Quarter and dropped during the day  
during the 2<sup>nd</sup> quarter.

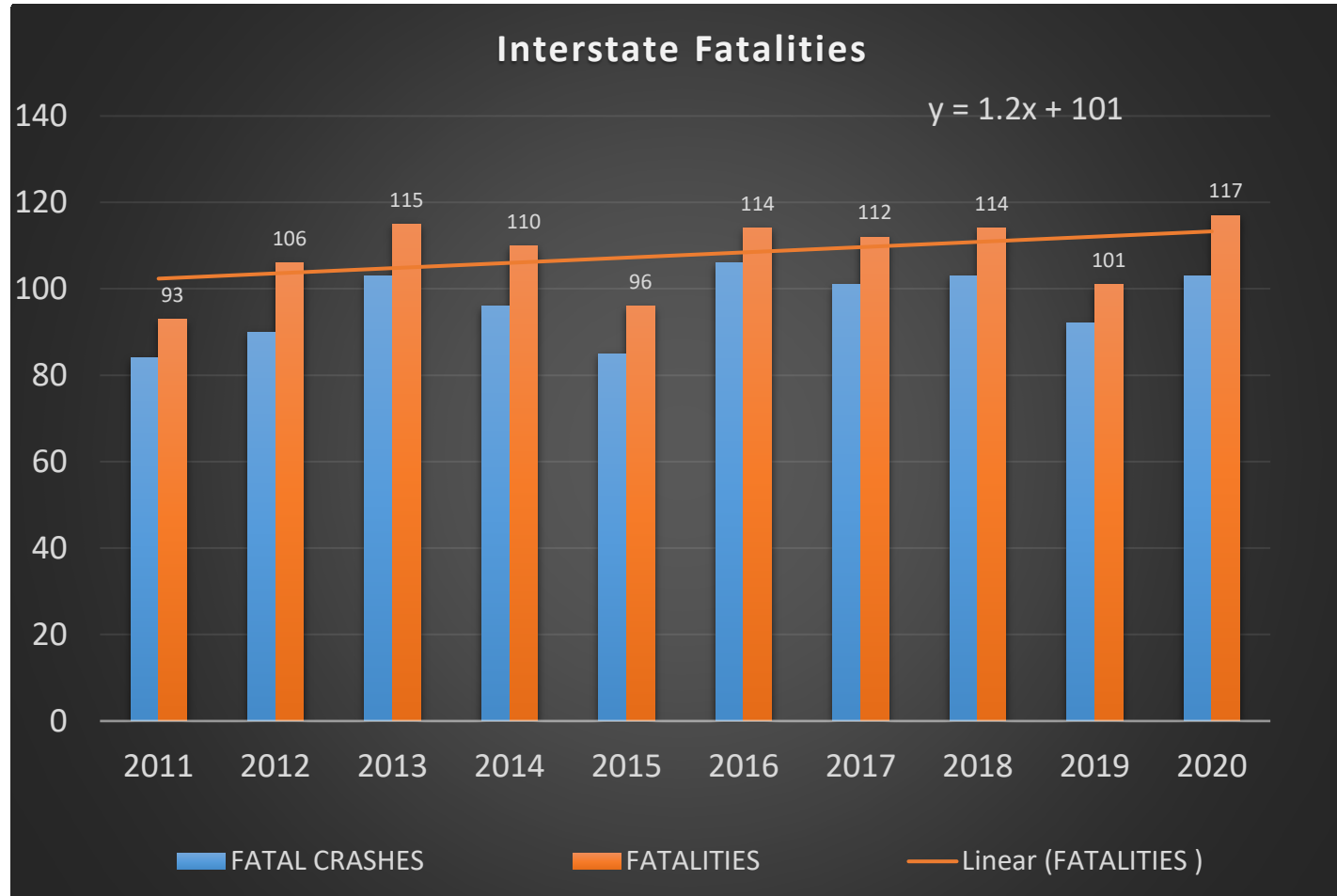


# Day and Night Fatality Rates

- Fatalities per 1,000 Crashes are higher at night than during daytime hours.
- The 2<sup>nd</sup> quarter of 2020 had 18.2 fatalities per 1,000 crashes.
- Daytime: 5 a.m-7 p.m.



# Interstate Fatalities



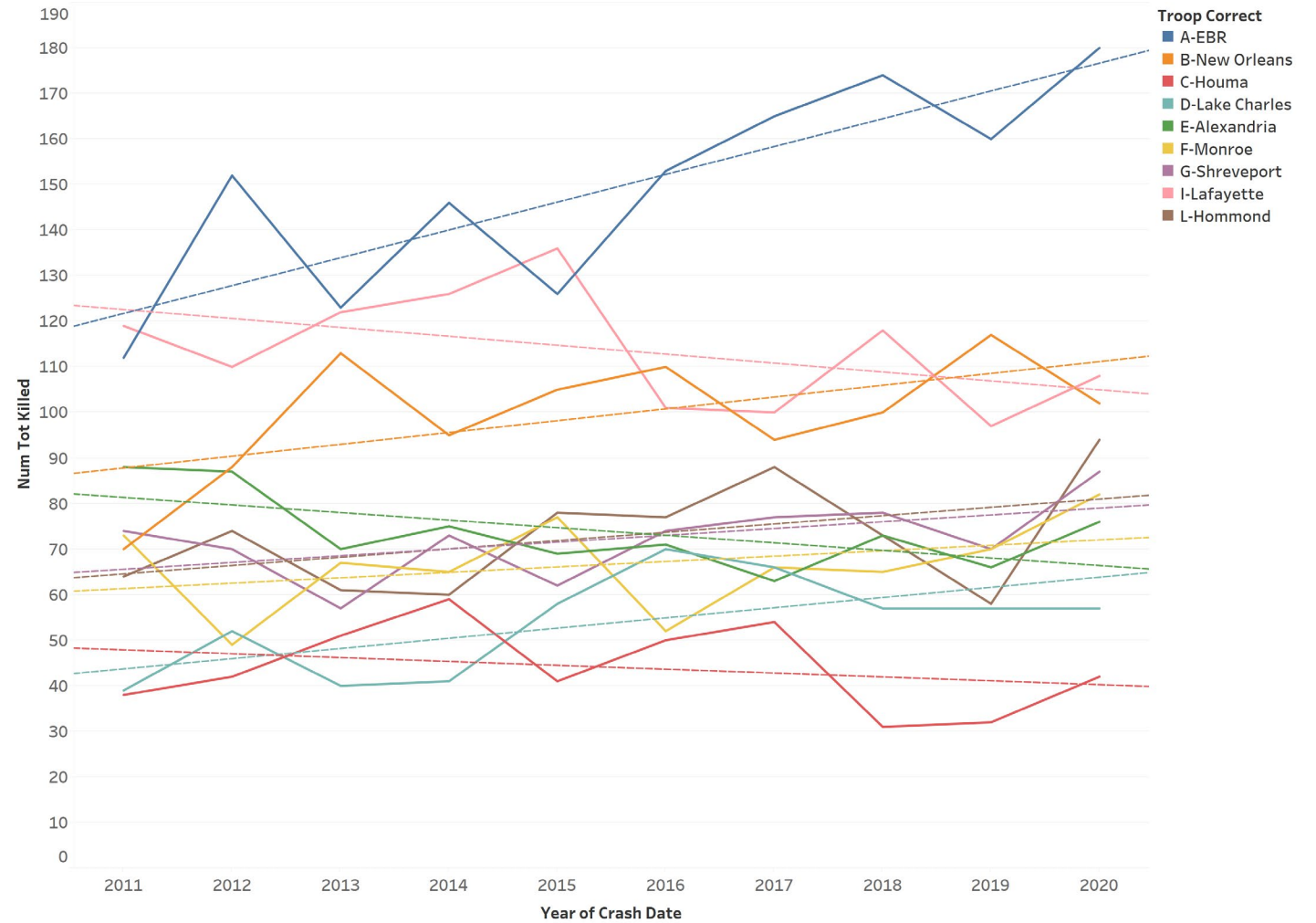
## Fatalities

- 2020 Fatalities up 12% from 2019.
- 2020 Fatalities 2% above 5-year average.
- Increase of 1.2 fatalities per year over past 10 years.

## Trends in Fatalities Based on Parishes within Troops

10-year increase or decrease per year

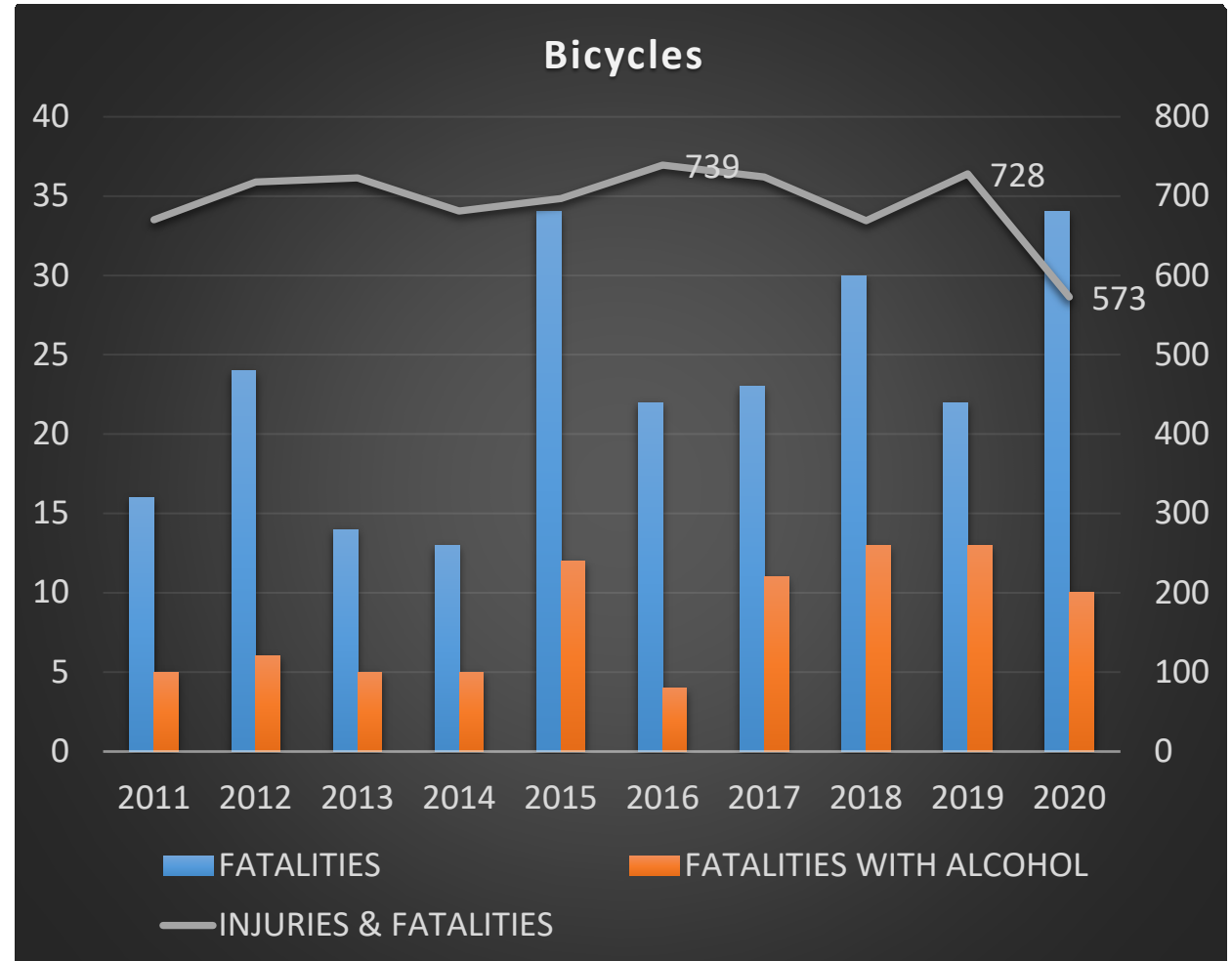
- EBR – **up** 6.1 fatalities per year
- New Orleans – **Up** 2.5 fatalities per year
- Lafayette – **down** 2 fatalities per year

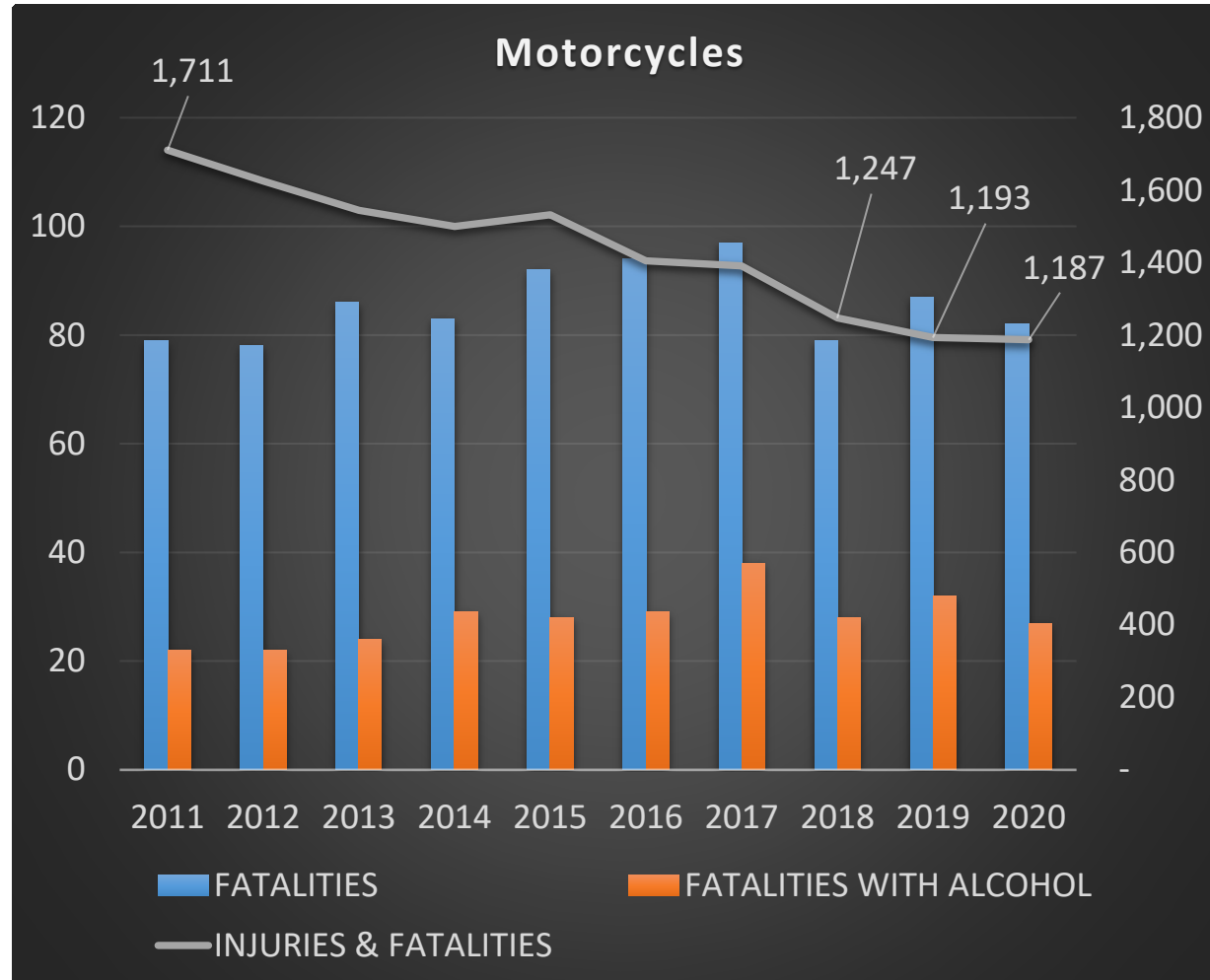




BICYCLE

- 2020 bicyclist fatalities **up 54.5%** from 2019.
- 2020 bicyclist fatalities 30% above 5-year average.
- Alcohol involved bicyclist's death have been on average 38.9% over the past five years.
- 2020 injuries were down 21% from 2019.

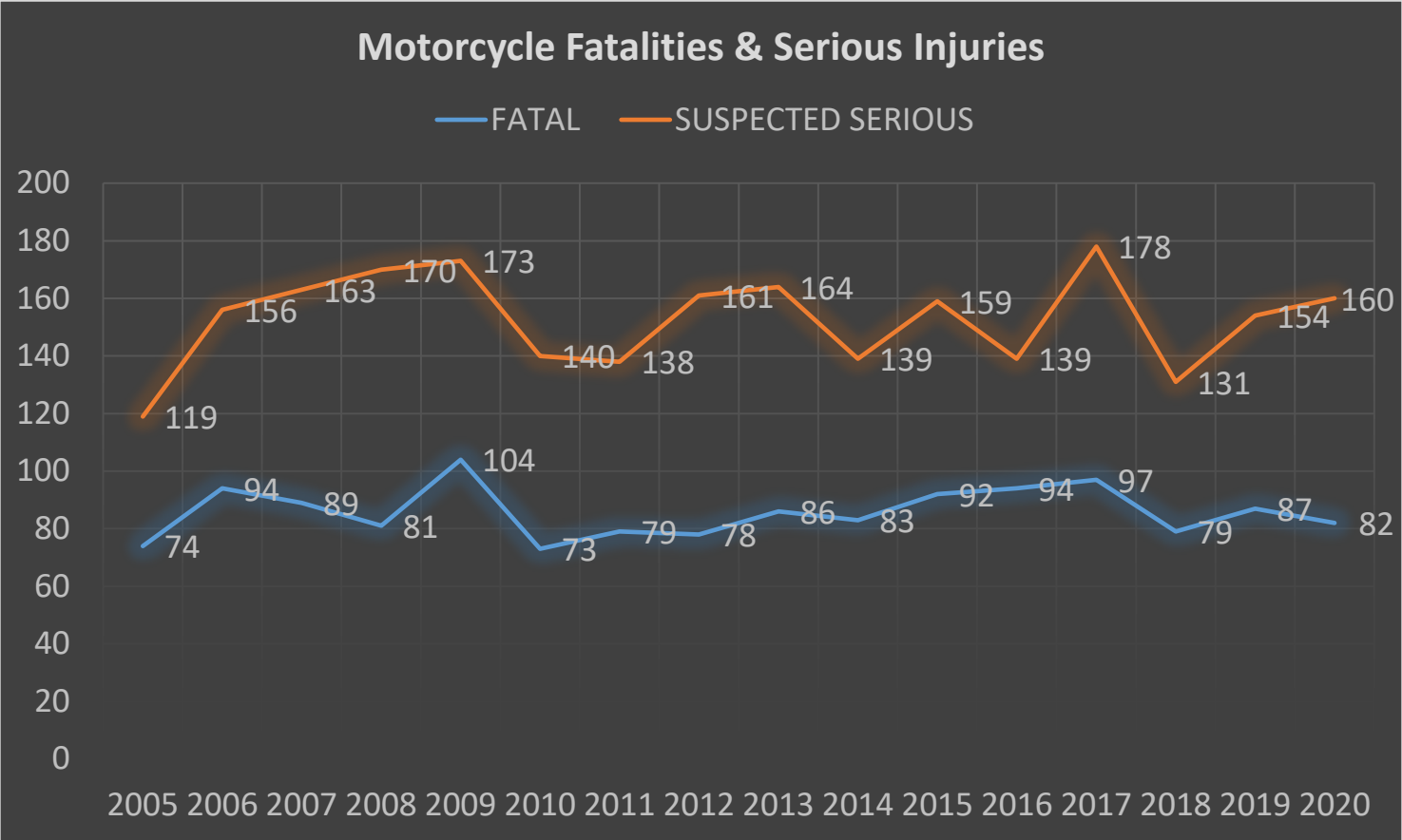




## Trends

- Motorcyclist fatalities **down 5.7%**
- Alcohol involved motorcyclist's death **down 15.6%**.
- Injuries **down 10.6%**.
- Injuries have been trending downward for the past decade.

# Motorcycles Serious Injuries



Driver Helmet Use		
Injury	Used	UNK
FATAL	57	22
SUSPECTED SERIOUS	103	46
SUSPECTED MINOR	384	118
POSSIBLE INJURY	366	90
NO APPARENT INJURY	206	151

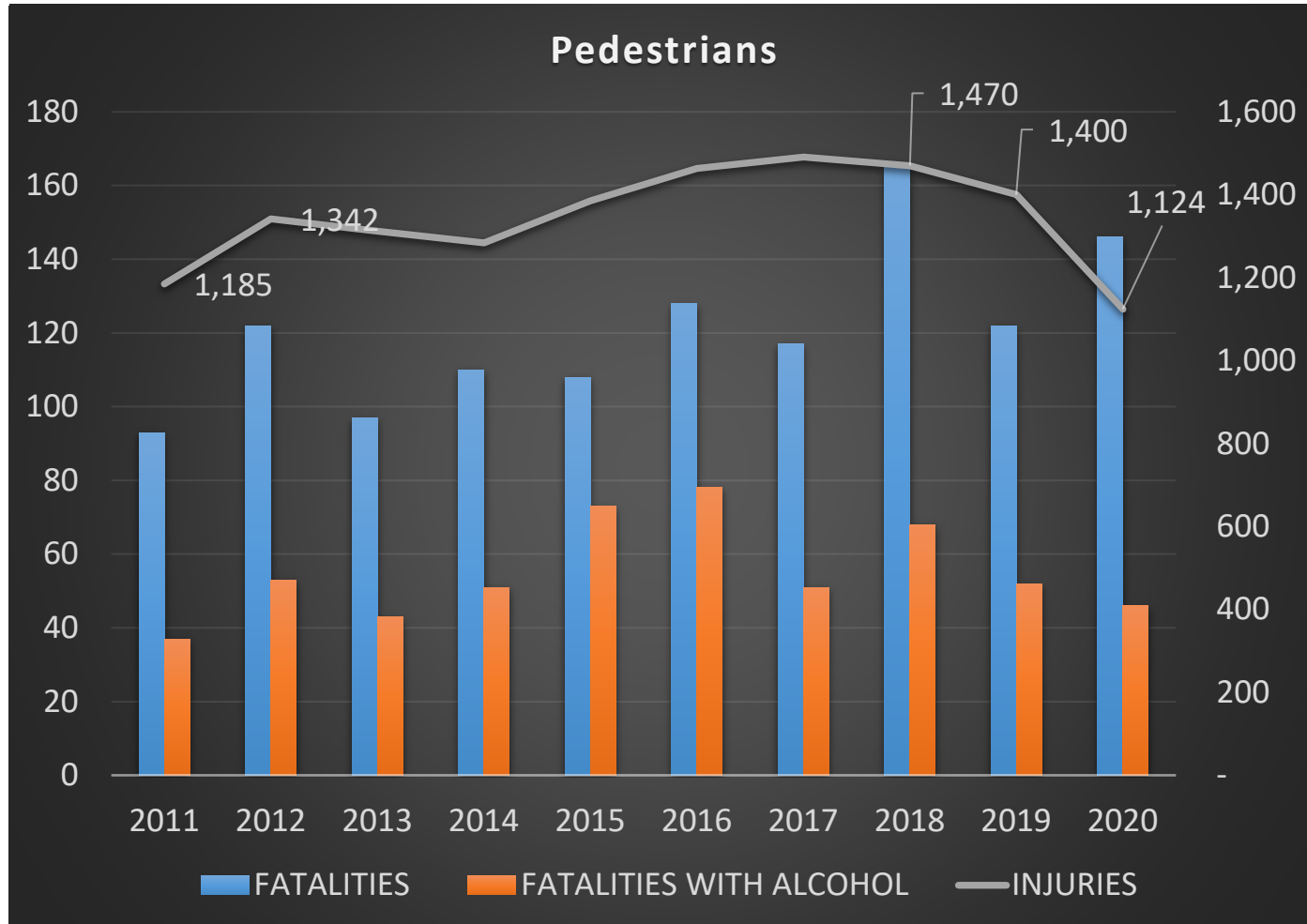


# Pedestrian Injuries and Fatalities

- Pedestrian fatalities increased from 2019 to 2020. (+19%)
- But they were -11.5% lower compared to 2018.
- Serious injuries were very similar in the past three years.

YEAR	FATAL	NO APPARENT INJURY	POSSIBLE INJURY	SUSPECTED MINOR INJURY	SUSPECTED SERIOUS INJURY
2016	128	249	646	663	154
2017	117	168	653	678	160
2018	<b>165</b>	178	625	669	<b>176</b>
2019	<b>122</b>	200	603	617	<b>179</b>
2020	<b>146</b>	143	453	495	<b>176</b>

# Pedestrian Fatalities & Injuries

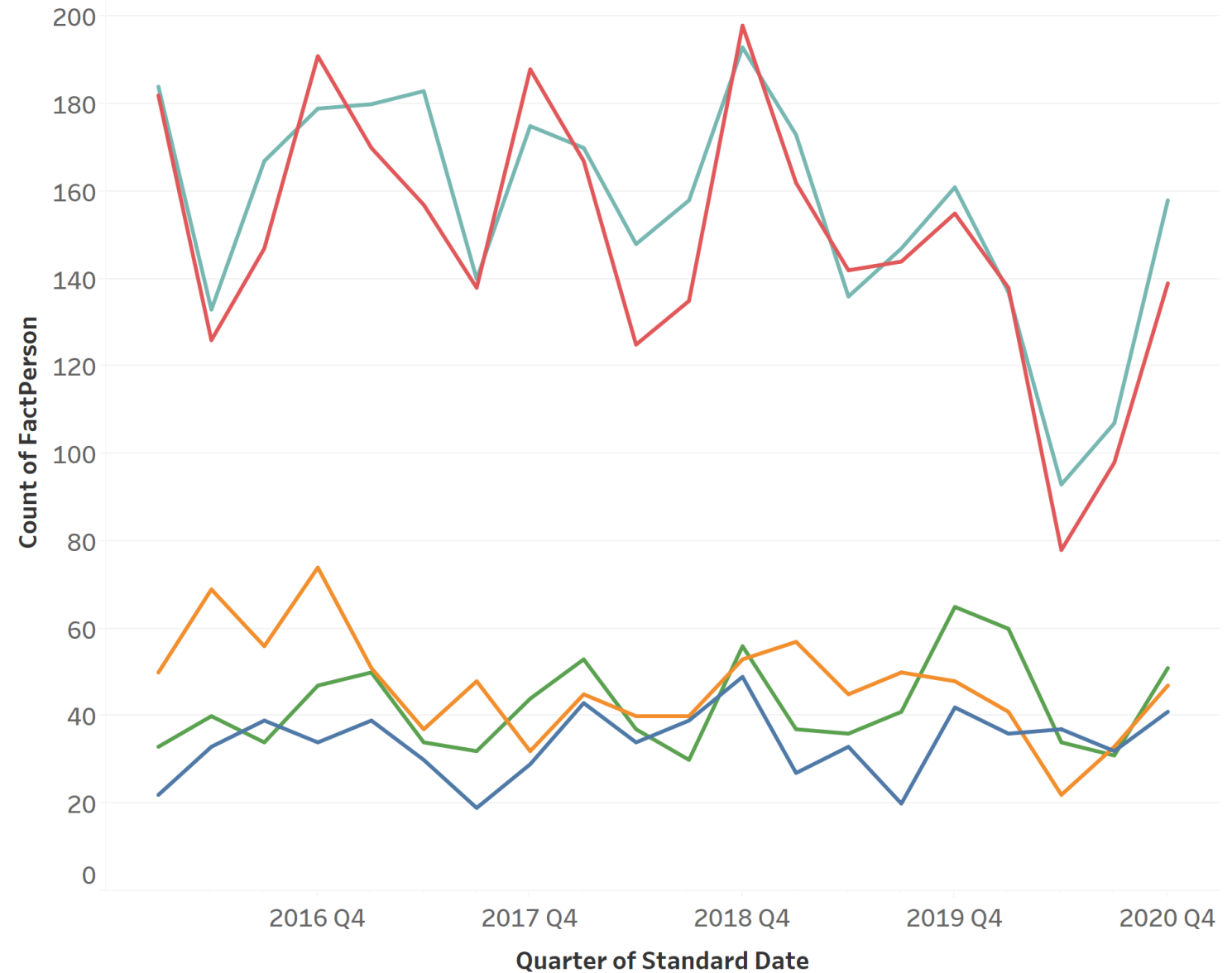


## Trend

- Pedestrian fatalities increased from 2019 to 2020. (+19%)
- But they were -11.5% lower compared to 2018.
- But 7.7 percent above 5-year average.
- Serious injuries were very similar in the past three years.

# Pedestrian Injuries and Fatalities

- The number of injuries during the 2<sup>nd</sup> quarter dropped considerably in 2020, while the fatalities remained about the same as in prior quarters.

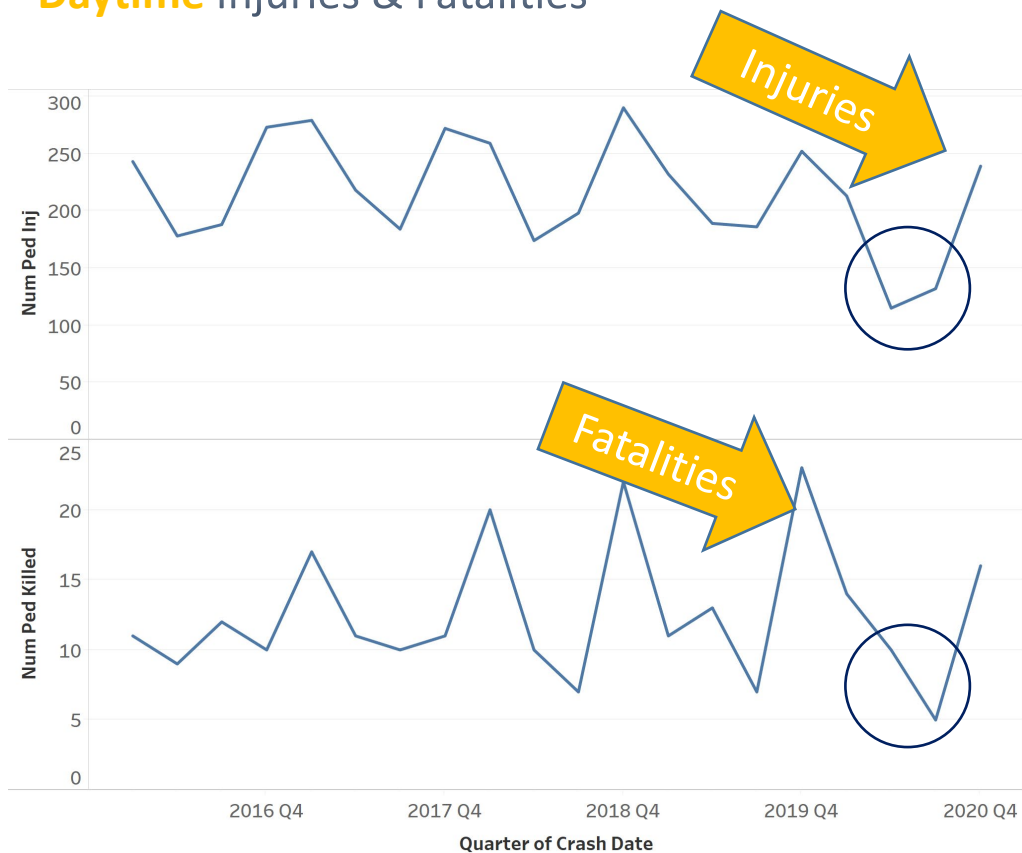


**Injury Description**

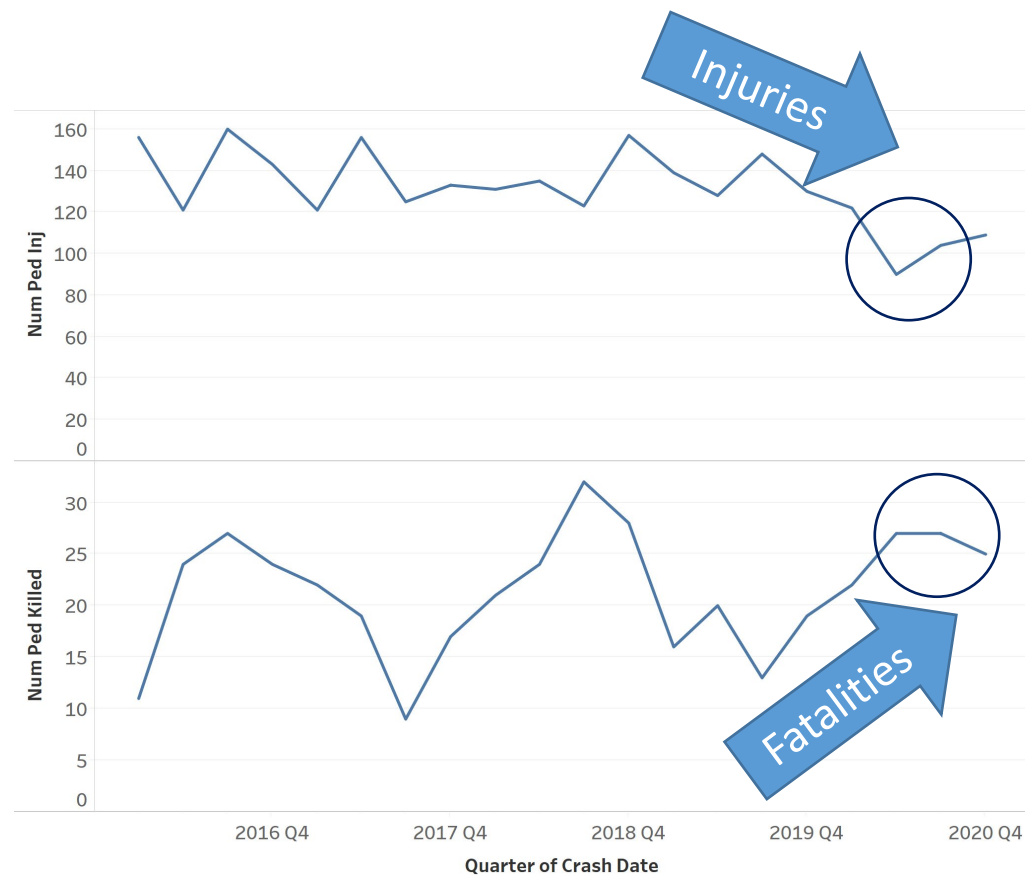
- FATAL
- NO APPARENT INJURY
- POSSIBLE INJURY
- SUSPECTED MINOR INJURY
- SUSPECTED SERIOUS INJURY

# Daytime & Nighttime Pedestrian Injuries & Fatalities

## Daytime Injuries & Fatalities



## Nighttime Injuries & Fatalities

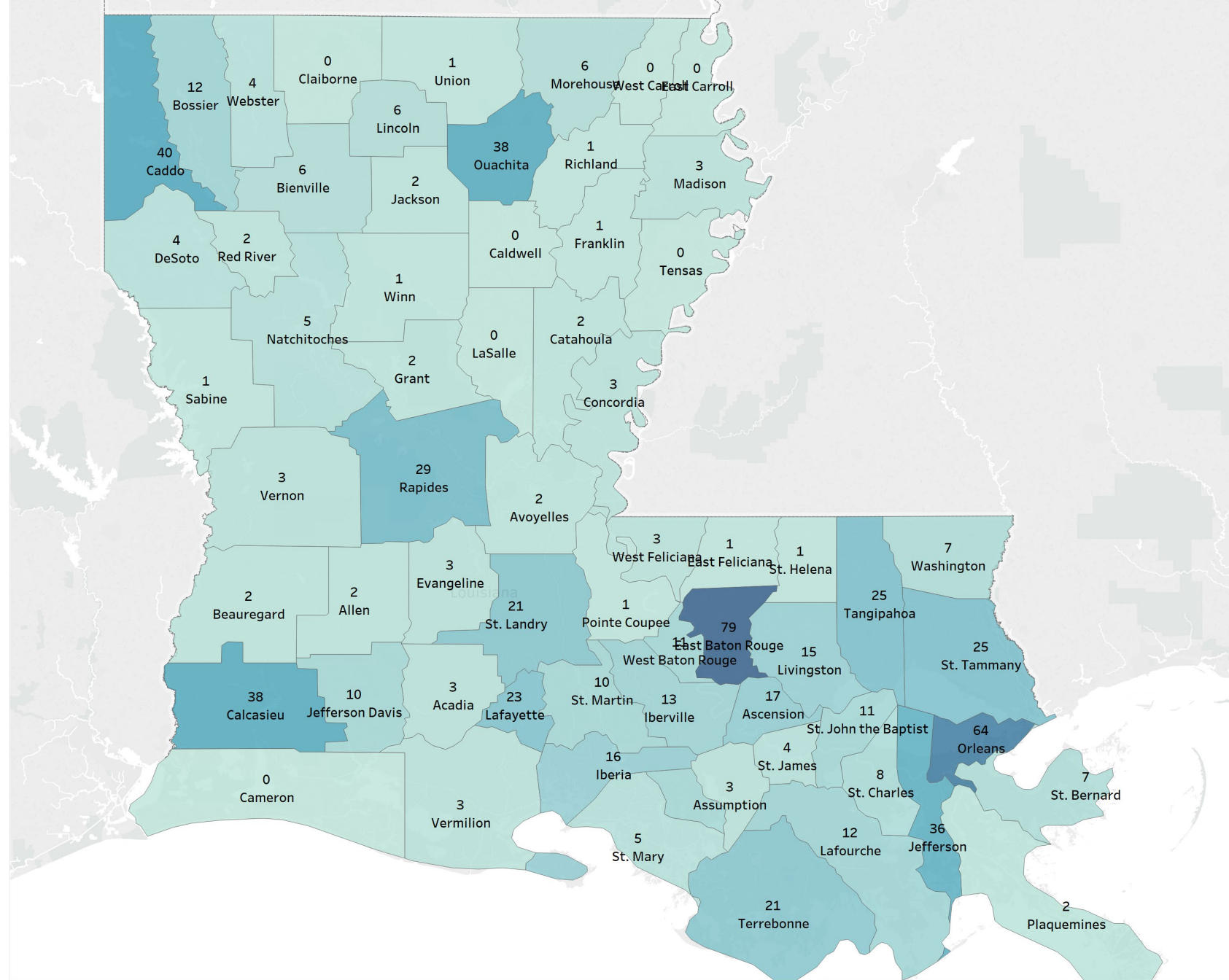


2016-2020

EBR - 79

N.O. - 64

# Pedestrian Fatalities by Parish



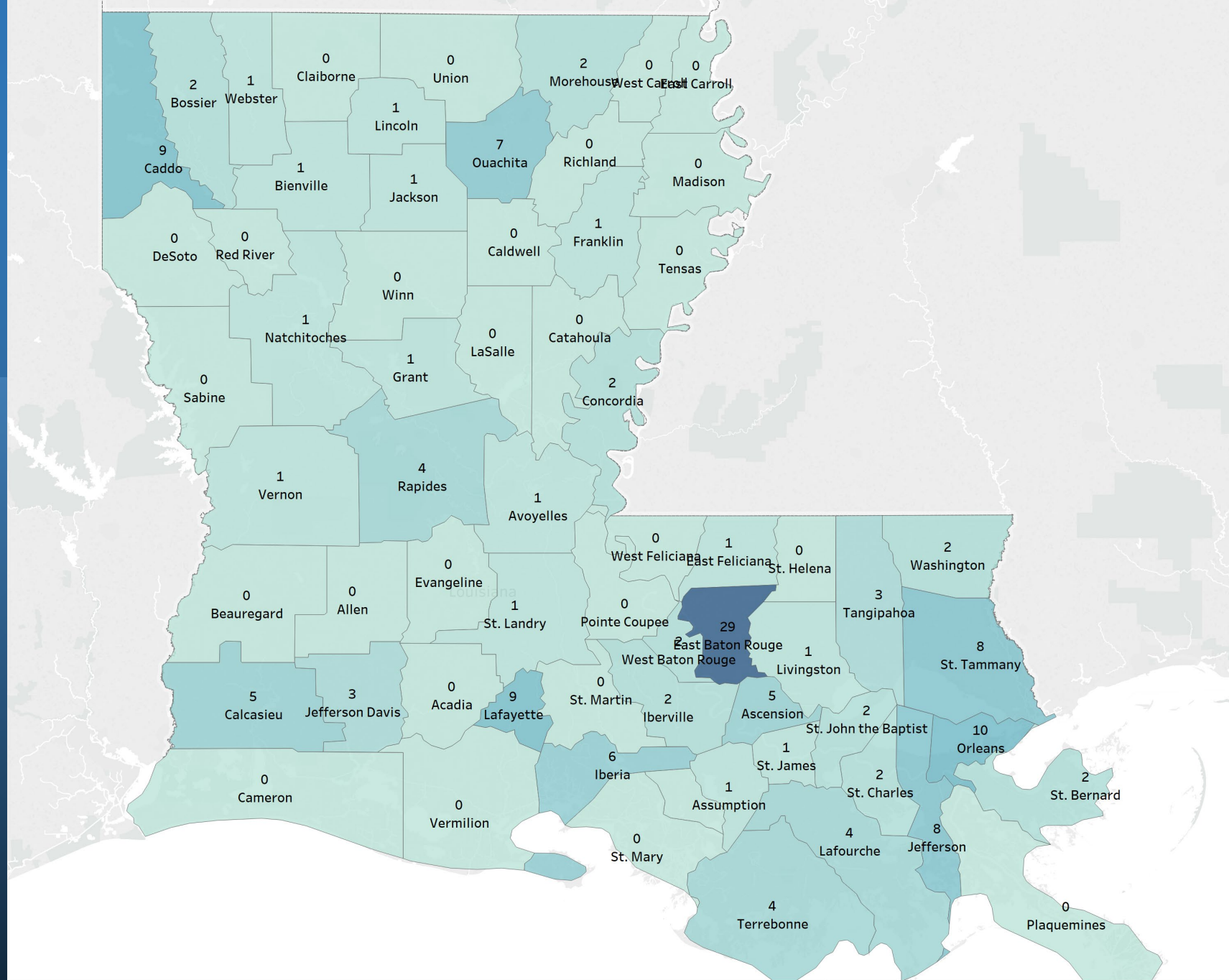


2020

EBR -29

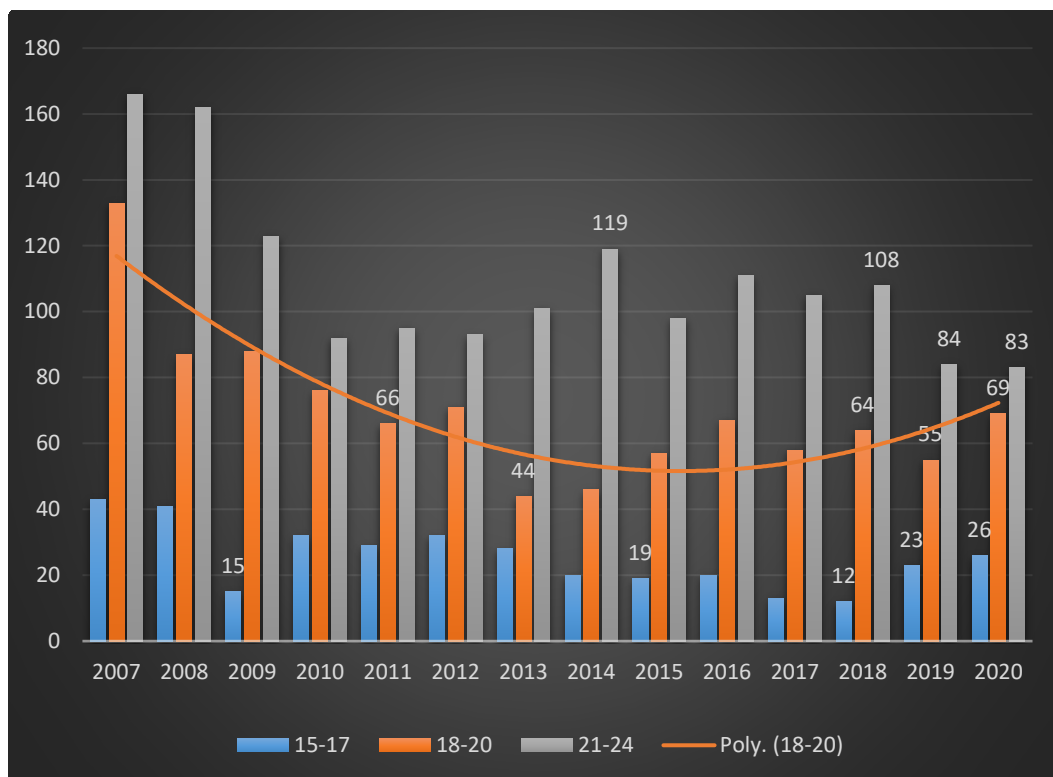
N.O. 10

# Pedestrian Fatalities by Parish

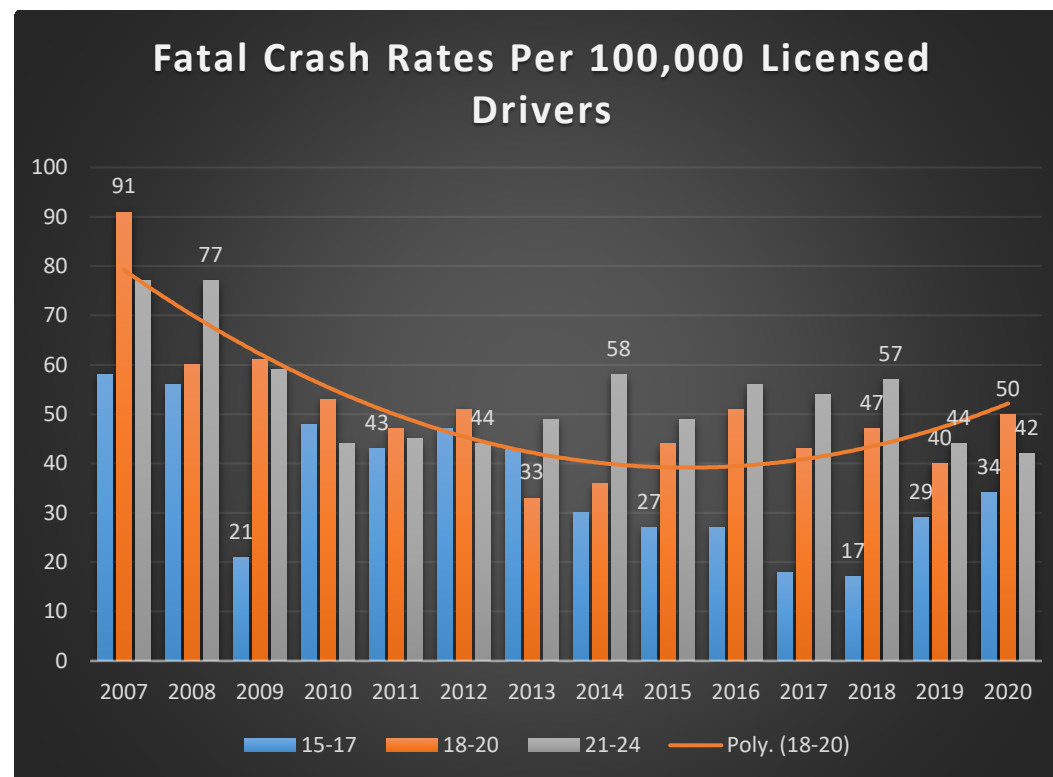


# Young Drivers in Fatal Crashes

Drivers involved in Fatal Crashes



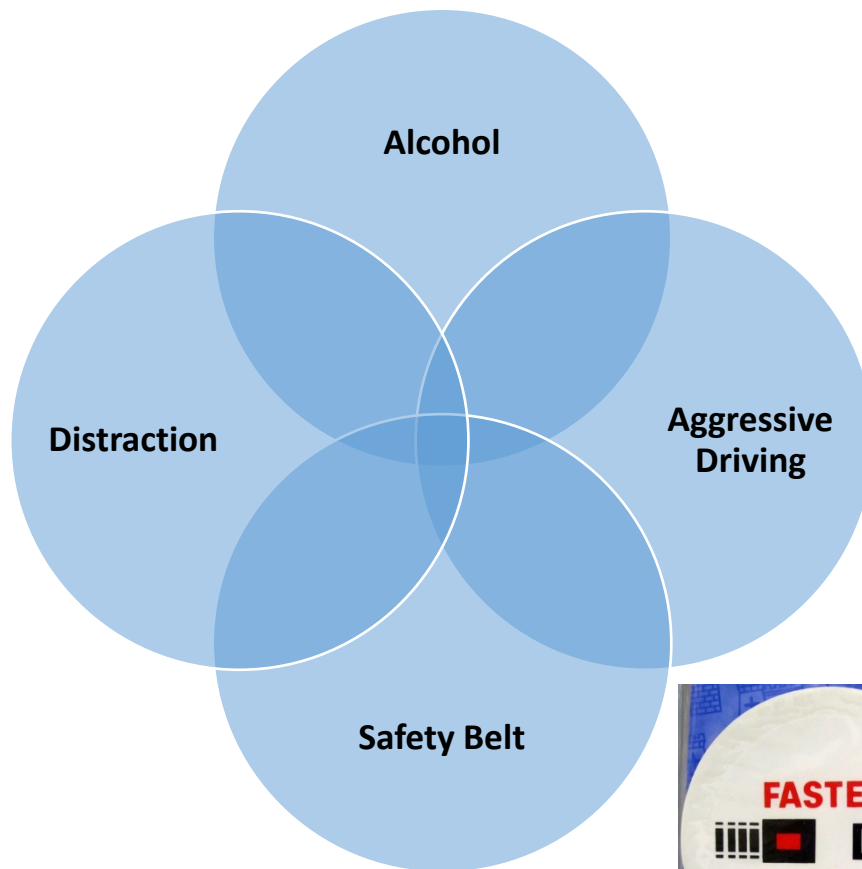
Fatal Crash Rates Per 100,000 licensed Drivers



# The four Major Contributing Factors



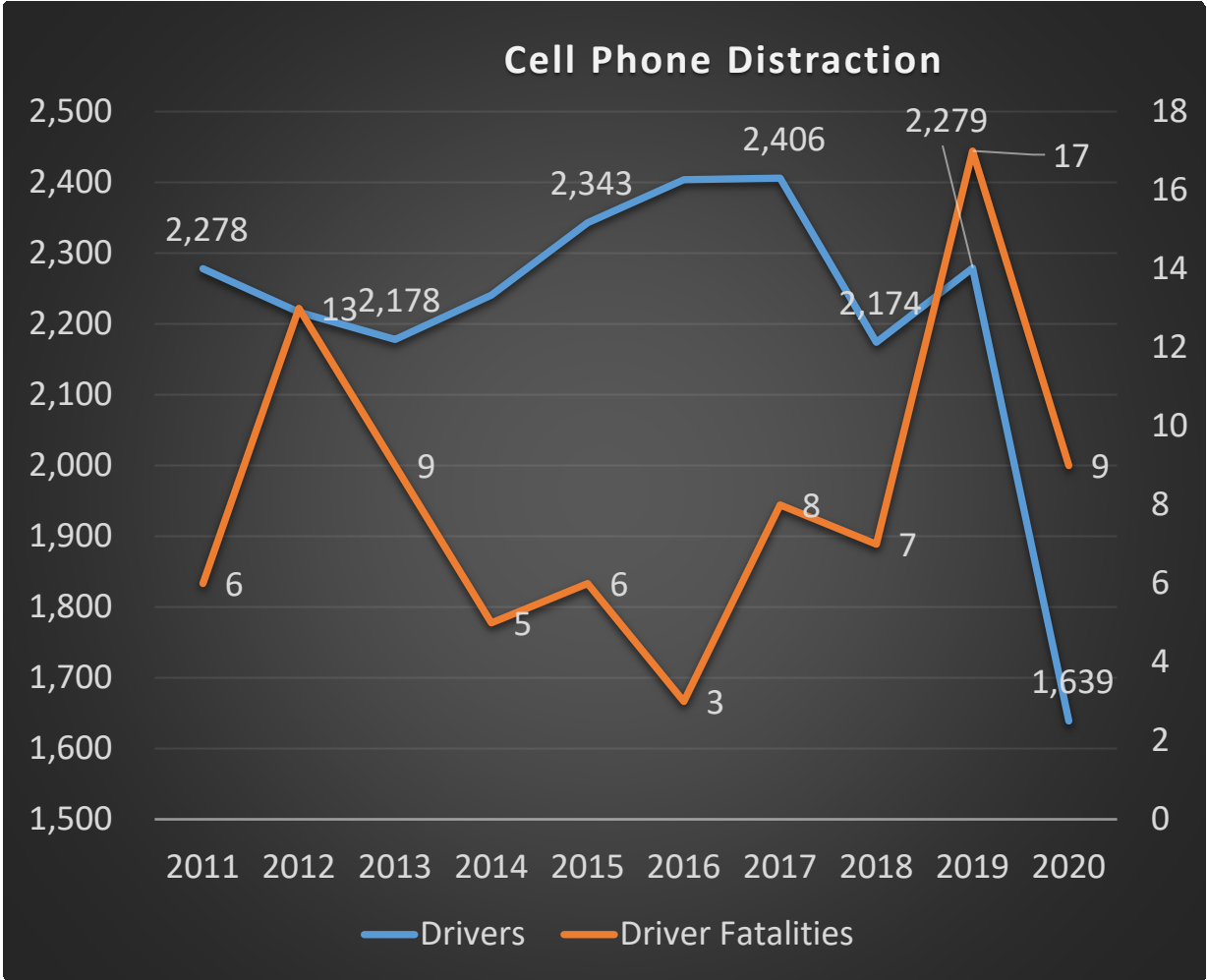
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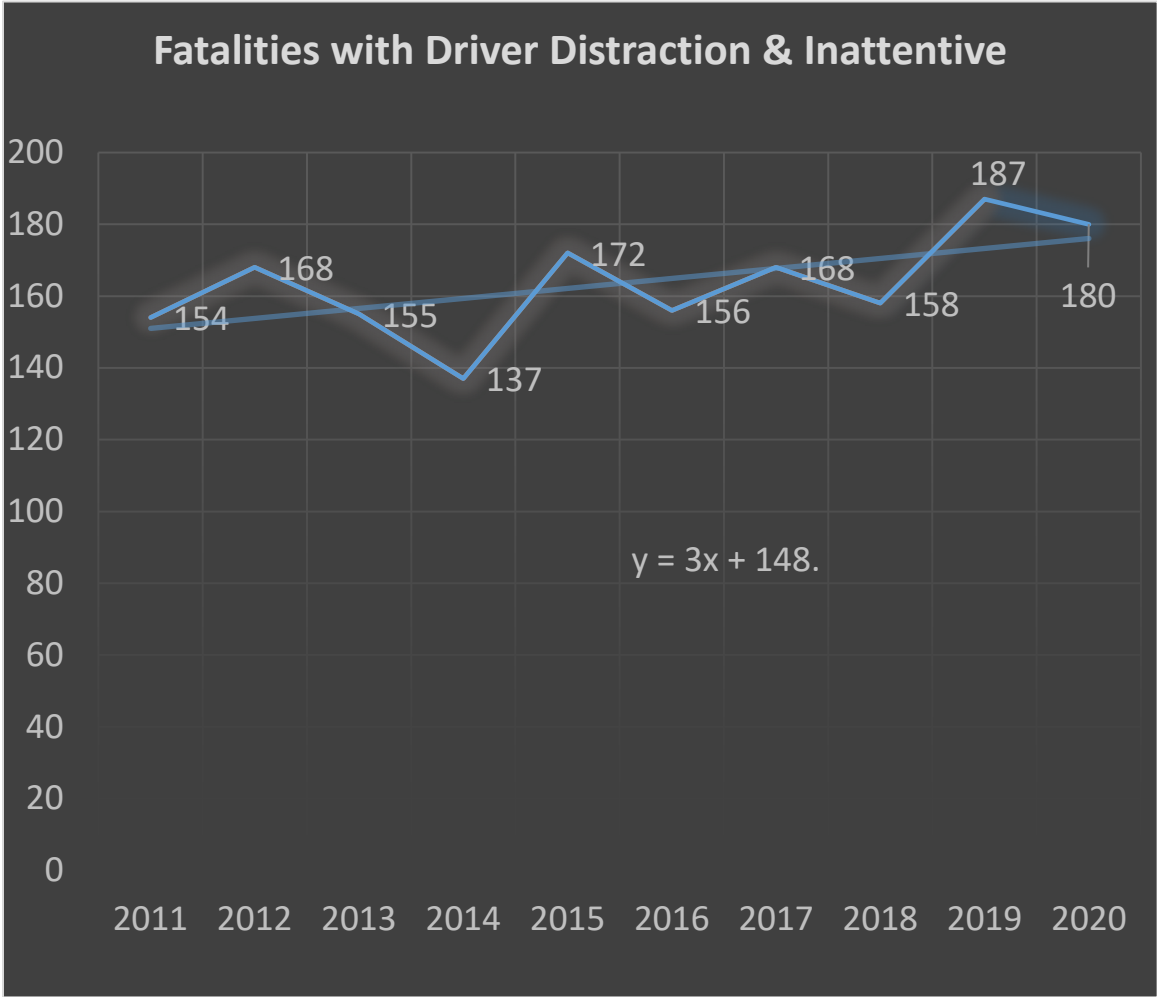
The 5-year average is 78% of fatal crashes involves one of the four factors.



## Cell Phone Distraction



## Distracted & Inattentive Fatalities



# Aggressive Driving

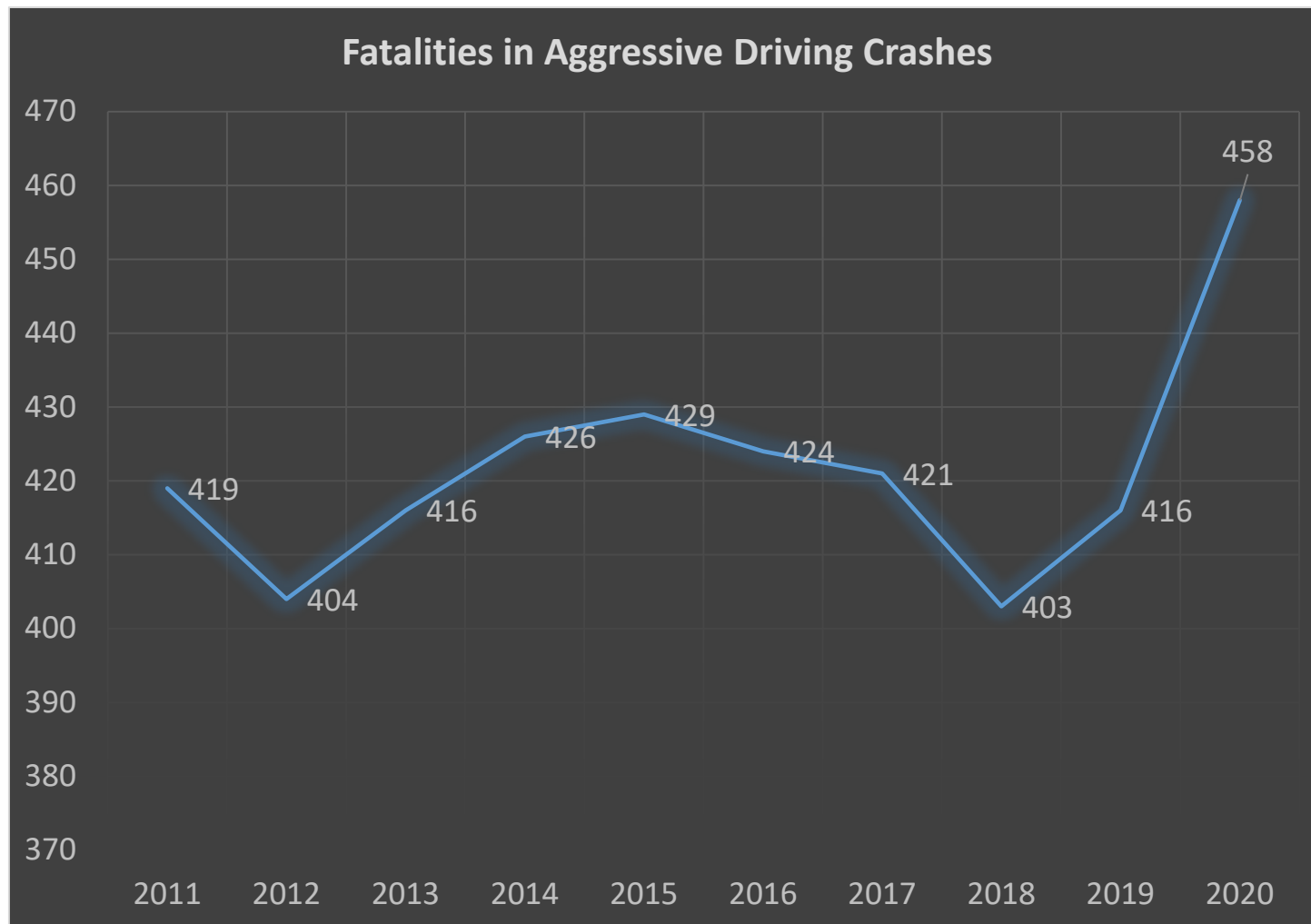
**Aggressive Driving is defined as either**

- Exceeding stated speed limit
- Exceeding safe speed limit
- Failure to Yield
- Following too closely
- Improper passing
- Disregarded traffic control
- Careless operation



## Fatalities & Aggressive Driving Violations

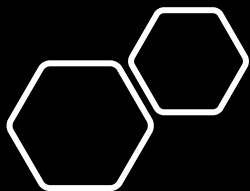
Aggressive driving violations in fatal crashes have been between about 400 and 430 between 2011 and 2019, but increased to 458 in 2020.



# Drinking and Driving



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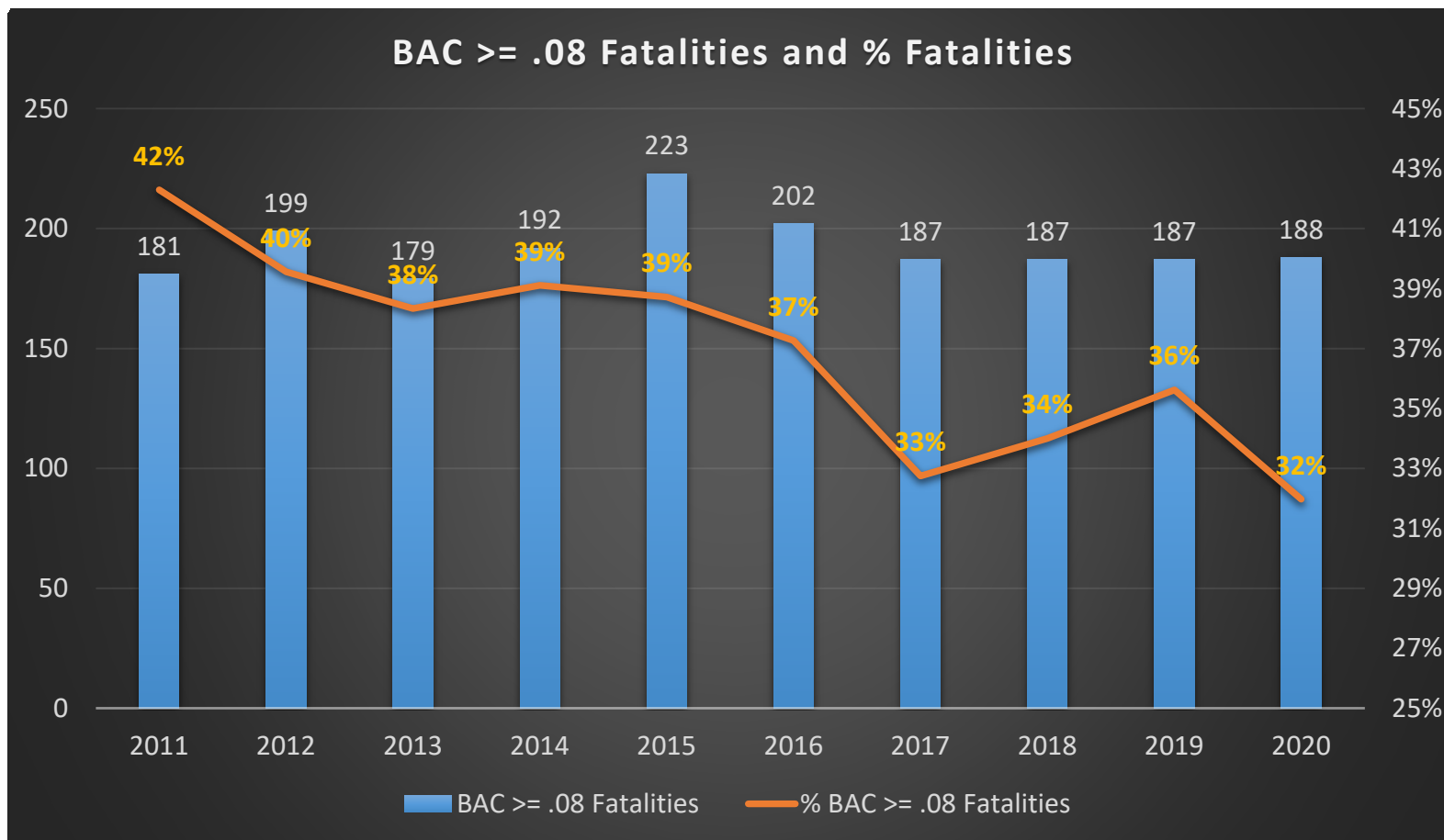


# BAC Driver Fatalities and Surviving Driver

The odds of the fatal driver to have BAC>0 are about 5 times the odds of the surviving driver.

YEAR	BAC 0		PENDING &UNK		NOT TESTED		KNOWN BAC > 0	
	DRIVERS	%	DRIVERS	%	DRIVERS	%	DRIVERS	%
FATALITIES								
2016	248	50%	1	0.20%	74	15%	167	34%
2017	277	54%	0	0.00%	67	13%	173	34%
2018	251	51%	0	0.00%	92	19%	150	30%
2019	257	54%	0	0.00%	53	11%	167	35%
2020	281	50%	0	0.00%	117	21%	163	29%
Surviving Drivers								
2016	338	53%	2	0.31%	231	36%	61	10%
2017	324	54%	0	0.00%	219	37%	52	9%
2018	365	56%	0	0.00%	228	35%	56	9%
2019	319	51%	0	0.00%	243	39%	60	10%
2020	343	53%	2	0.31%	231	35%	75	11%

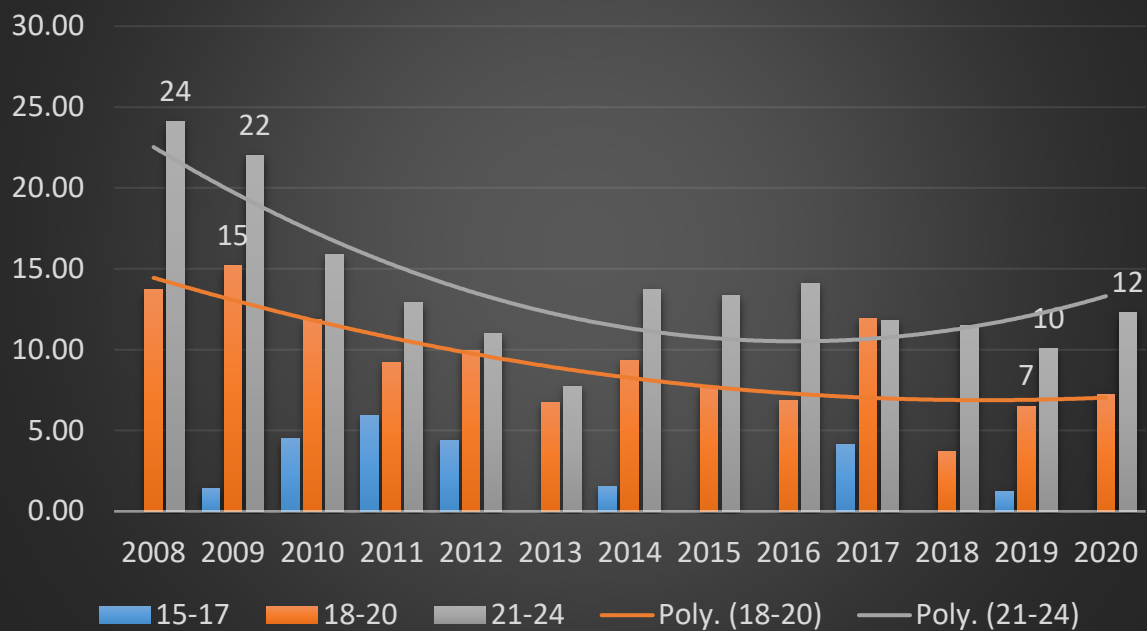
# Fatalities in Crashes with BAC $\geq$ 0.08



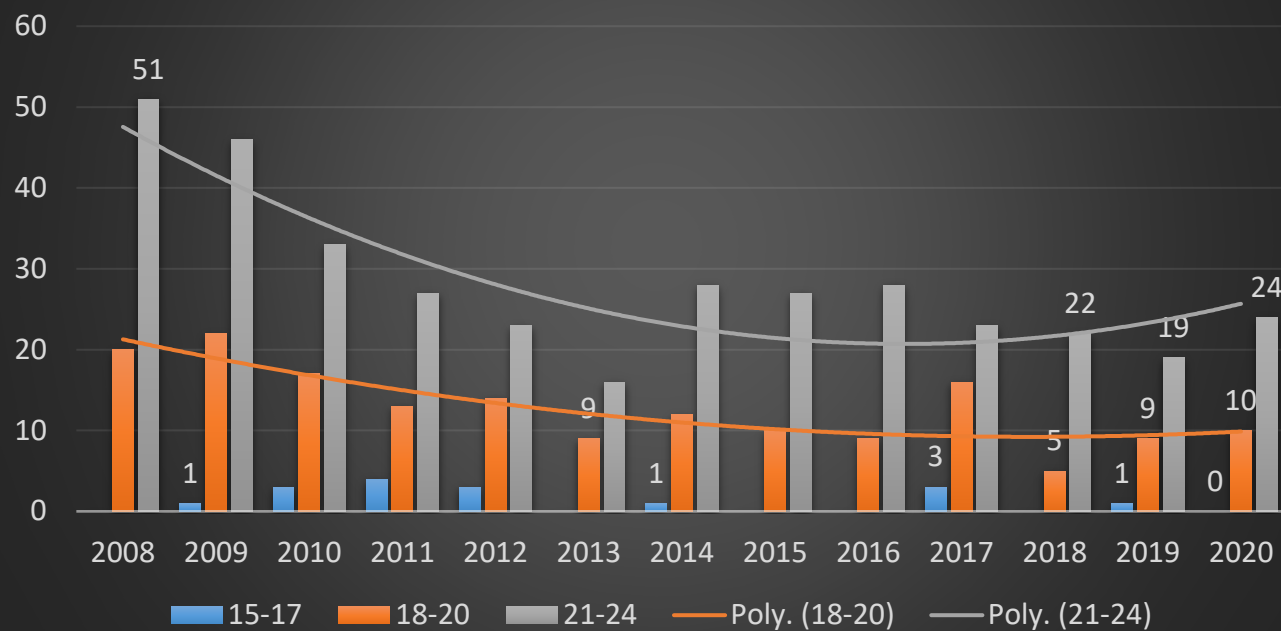
Percentage is based only on crashes with known BAC for all drivers.

## Rate (per 100,000 lic. Drivers) Youth Drivers and Alcohol Involvement in Fatal Crashes

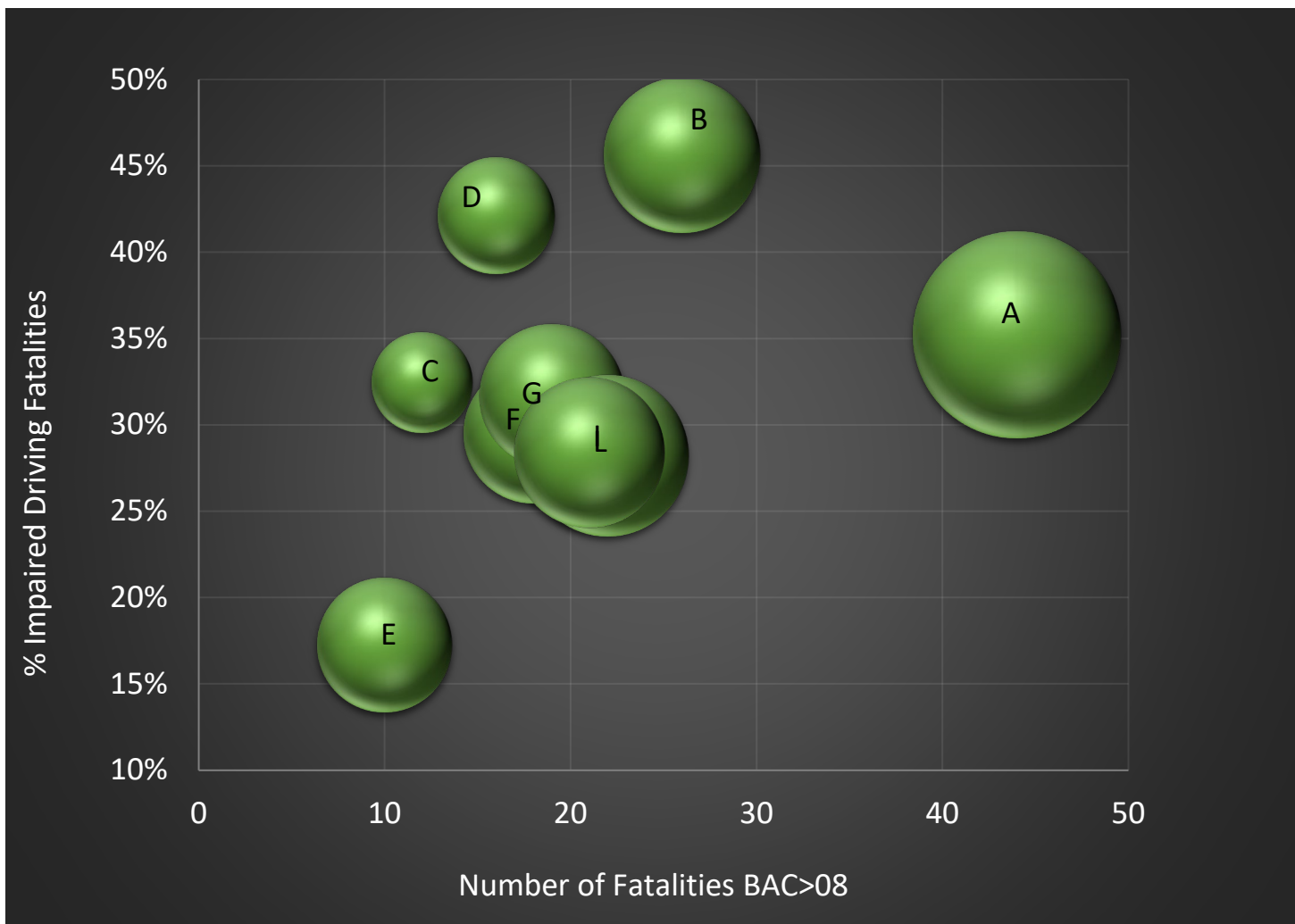
### Youth Drivers Predicted Alcohol Crash Rates



### Youth Drivers with BAC>0.01 Fatal Crashes



## DWI Fatalities and % DWI Fatalities Involving of $BAC \geq 0.08$ by Troop Area



Size of bubble represents total number of fatalities.



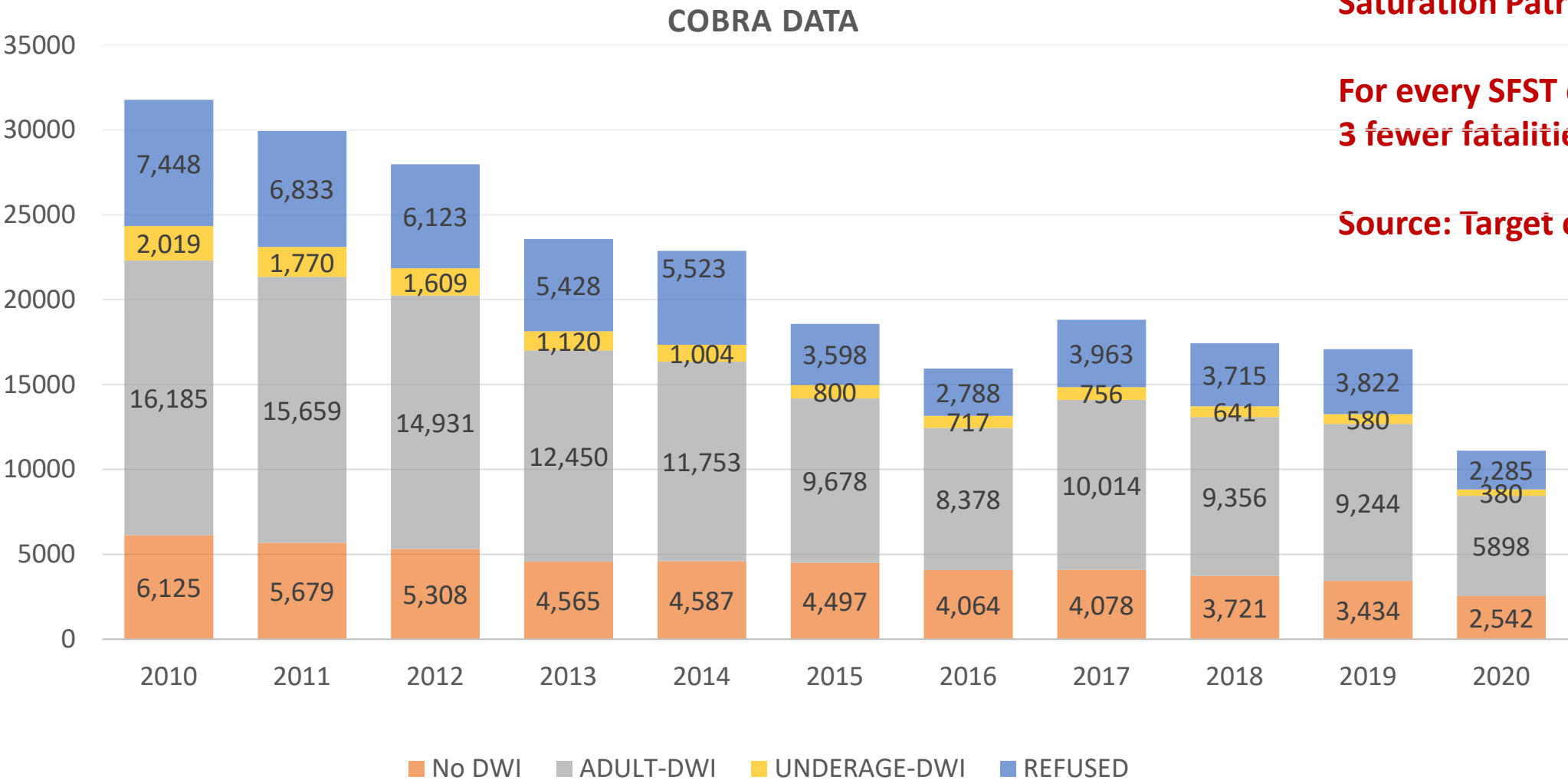
# DWI Arrests from COBRA

Rule of Thumb:

For every 1,000 hours  
Saturation Patrol 4 fewer fatalities.

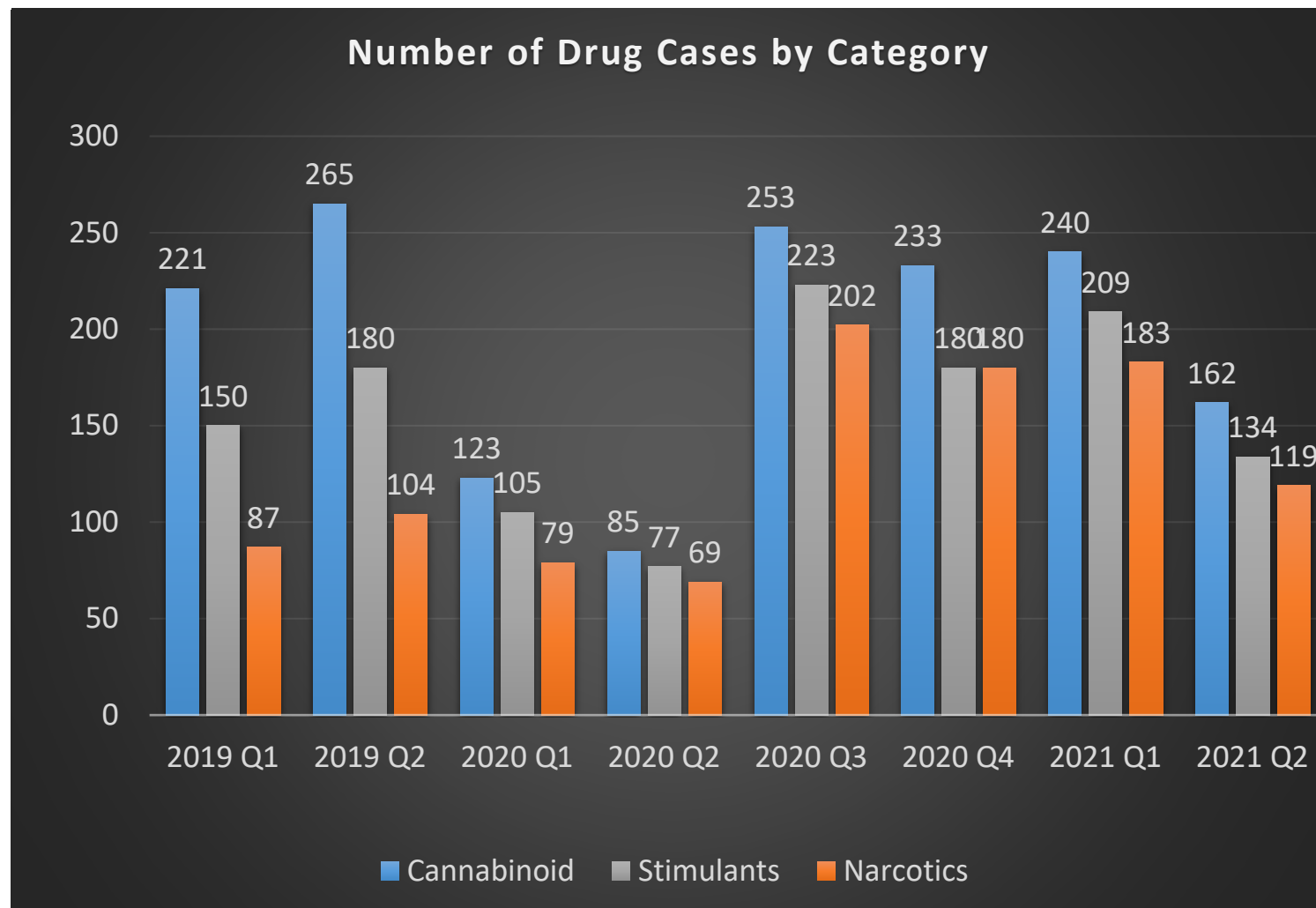
For every SFST conducted  
3 fewer fatalities.

Source: Target of Opportunity Report.



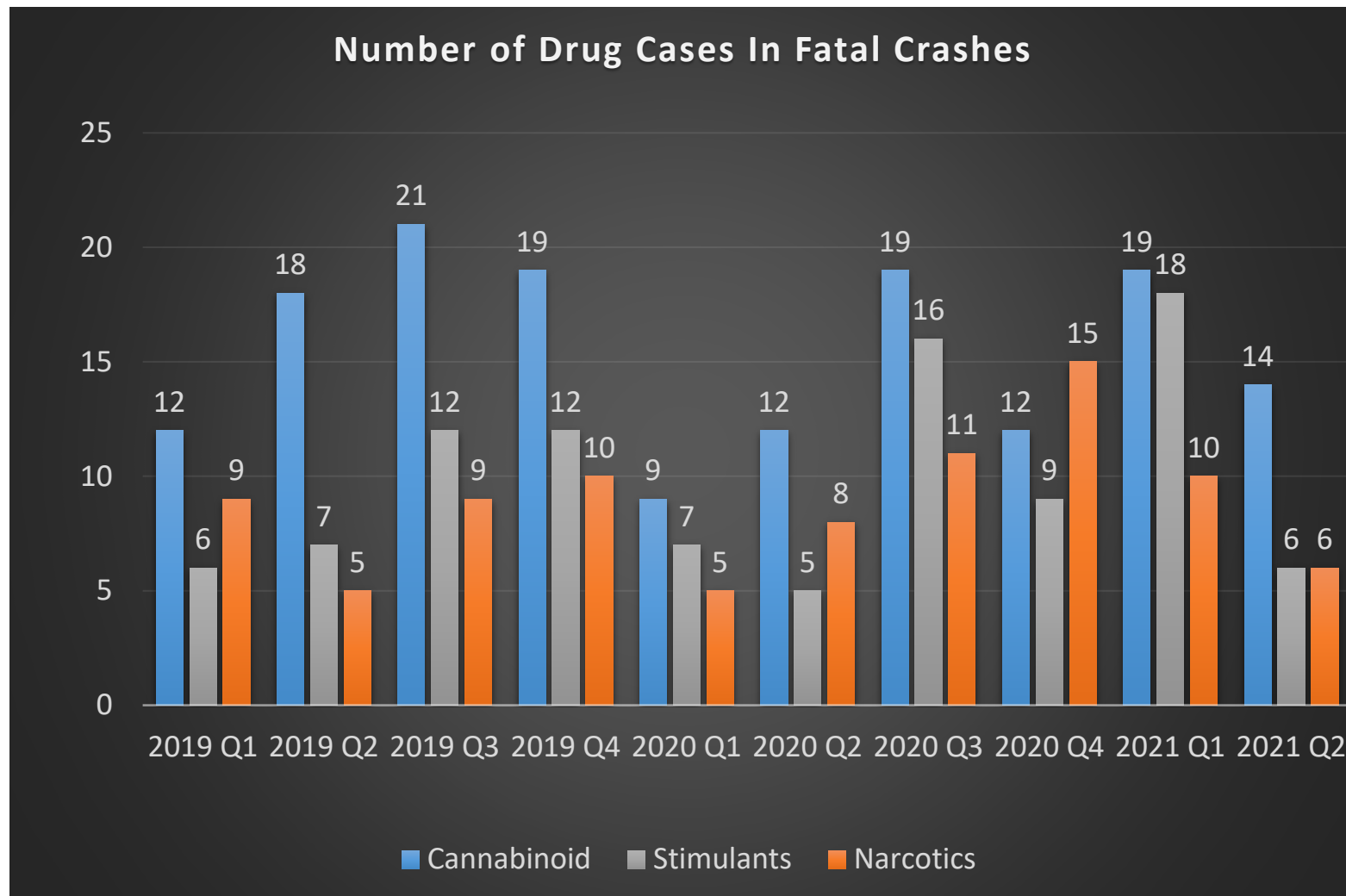
All Drugs  
(Crime Lab  
Data)

Includes multiple drugs.  
In Crashes and Traffic Violations.

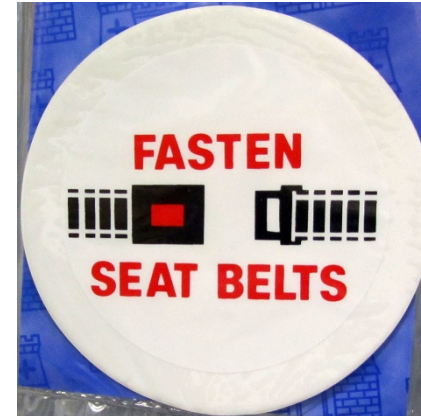


## Drugs in Fatal Crashes (Crime Lab Data)

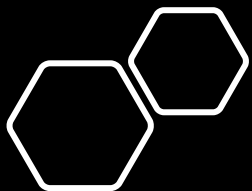
Includes multiple drugs.



# Occupant Protection

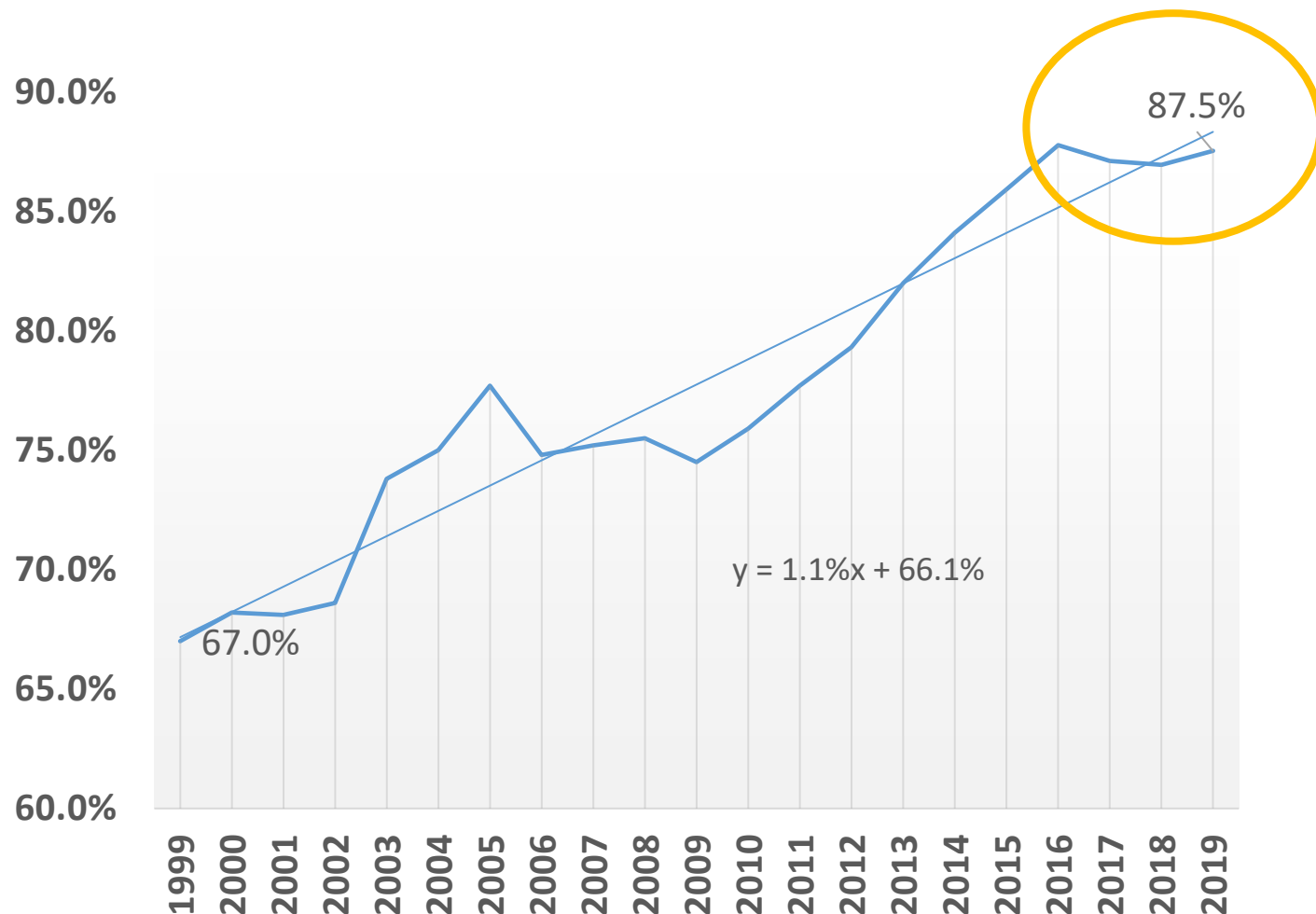


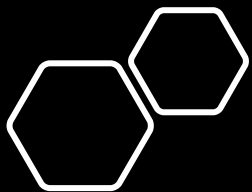
What progress has Louisiana made over the past 20 years?



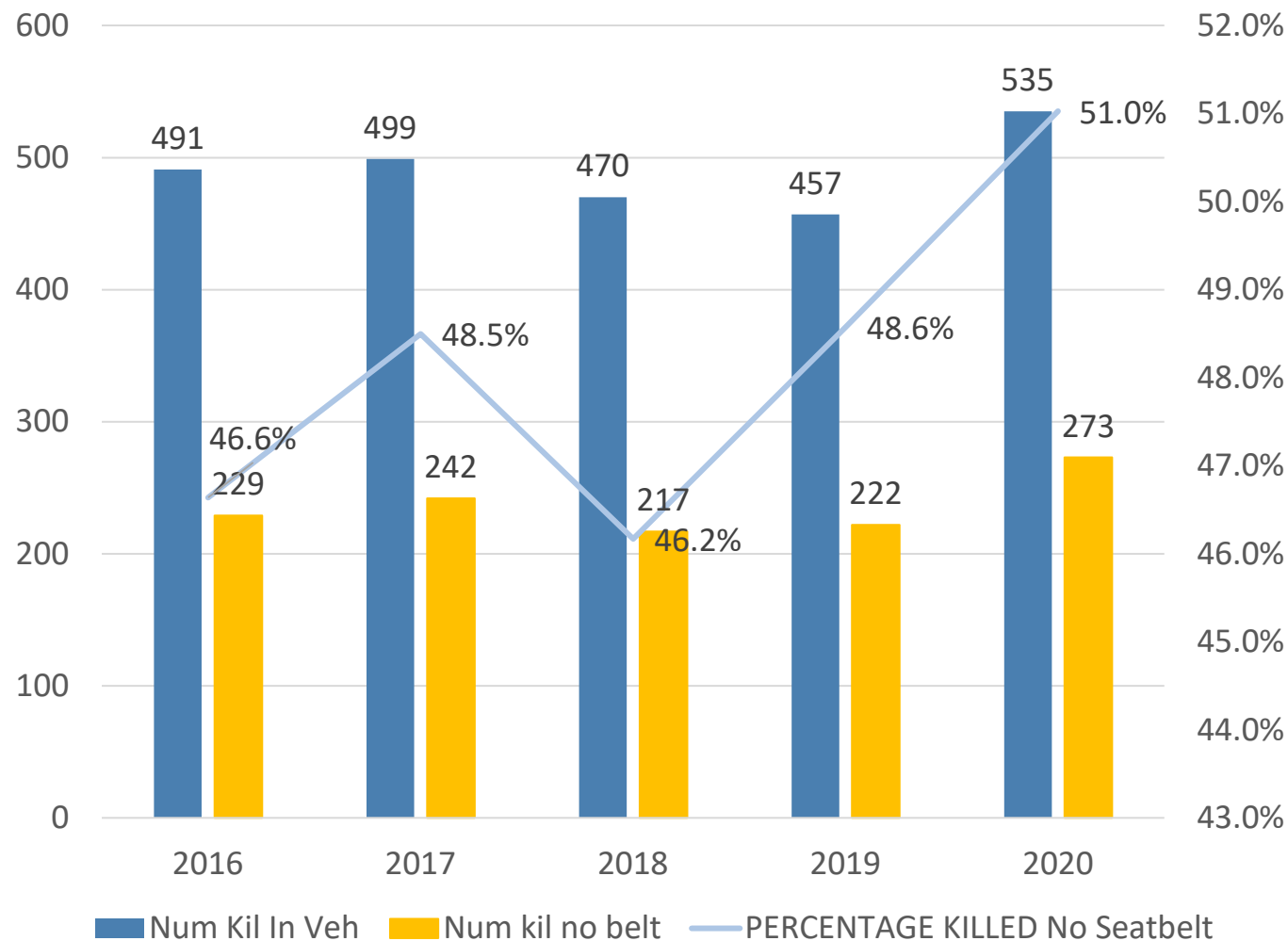
# Seat Belt Usage (1999-2019)

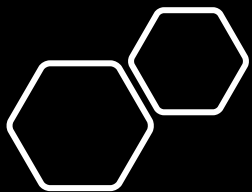
No Survey in 2020  
& 2021)



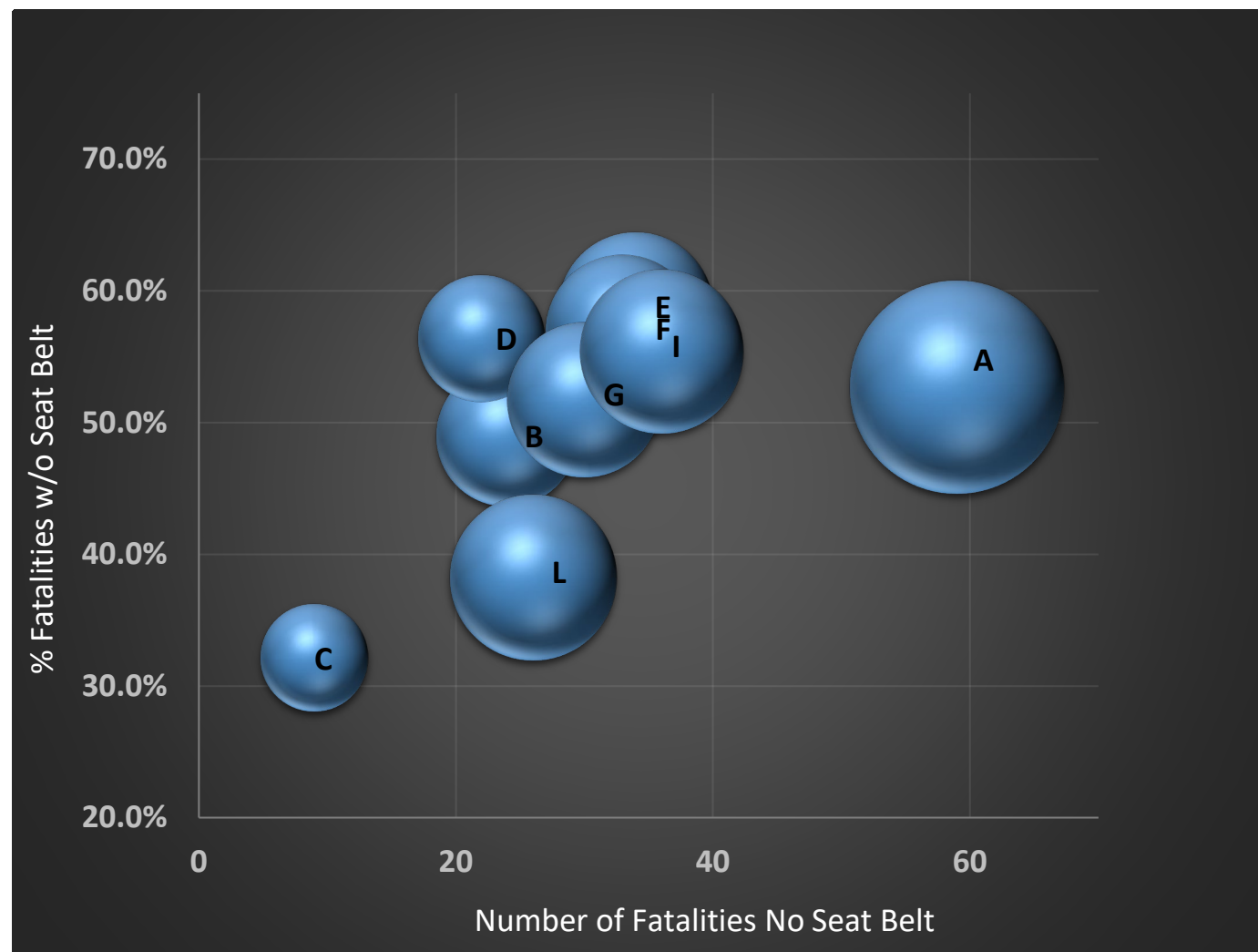


Percentage of  
occupants killed  
in passenger cars  
not wearing a  
seat belt  
increased in  
2020





# Seat Belt Use among Fatalities of Passenger Vehicles





## Center for Analytics & Research in Transportation Safety

# Cost of Crashes

The Economic and Societal Impact Of Motor Vehicle Crashes, 2010, page 12, unit cost are adjusted by CPI.

Type	Average Cost per Person	Injuries	Total Cost by Injury Category in Billion Dollars	Total Cost by Injury Category in Billions Including Loss of Quality of Life
Fatal Injuries	\$1,748,645	828	\$1.45	\$9.47
Severe Injuries	\$447,275	1,516	\$0.68	\$2.91
Moderate Injuries	\$131,218	10,767	\$1.41	\$6.00
Complaint Injuries	\$28,474	52,152	\$1.48	\$3.00
Occupants with No Injury	\$5,475	296,876	\$1.63	\$1.63
Property Damage	\$7,595	262,148	\$1.99	\$1.99
Grand Total Cost		624,287	\$8.64	\$25.00
Cost per licensed Driver			\$2,850	
Percent Increase from past year			-5.2%	

For comparison Louisiana's fiscal year 2020 [executive budget](#) was about \$10 Billion with \$32 billion in total spending.

Moderate, sever & fatality make up only 41% of the economic costs but 74% of quality of life costs.





## Center for Analytics & Research in Transportation Safety

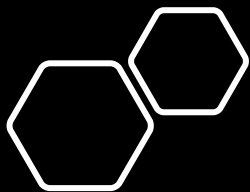
# Cost of Impaired Driving

Type	Average Cost per Person	Injuries	Total Cost by Injury Category in Billion Dollars	Total Cost by Injury Category in Billions Including Loss of Quality of Life
Fatal Injuries	\$1,748,645	188	\$0.33	\$2.15
Severe Injuries	\$447,275	69	\$0.03	\$0.13
Moderate Injuries	\$131,218	285	\$0.04	\$0.16
Complaint Injuries	\$28,474	956	\$0.03	\$0.05
Occupants with No Injury	\$5,475	2,805	\$0.02	\$0.02
Property Damage	\$7,595	3,249	\$0.02	\$0.02
Grand Total Cost		7,552	\$0.46	\$2.54
Cost per licensed Driver			\$153	
Percent Increase from past year				



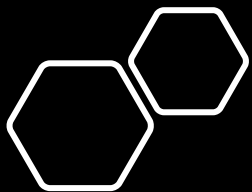
# Cost for Occupants not Wearing a Seat Belt

Type	Average Cost per Person	Injuries	Total Cost by Injury Category in Billion Dollars	Total Cost by Injury Category in Billions Including Loss of Quality of Life
Fatal Injuries	\$1,748,645	286	\$0.50	\$3.27
Severe Injuries	\$447,275	307	\$0.14	\$0.59
Moderate Injuries	\$131,218	1,161	\$0.15	\$0.65
Complaint Injuries	\$28,474	2,157	\$0.06	\$0.12
Occupants with No Injury	0		0	0
Property Damage	0		0	0
Grand Total Cost		3,911	\$0.85	\$4.63
Cost per licensed Driver			\$281	



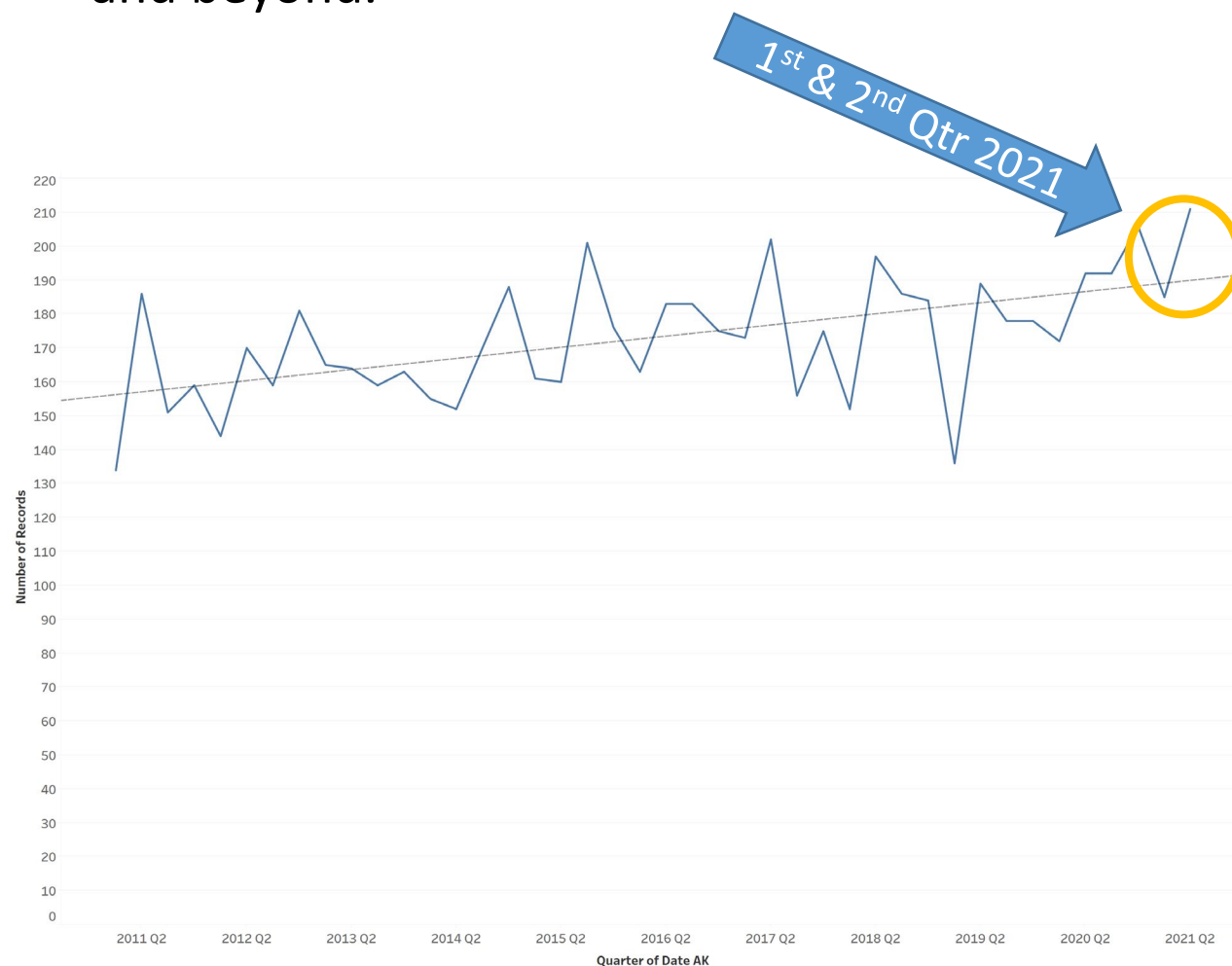
# Summary Explaining

- 2<sup>nd</sup> quarter lockdown resulted in a significant decline in crashes in 2020 during this quarter.
- However, fatalities increased in 2020.
- There is an indication that driver behavior may have changed during COVID-19.
- Major factors:
  - Fatalities involving aggressive driving increased in 2020.
  - Passenger vehicle occupant fatalities not wearing a seat belt increased in 2020.
- Less or no change:
  - The data do not indicate that impaired driving increased significantly in 2020, although less testing was done.
  - The data do not indicate that distracted driving increased significantly in 2020.



# Summary Predicting

- The fatalities in 2020 followed a trend over the past decade of 11 more fatalities per year.
- It appears that this trend is continuing in 2021 and beyond.





Q & A