

Center for Analytics & Research in Transportation Safety

Louisiana Traffic Records Data Report 2018

crashdata.lsu.edu



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September 2019





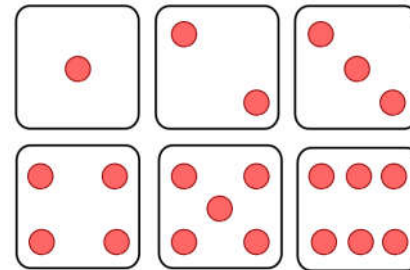
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Overview

- Trends in Crashes, Fatalities & Injuries
- Explanation of trends
- Crash Costs
- Driving Under the Influence of Alcohol: Crashes and DWI Arrests
- Findings from the Occupant Protection Survey of 2019

Some Notes about Interpretation of Data

- Regression to the mean
- Explaining versus predicting
 - Predicting: Does it continue to happen?
 - Explaining: Why did it happen?
- Causation versus correlation
 - Drunk driving is associated with fatal crashes. (Correlation)
 - Does an increase in drunk driving result in an increase of fatal crashes? (Causation)
 - Drugged driving is associated with fatal crashes. (Correlation)
 - Does an increase in drugged driving result in an increase of fatal crashes? (Causation)

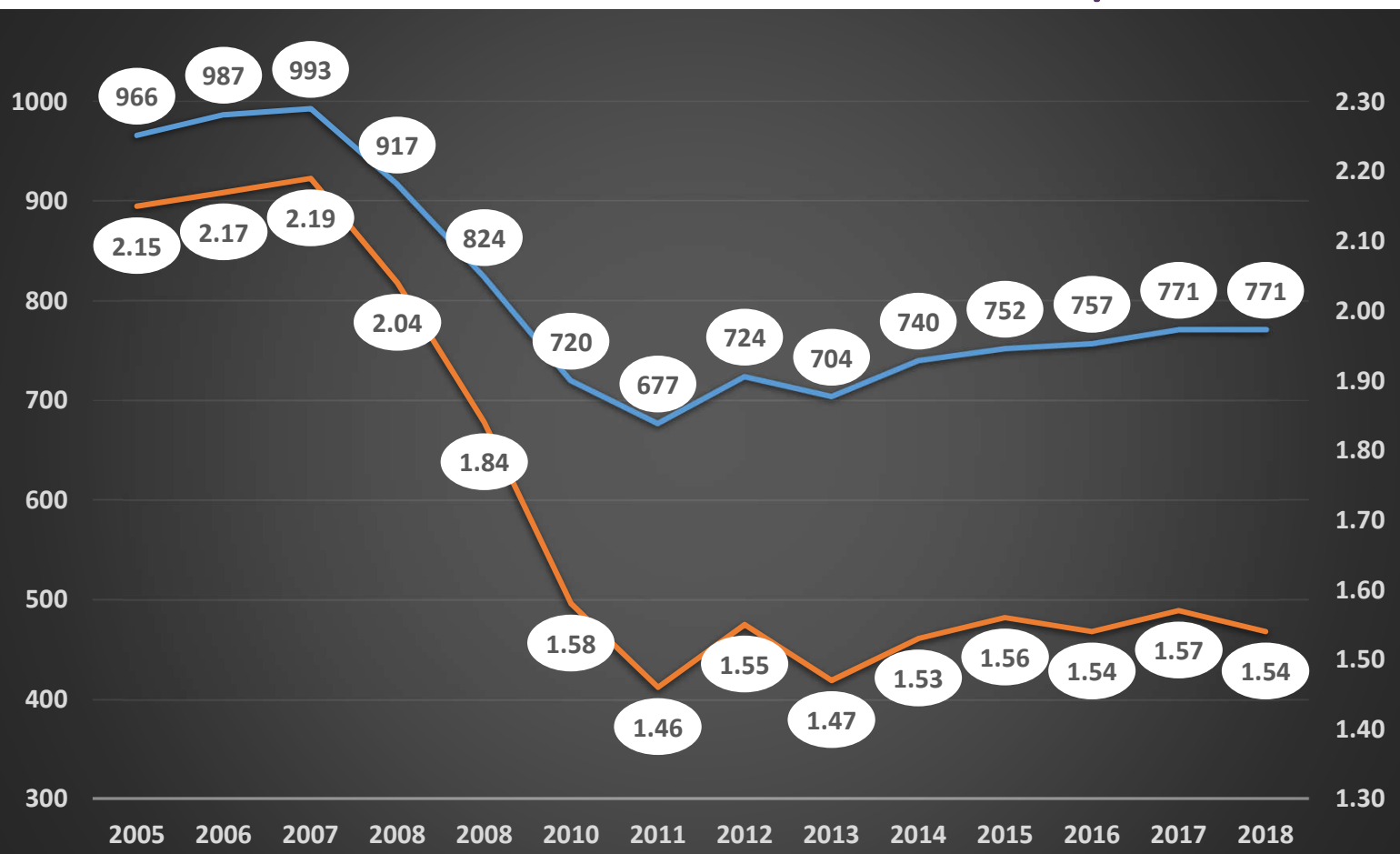




Trends

- What are the trends in crashes, fatalities and injuries?
- What are the trend in rates?
- What are one-year changes?
- What are changes from 2010/11 to 2017?
- Highlights:
 - Interstates
 - Bicycles
 - Pedestrians
 - Motorcycles
 - Young drivers
 - Crash costs

Trends in Fatalities & Fatality Rate



While the fatalities have been on the rise again since 2012, there was no change from 2017 to 2018.

- 0% from 2017-2018
- 13.9% from 2011-2018

Fatalities per 100 million miles traveled have been increasing by a smaller percentage since 2012.

- -1.9% from 2017-2018
- 5.5% from 2011-2018

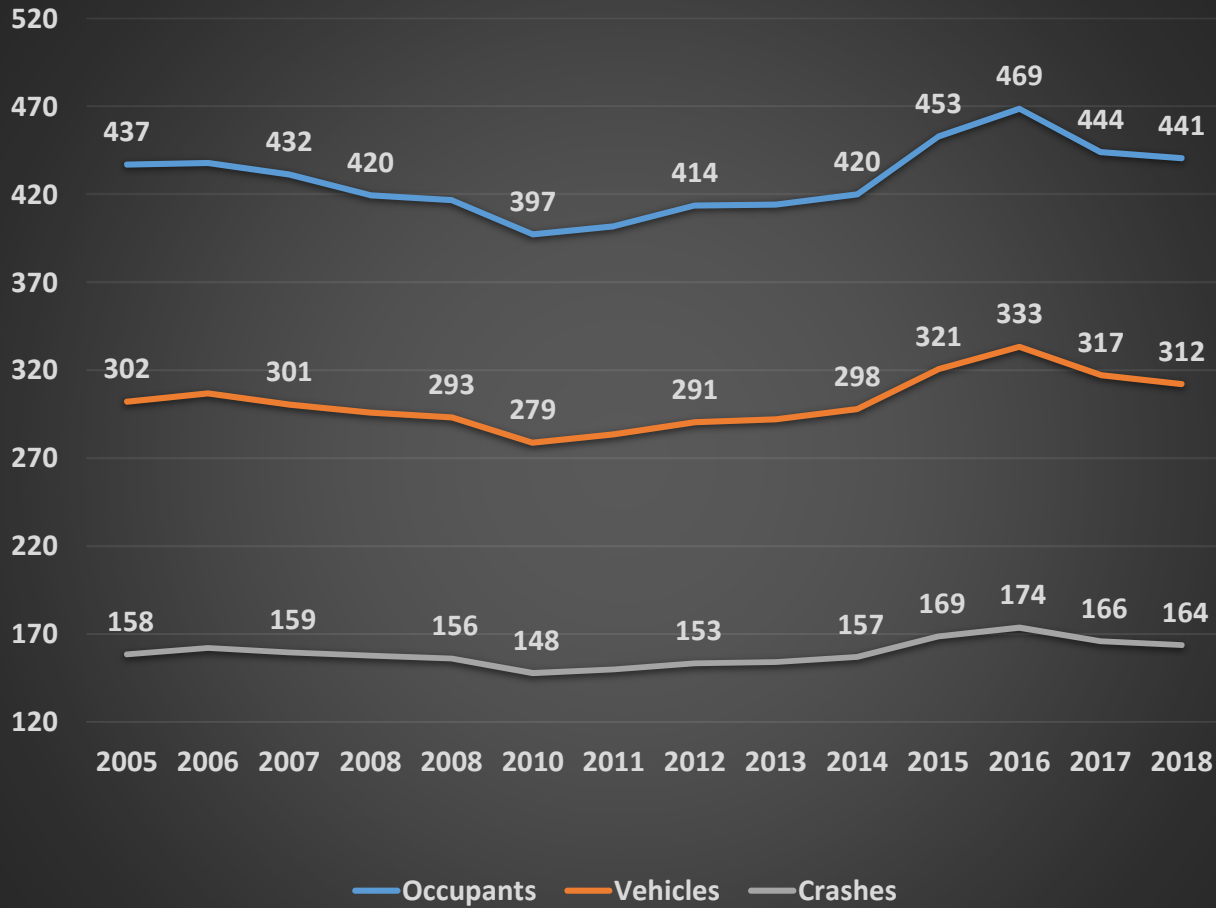
For comparison, the U.S fatality rate was at 1.16 in 2017.

What is the cause for this “Z” curve?



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Crashes, Vehicles, Occupants (1,000)

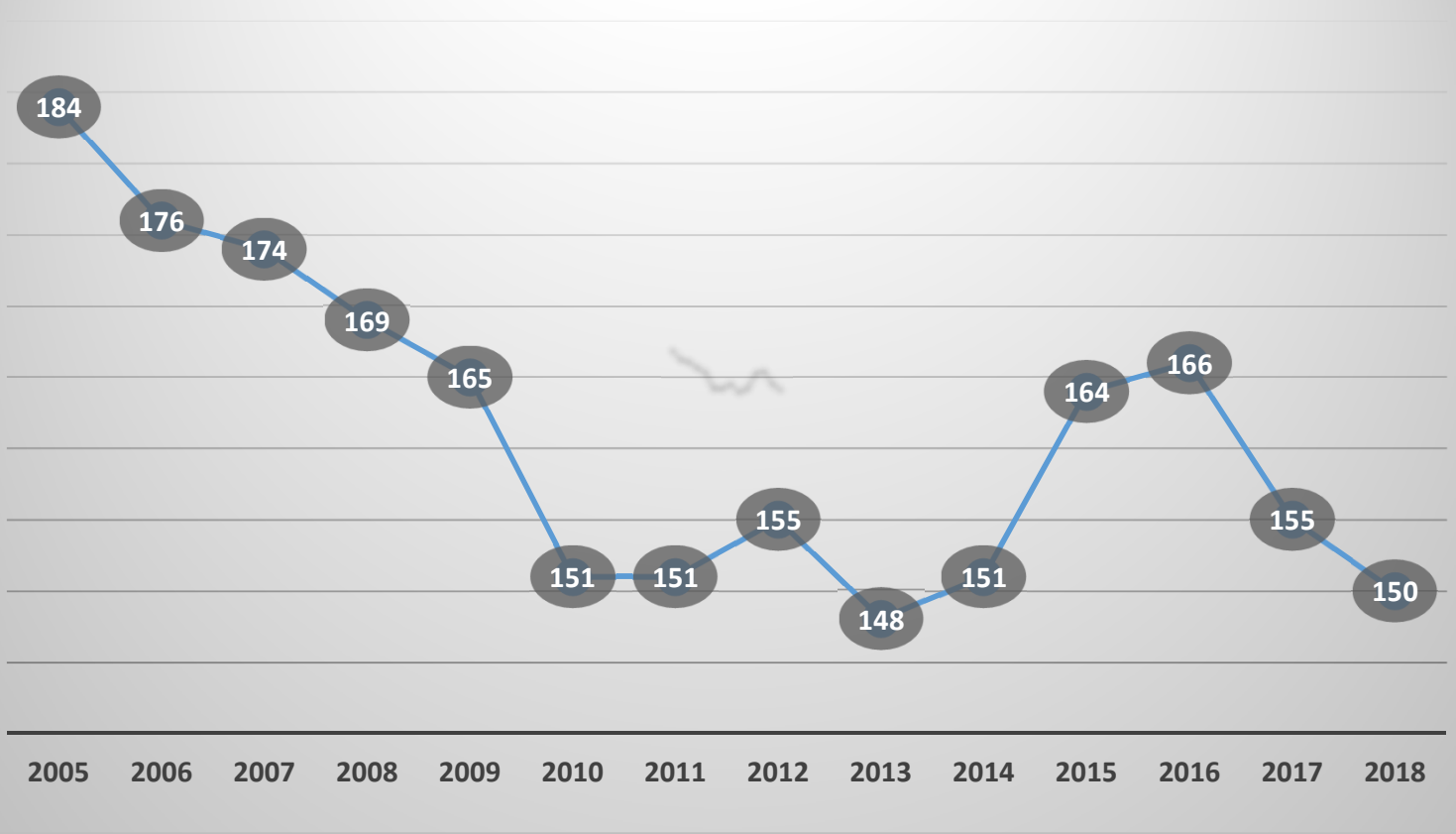


Number of occupants and number of vehicles in crashes had increased dramatically in 2014 & 2015, but have fallen in 2017 & 2018.



Injury Rate (per 100 Million Miles)

Injuries per 100 Million Miles



The injury rate has dropped from 166 in 2016 to 155 in 2017 and 150 in 2018.

The injury levels are back to 2010 levels.

What is the cause for that?

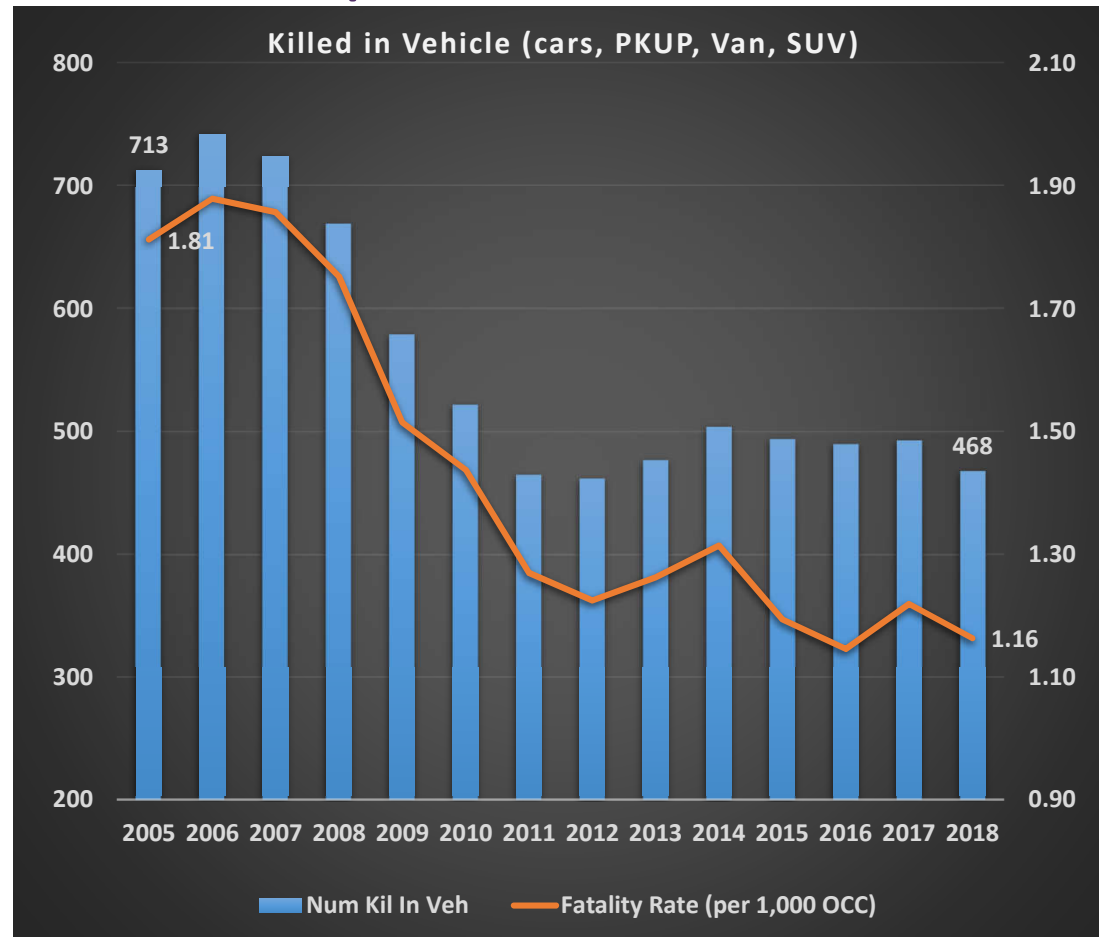


Fatality Rate per 1,000 Occupants

If we still had the same fatality rate per occupant as in 2005 we would have had 262 more fatalities in 2018.

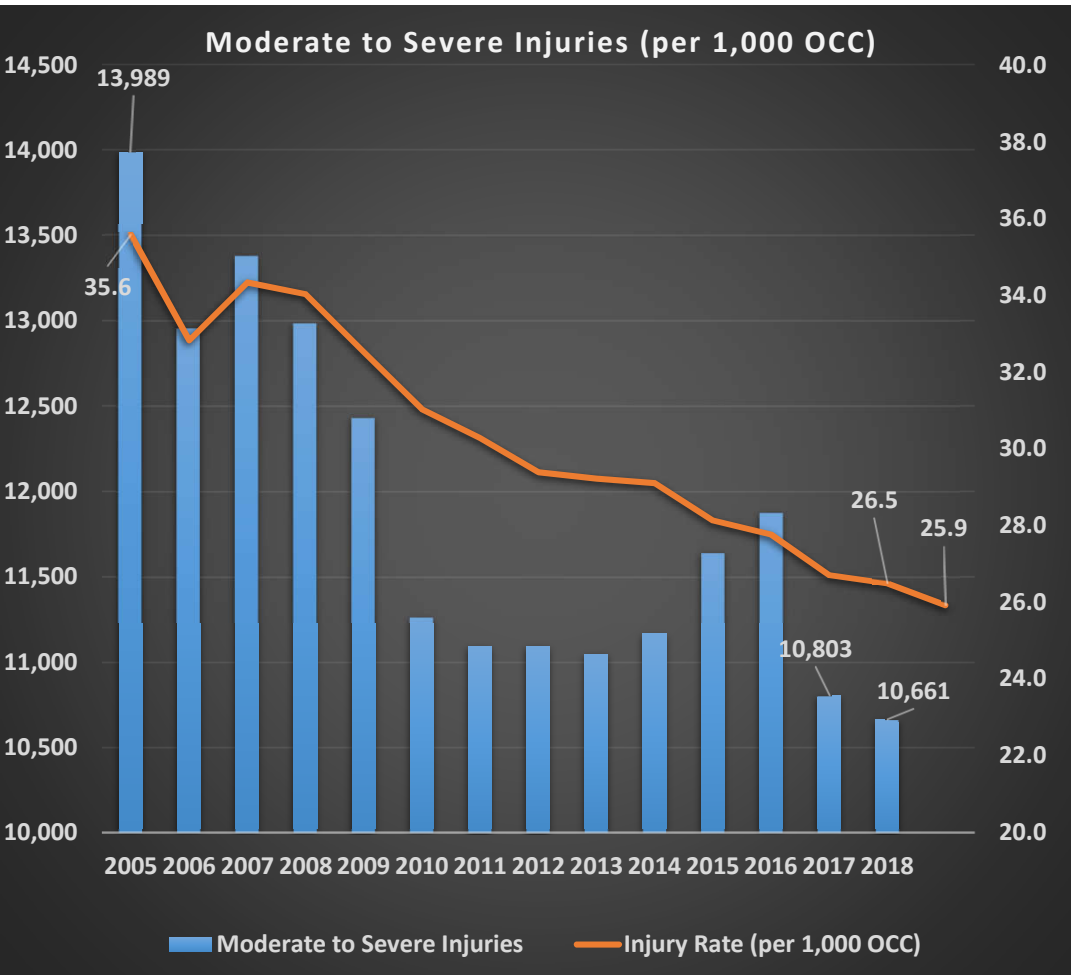
The fatality rate per occupant seems to have shifted to a lower level starting in 2008.

What is the cause for that?





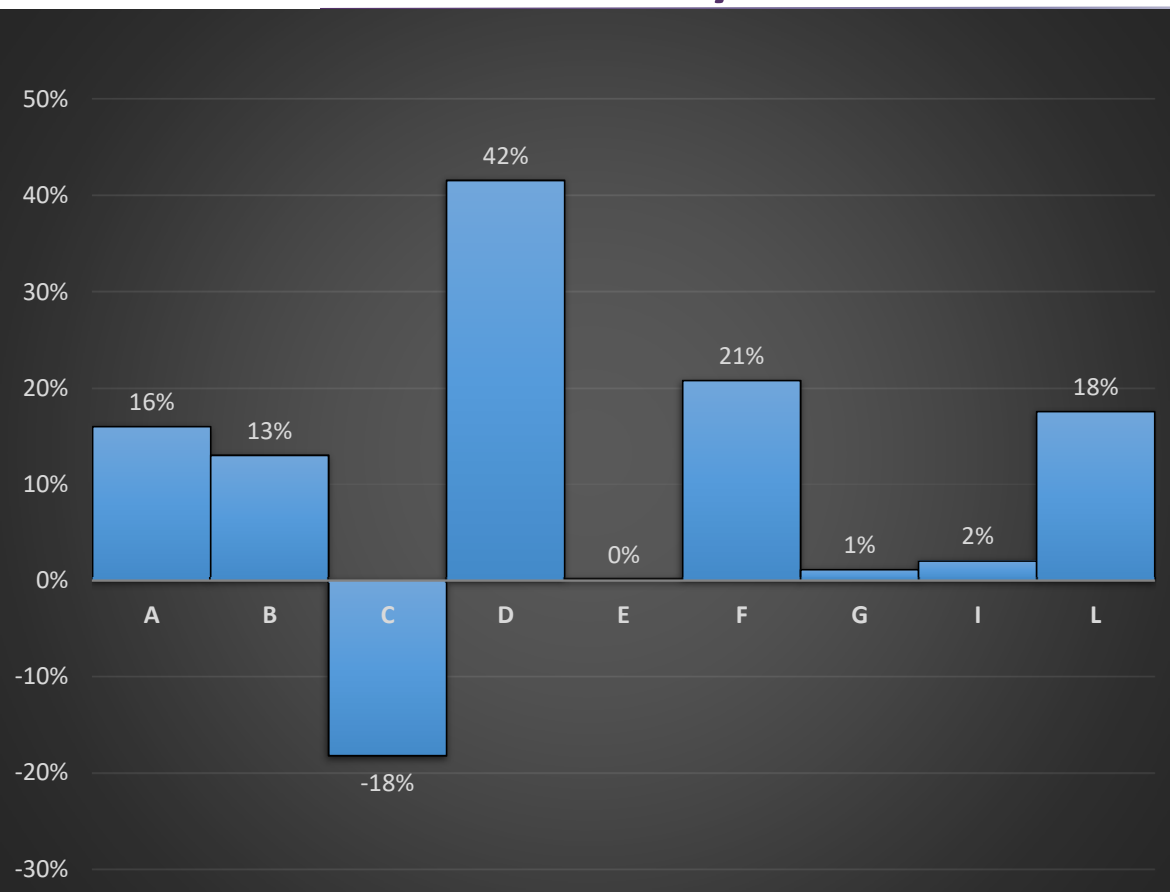
Moderate and Severe Injury



Moderate-to- Severe Injuries:
Increased in 2015 and 2016,
but dropped in 2017 and 2018.

The Moderate-to- Severe-Injury Rate:
(per 100 million miles)
Increased in 2015, BUT NOT IN 2016
and dropped in 2017 and 2018 to the
lowest level since 1999 when the injury code
was first used.

If we had the same injury rate as in 2005,
we would have had 3, 656 more moderate to
severe injuries in 2018.



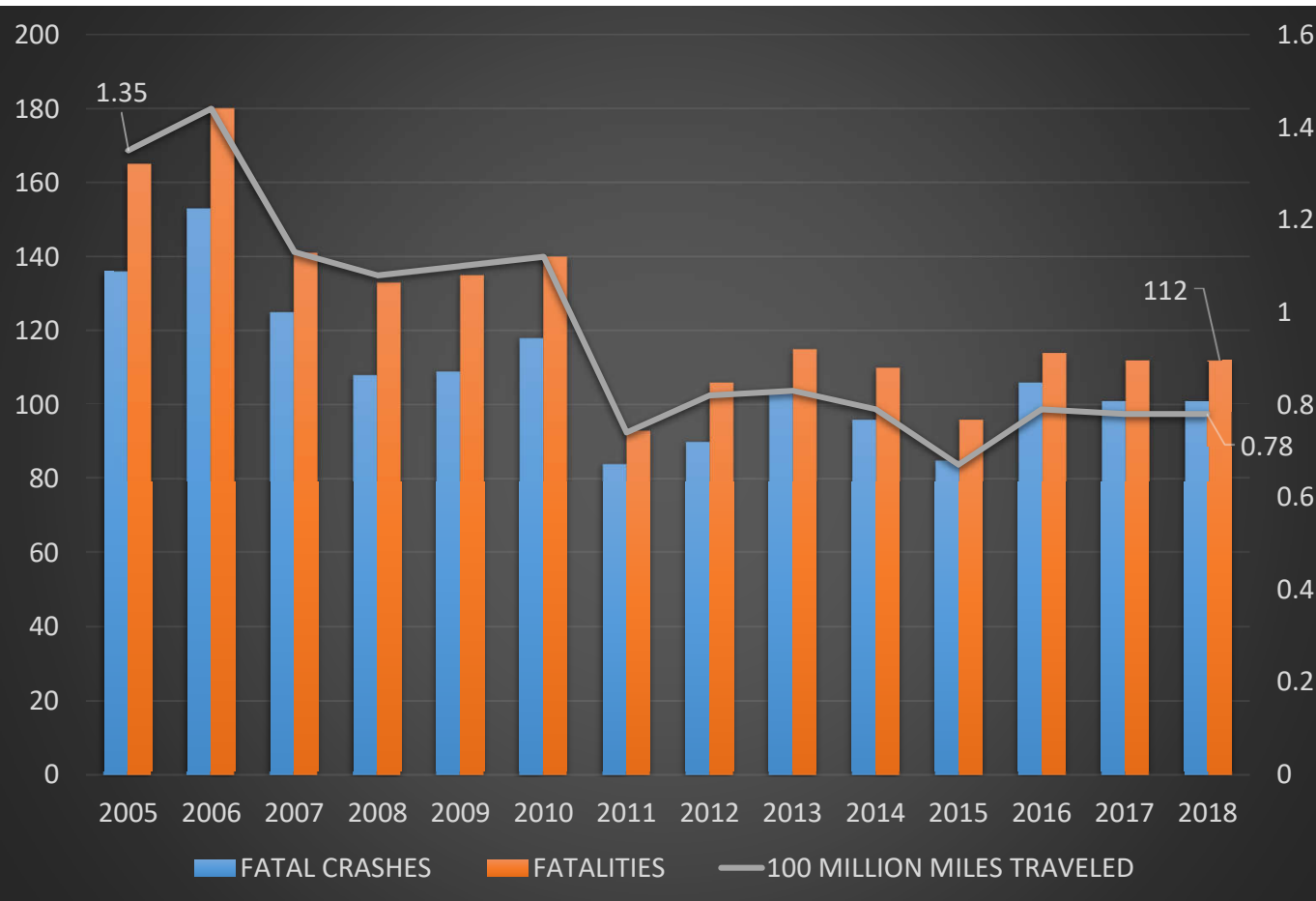
Troop Area D had the highest increase from 2010 to 2018. But the 2018 crashes are only slightly above 2005 numbers. This is likely due to changes in the oil industry. Troop C had a large decline in crashes from 2010 to 2018.

Increase in Crashes 2010 – 2018 by Troop

Changes in Troop A, B and L are likely related to increase in traffic in the I10/I12 corridor. Why has Troop I not seen an increase? Why has Troop F seen an increase but not Troop G?



Interstate Fatalities



From 2017 to 2018

- Fatalities Unchanged
- Fatality rate Unchanged



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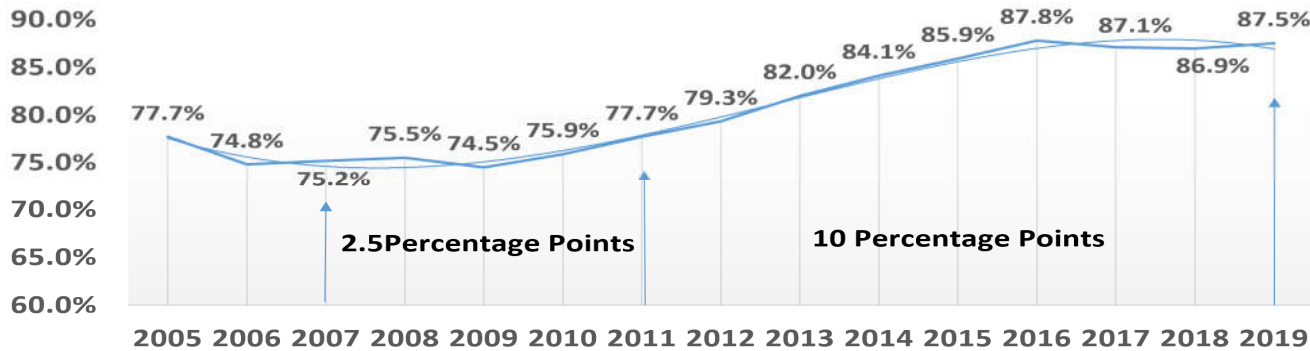
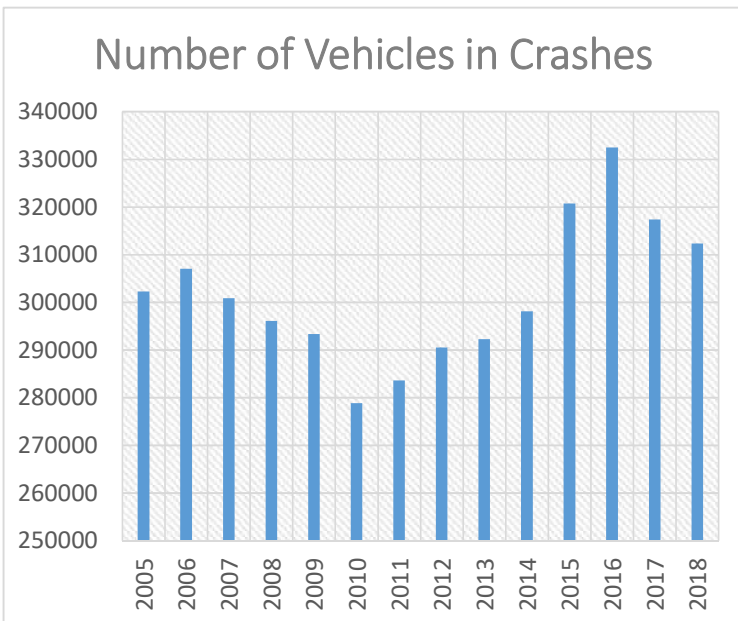
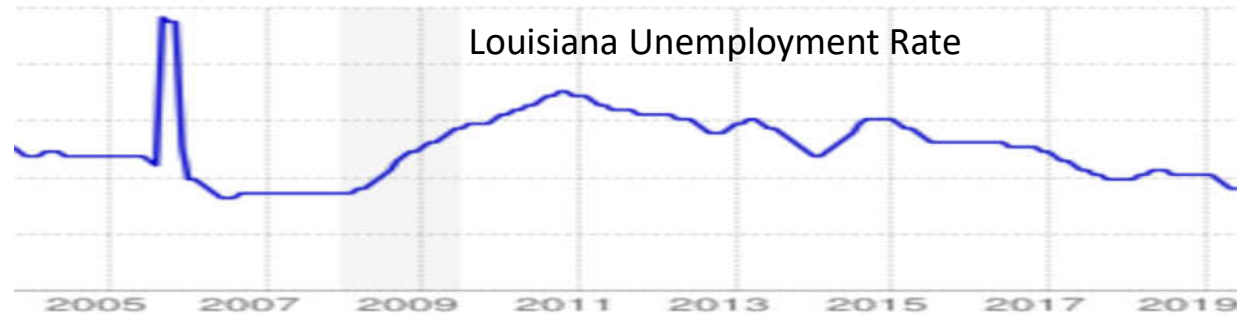
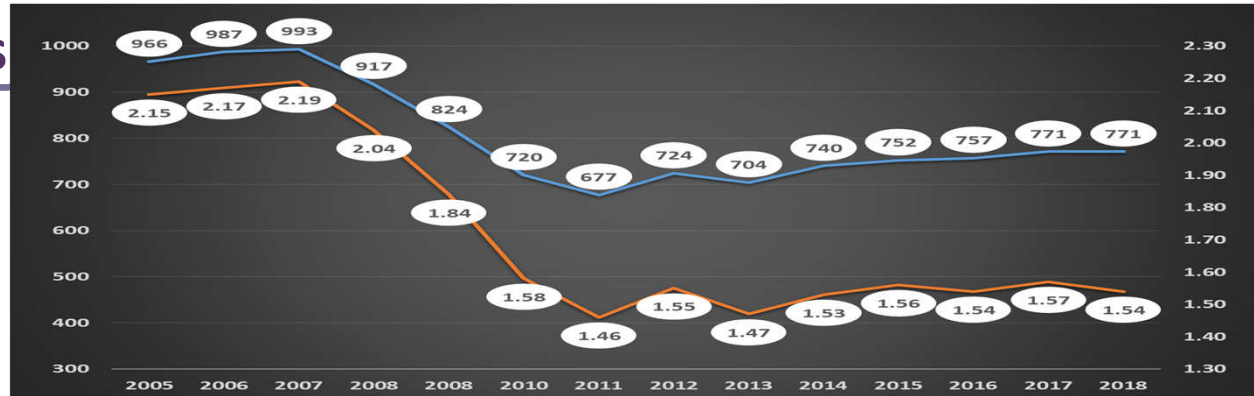
Explaining the Fatality, Injury and Crash Trend

- What caused the downward trend in fatalities and injuries 2007-2011?
- What caused the trend 2011-2018
- Economy?
- Seat Belt Use?
- Car Safety?
- Road Safety?



Explaining Injury & Fatality Trends

- Economy
- Seat Belt Use
- Number of Vehicles in Crashes





Explaining Injury & Fatality Trends

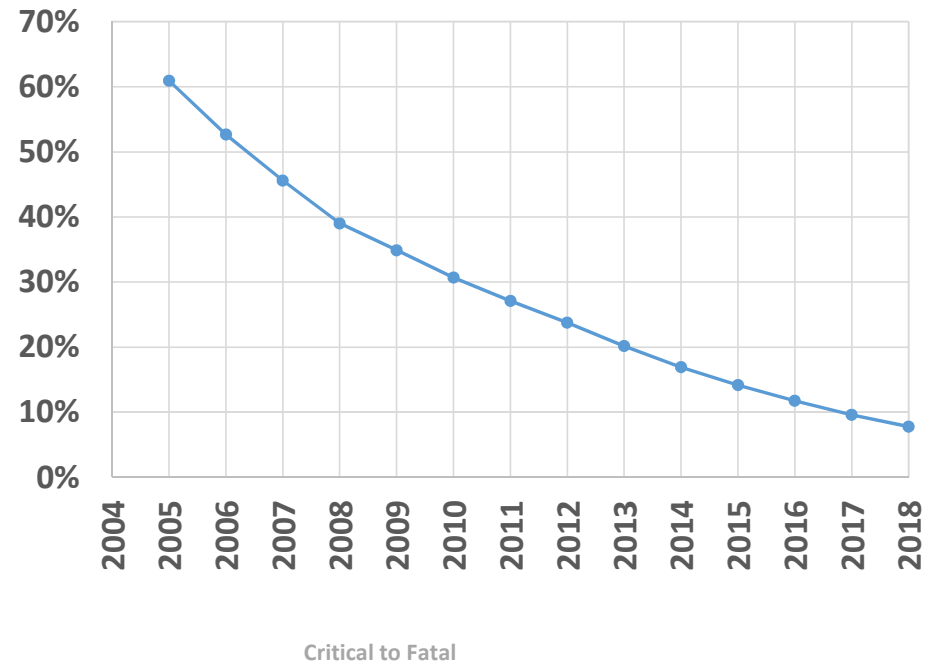
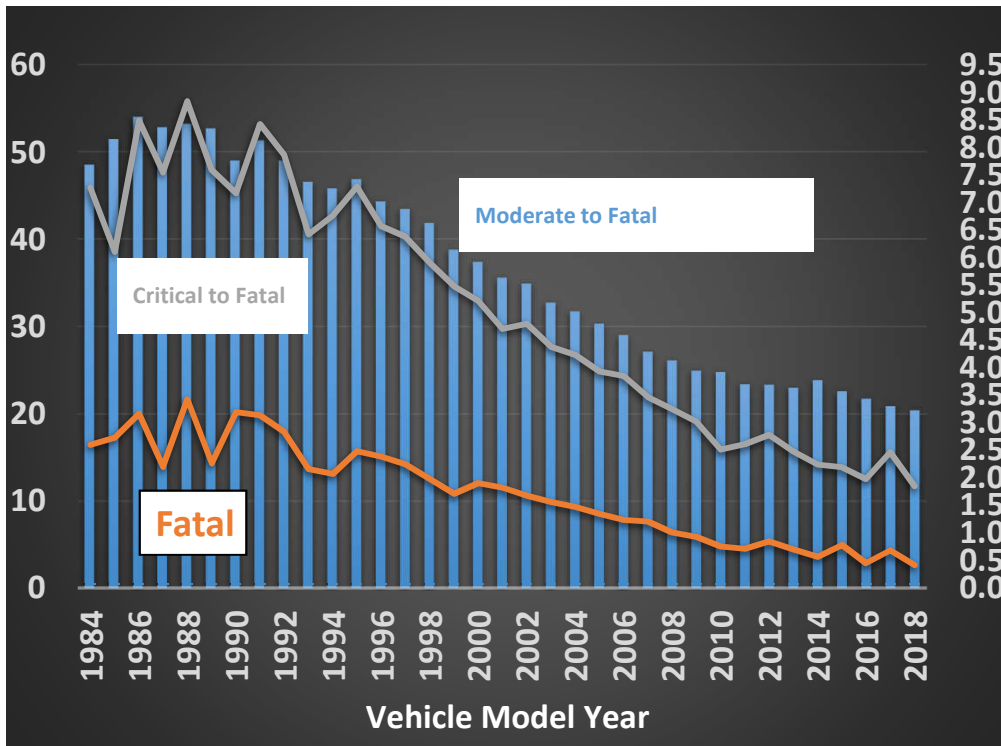
- 1984 (FMVSS 208) to require cars produced after 1 April 1989 to be equipped with a passive restraint for the **driver**.
- 1998 Federal legislation makes front **airbags** on both **sides mandatory**.
- 2009 NHTSA mandate that all automakers must phase in additional side-impact protection as a standard feature for their cars, trucks and SUVs goes in effect.



Fatality and Injury Rates by Vehicle Model Year

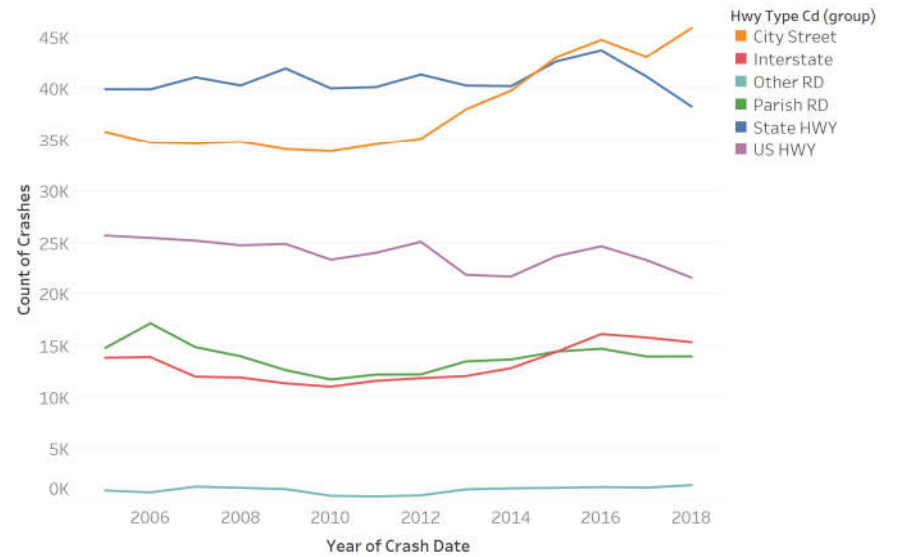
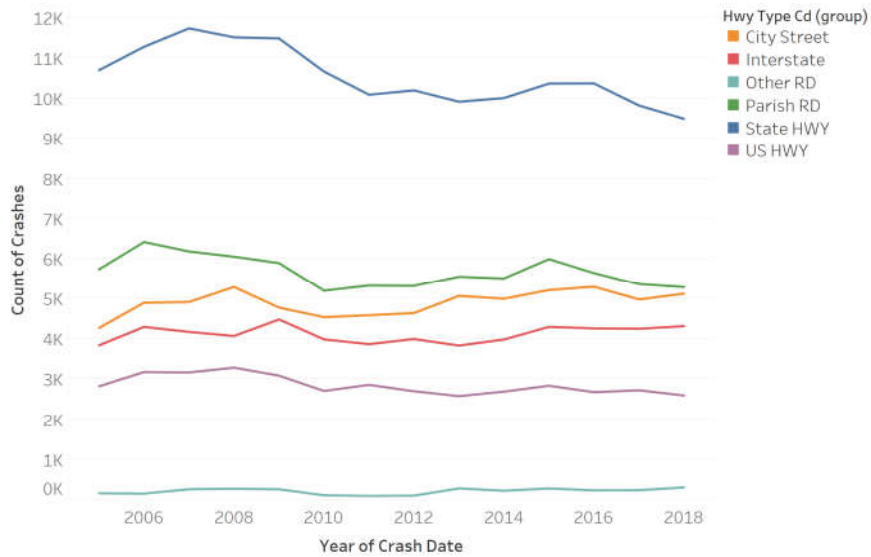
Injury % by Vehicle Year ___ Injury (A-C), ___ Injury A-B, ___ Fatality

% of Vehicle Models Before 2000 in crashes



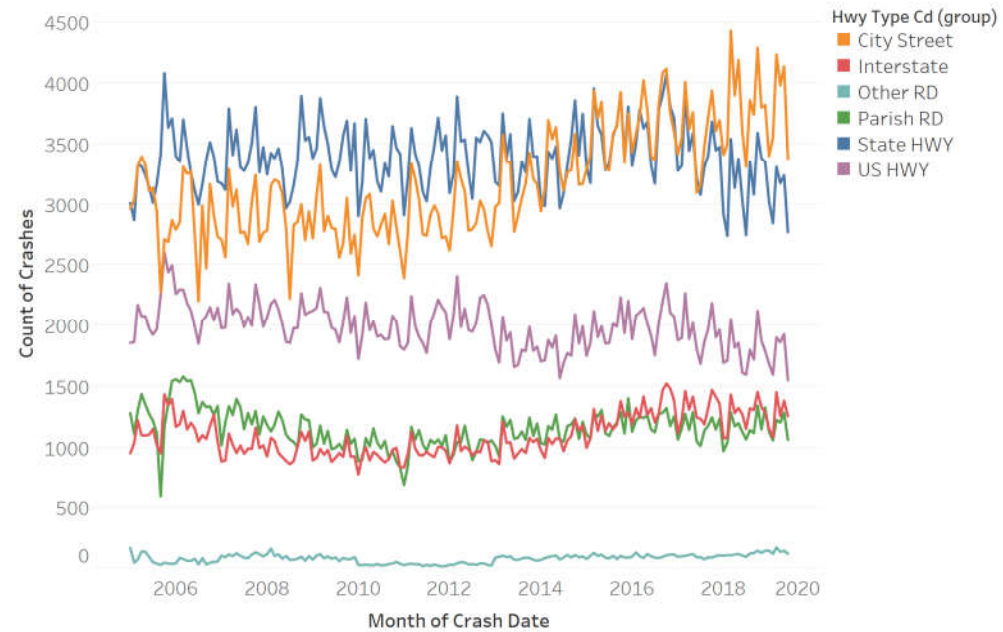
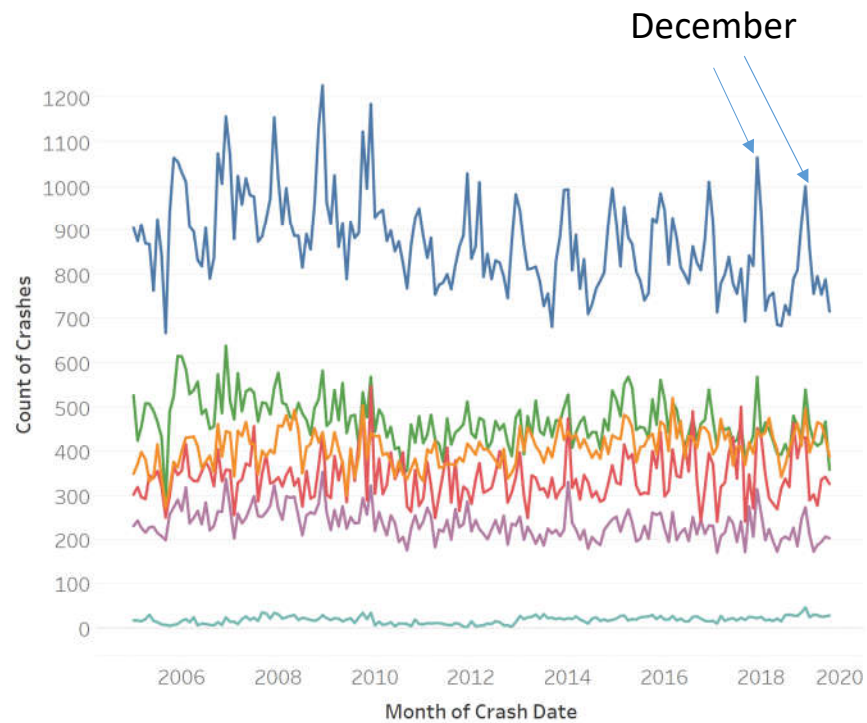


Crash Trend



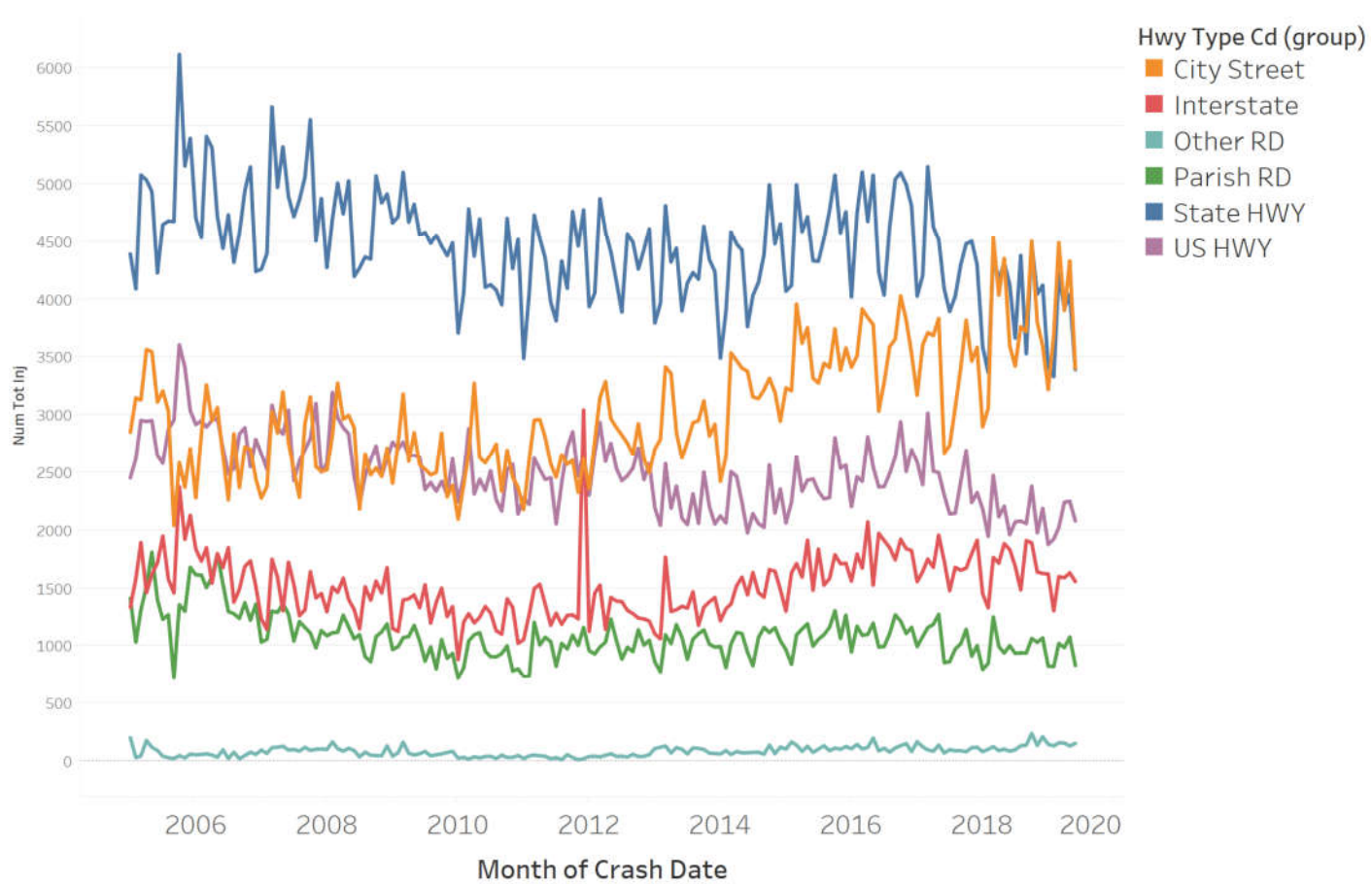


Single versus Multiple Vehicle Crashes by Month





Injuries by Month and HWY Type



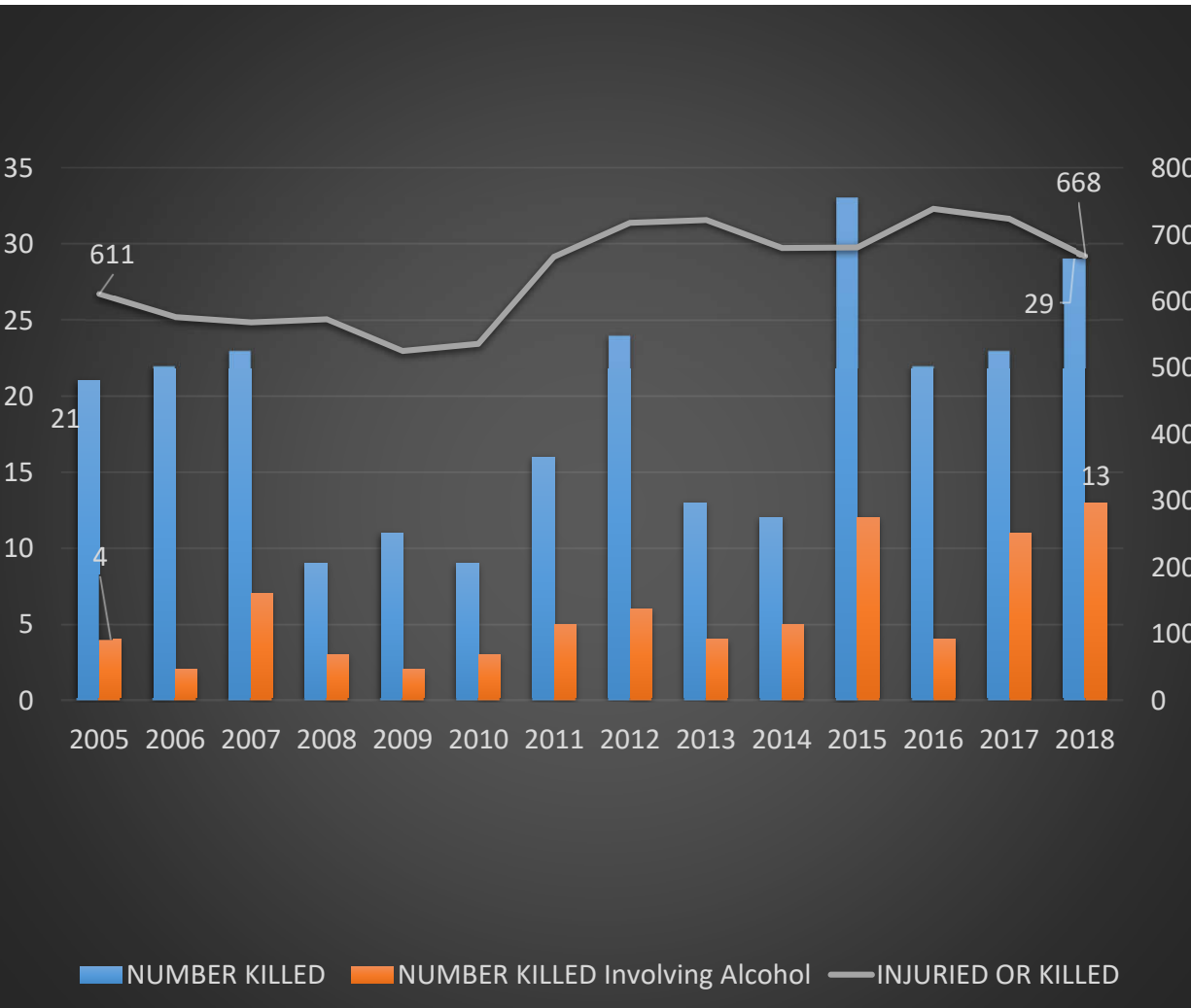


Conclusion

- Safer cars beginning with the 2000 models (airbags)
 - Resulting in a permanent lower injury and fatality rate per vehicle in a crash
- 2007-2011 three things were happening
 - Older less safe cars (<2000) were phased out
 - The economy had a downturn, fewer vehicles in crashes
 - Seat belt use increased by 2.5 percentage points
- 2011-2018 experienced an increase in vehicles in crashes due to increased economic activities. But
 - at much lower injury rates of safer cars, and
 - A 10 percentage point increase in seat belt use
- The result is more like a “Z” curve rather than a “V” curve
- 2017-2018 number of crashes trending downwards on state roads & US HWY while number of crashes on City streets trend upwards
 - Resulting in fewer injuries overall



Bicyclist Fatalities

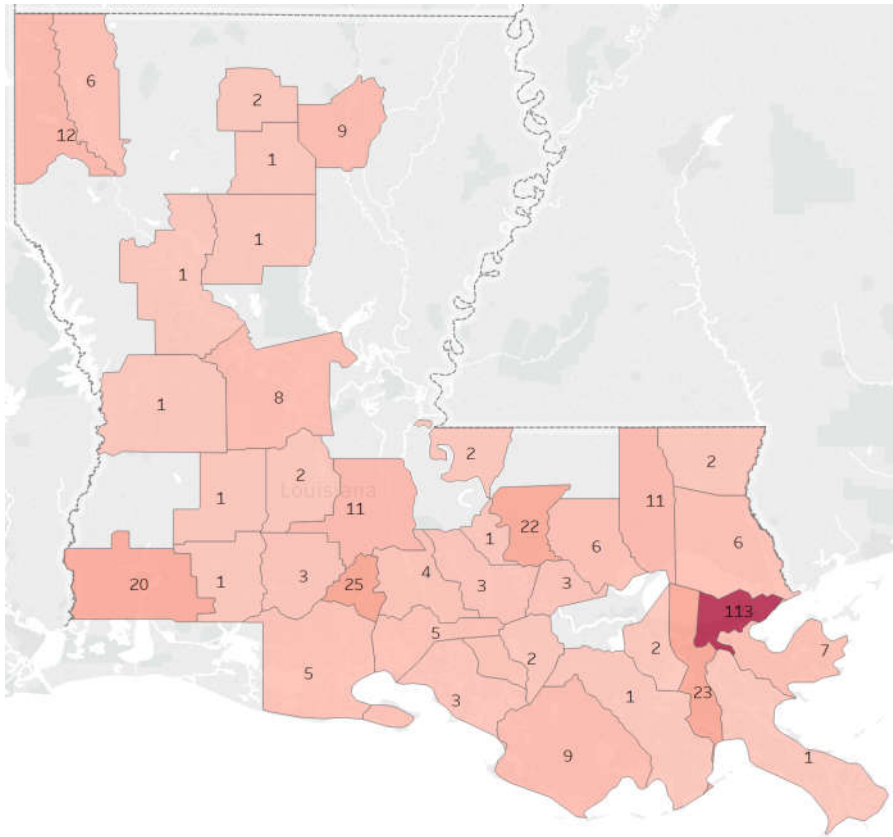


- 5-Year increase
 - Bicyclist fatalities **up 123%**
 - Alcohol involved bicyclists death **up 225%**
- 2017-2018 Increase
 - Bicyclist fatalities **up 26%**
 - Alcohol involved bicyclists death **up 18%**
- Over the past 13 years on average Louisiana had 19 bicyclist fatalities per year.

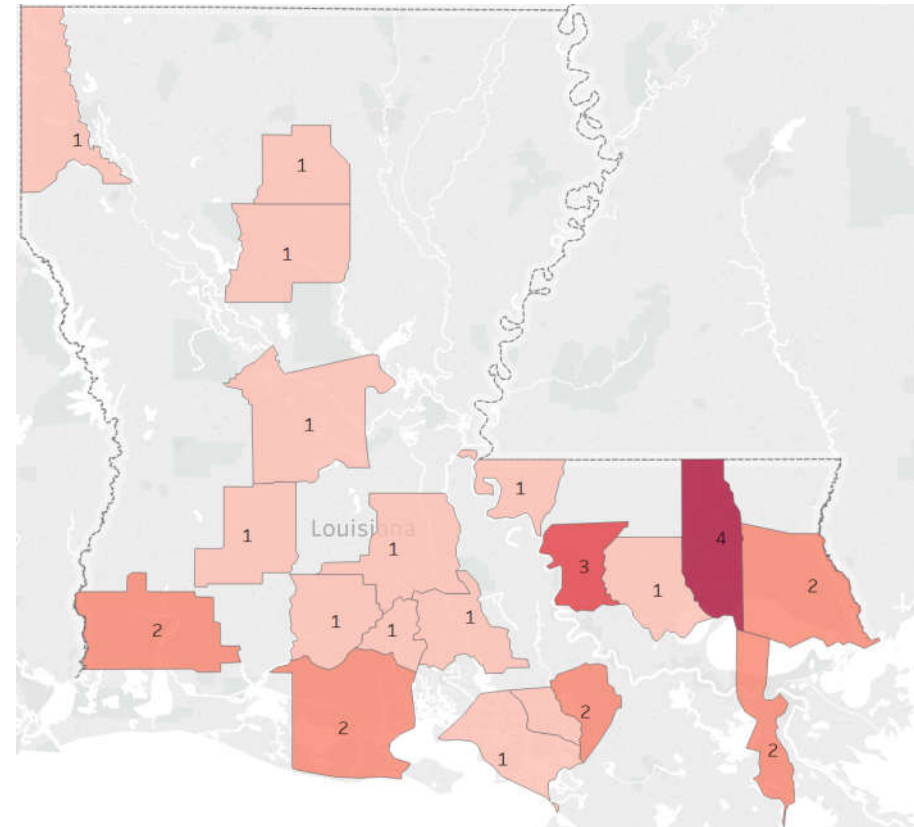


Bicycle Crashes by Parish

Severe to Fatal Bicycle Injuries 2018

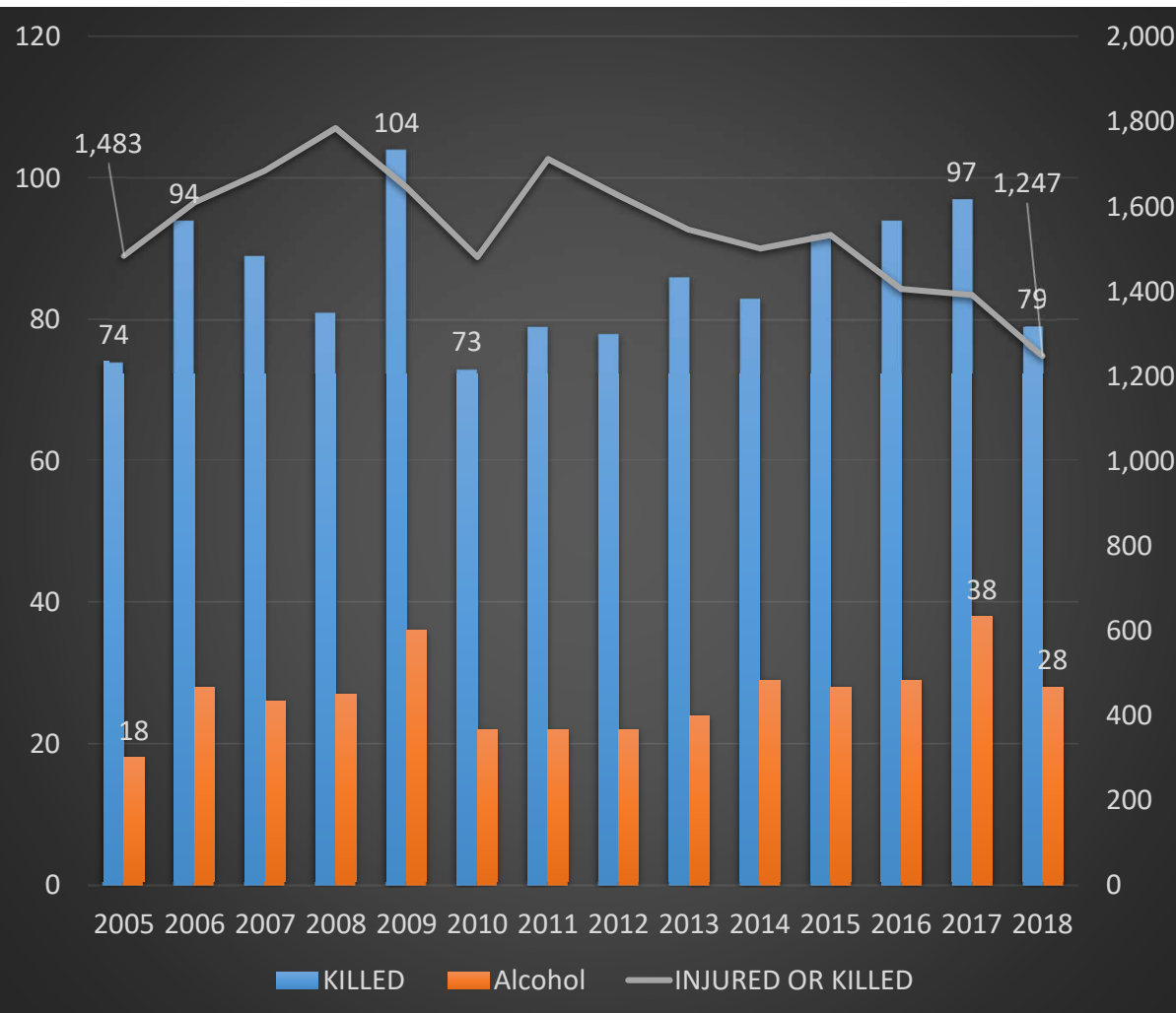


Bicycle Fatalities 2018





Motorcyclist Fatalities



2017-2018 Change

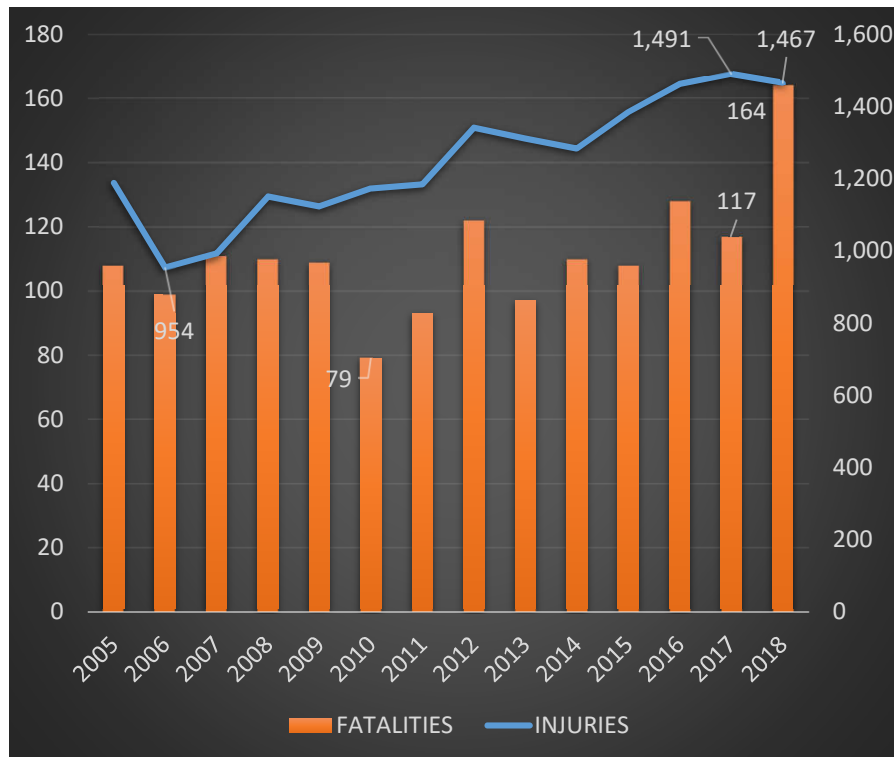
- Motorcyclist fatalities **down -18.6%**
- Alcohol involved motorcyclists death **down -26.3%**

5-Year Change

- Motorcyclist fatalities **down -8.1%**
- Alcohol involved motorcyclists death **up 16.7%**
- 85.6% of motorcyclist in crashes were wearing a helmet in 2018.



Pedestrian Fatalities & Injuries

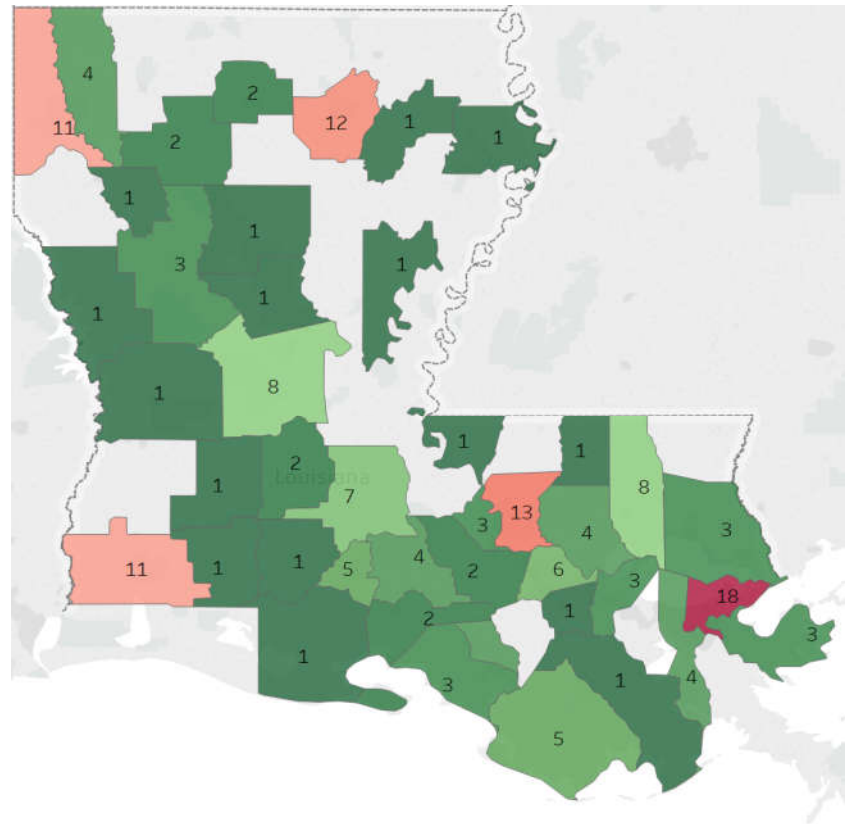
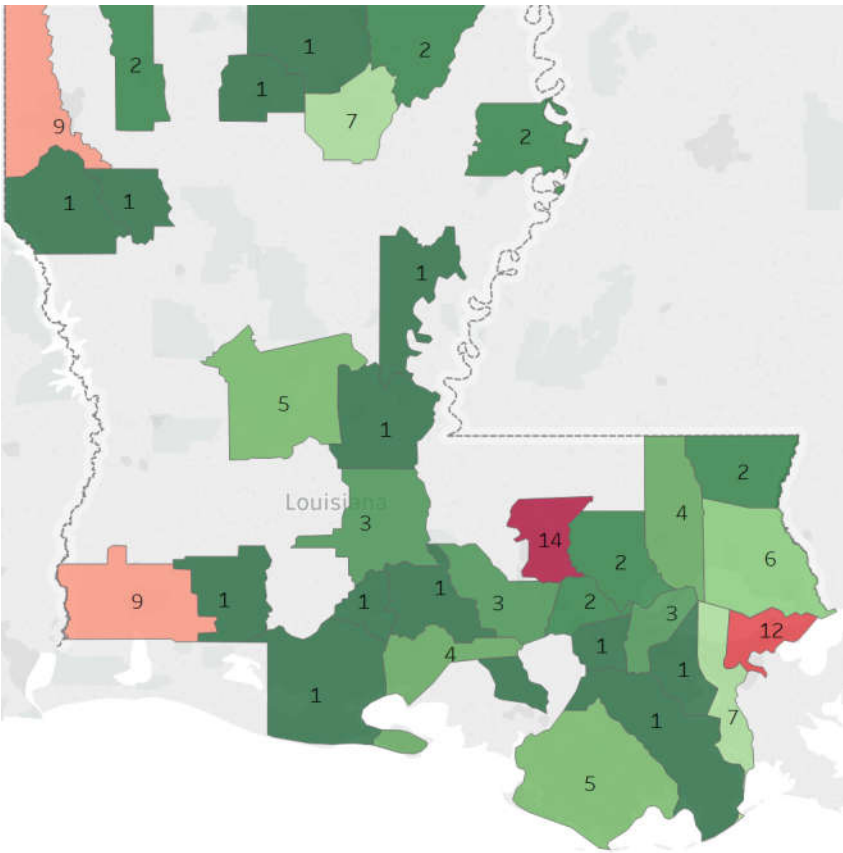


2017-2018 change

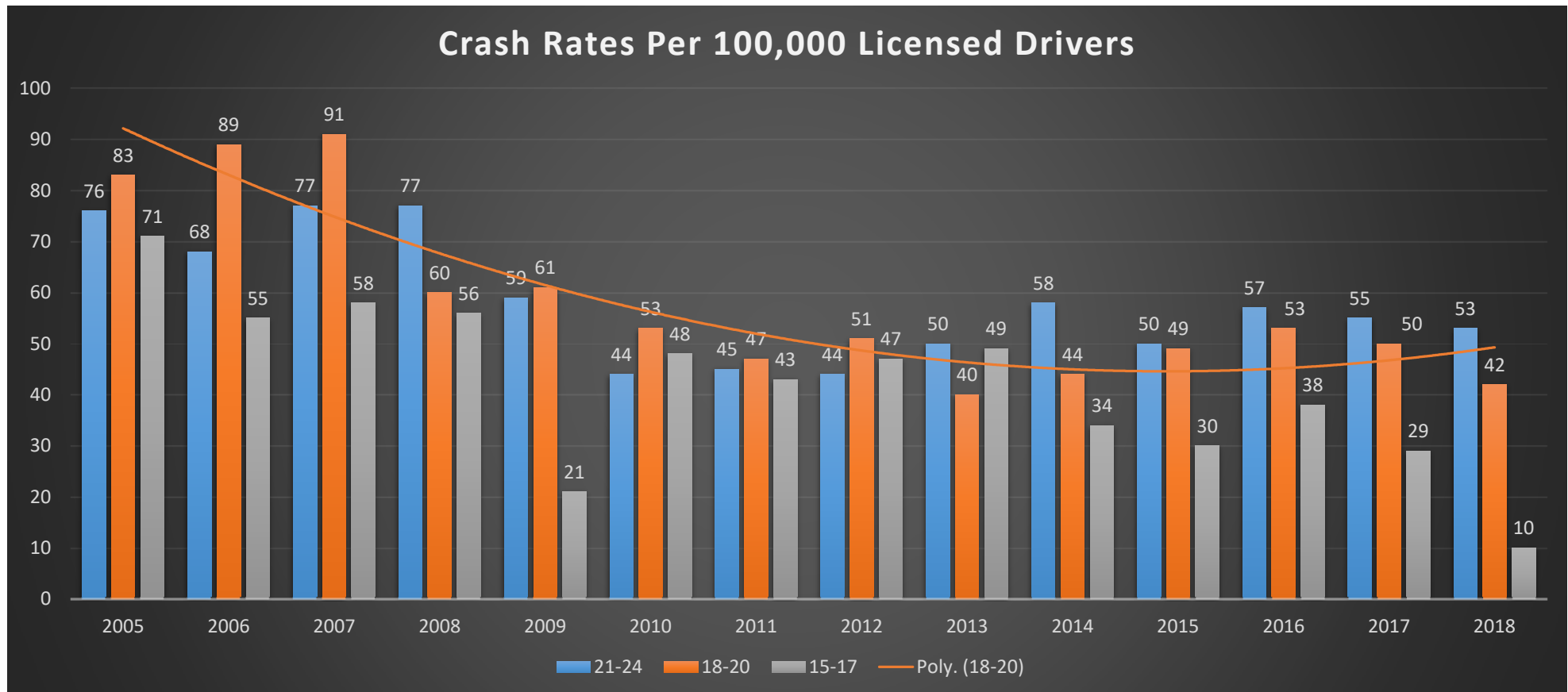
- **40.2%** increase in pedestrian fatalities
- **-1.6%** increase in pedestrian injuries

5-Year Change

- **69.1%** increase in pedestrian fatalities
- **11.8%** increase in pedestrian injuries
- First six months of 2019 there are 57 fatalities versus 75 in 2018.



Young Drivers in Fatal Crashes





Cost of Crashes

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

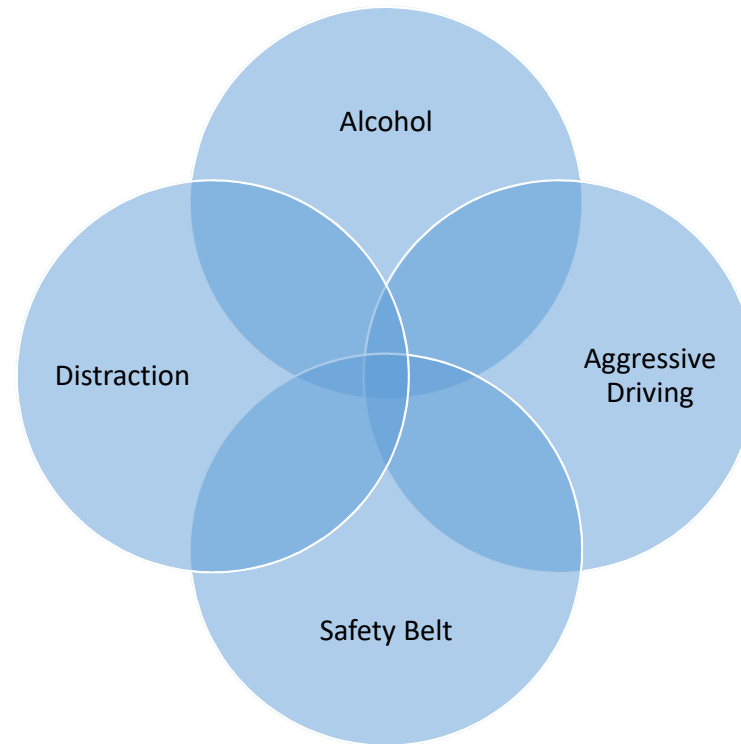
| Type | Average Cost per Person | Injuries | Total Cost by Injury Category in Billion Dollars | Total Cost by Injury Category in Billions Including Loss of Quality of Life |
|--|-------------------------|----------------|--|---|
| Fatal Injuries | \$1,622,743 | 771 | \$1.25 | \$8.18 |
| Severe Injuries | \$415,071 | 1,262 | \$0.52 | \$2.25 |
| Moderate Injuries | \$121,770 | 11,795 | \$1.44 | \$6.10 |
| Complaint Injuries | \$26,424 | 61,779 | \$1.63 | \$3.30 |
| Occupants with No Injury | \$5,081 | 365,205 | \$1.86 | \$1.86 |
| Property Damage | \$7,048 | 312,328 | \$2.20 | \$2.20 |
| Grand Total Cost | | 753,140 | \$8.90 | \$23.88 |
| Cost per licensed Driver | | | \$3,005 | \$8,064 |
| Percent Increase from past year | | | 2.8% | 2.9% |

Louisiana fiscal year 2019 [executive budget](#) was \$9.74 Billion.

Moderate, sever & fatality make up only 1/3 of the economic costs but 2/3 of quality of life costs.



The four Major Contributing Factors



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



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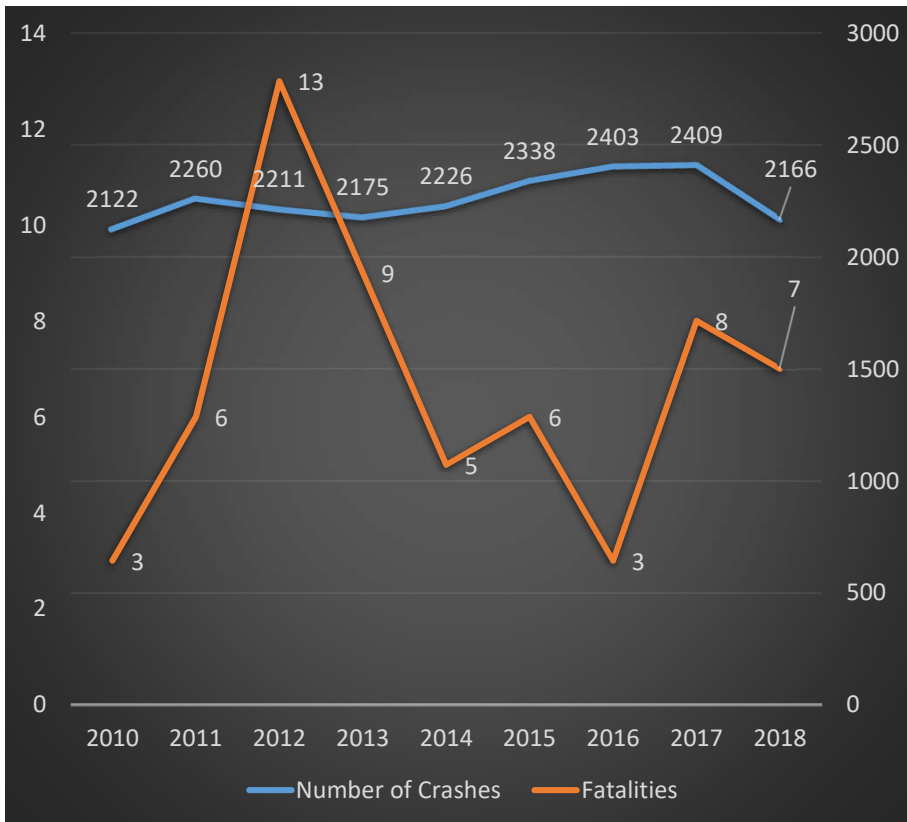
Distractions



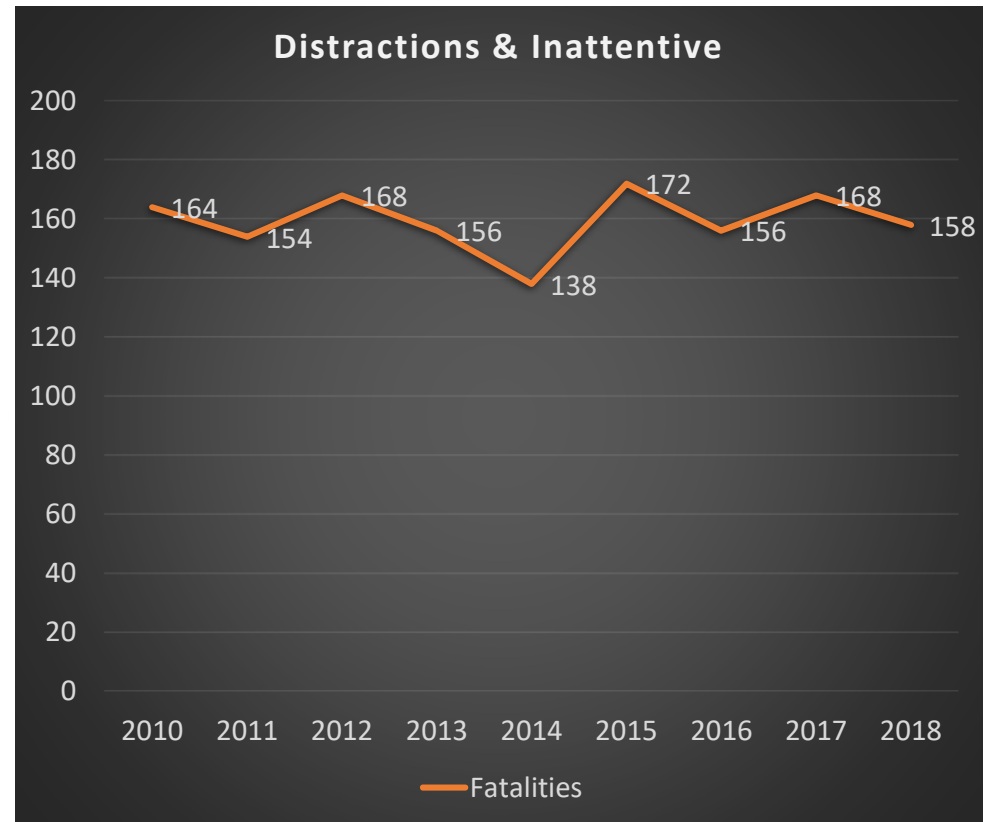


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Cell Phone Use



Distracted & Inattentive



Aggressive Driving

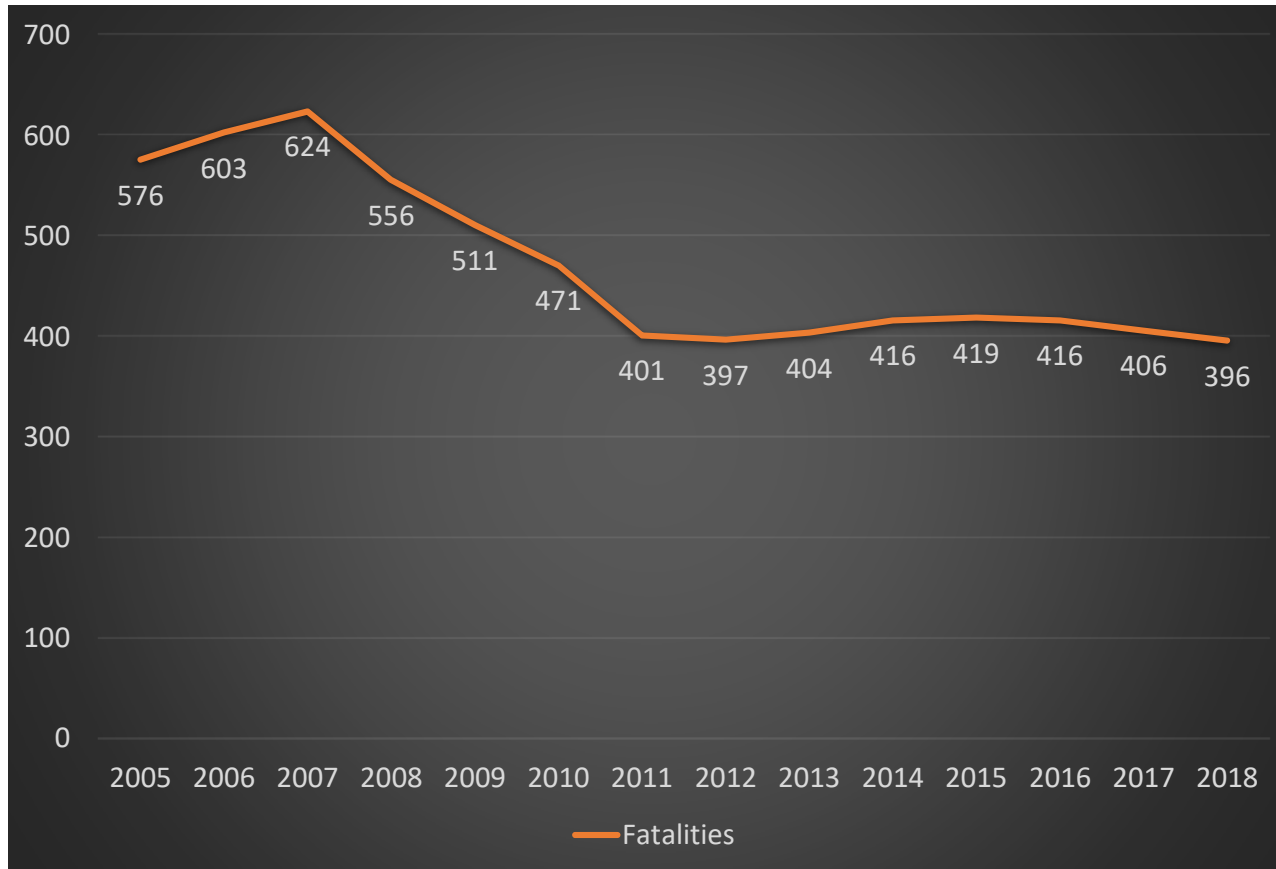
Aggressive Driving is defined as either

- 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 declining over the past two year slightly.



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Drinking and Driving



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FATALITIES Tested & Pending BAC

| YEAR | BAC 0 | | KNOWN BAC > 0 | | PENDING AND ALCOHOL USE UNKOWN | | NOT TESTED AND ALCOHOL USE UNKOWN | | UNKNOWN | | TOTAL |
|------|---------|-------|---------------|-------|--------------------------------|------|-----------------------------------|-------|---------|------|---------|
| | DRIVERS | % | DRIVERS | % | DRIVERS | % | DRIVERS | % | DRIVERS | % | DRIVERS |
| 2014 | 206 | 42.2% | 166 | 34.0% | 30 | 6.1% | 73 | 15.0% | 13 | 2.7% | 488 |
| 2015 | 245 | 46.8% | 184 | 35.2% | 16 | 3.1% | 72 | 13.8% | 6 | 1.1% | 523 |
| 2016 | 248 | 50.4% | 166 | 33.7% | 1 | 0.2% | 74 | 15.0% | 3 | 0.6% | 492 |
| 2017 | 277 | 53.6% | 173 | 33.5% | 0 | 0.0% | 67 | 13.0% | 0 | 0.0% | 517 |
| 2018 | 251 | 51.0% | 151 | 30.7% | 0 | 0.0% | 90 | 18.3% | 0 | 0.0% | 492 |

DIFFERENCE - FATAL DRIVERS

| | | | | | | | | | | | |
|--------|-------|-------|--------|-------|---------|-------|-------|------|---------|-------|-------|
| 1 YEAR | -9.4% | -2.6% | -12.7% | -2.8% | 0.0% | 0.0% | 34.3% | 5.3% | 0.0% | 0.0% | -4.8% |
| 5 YEAR | 21.8% | 8.8% | -9.0% | -3.3% | -100.0% | -6.1% | 23.3% | 3.3% | -100.0% | -2.7% | 0.8% |

Surviving Drivers Tested & Pending BAC

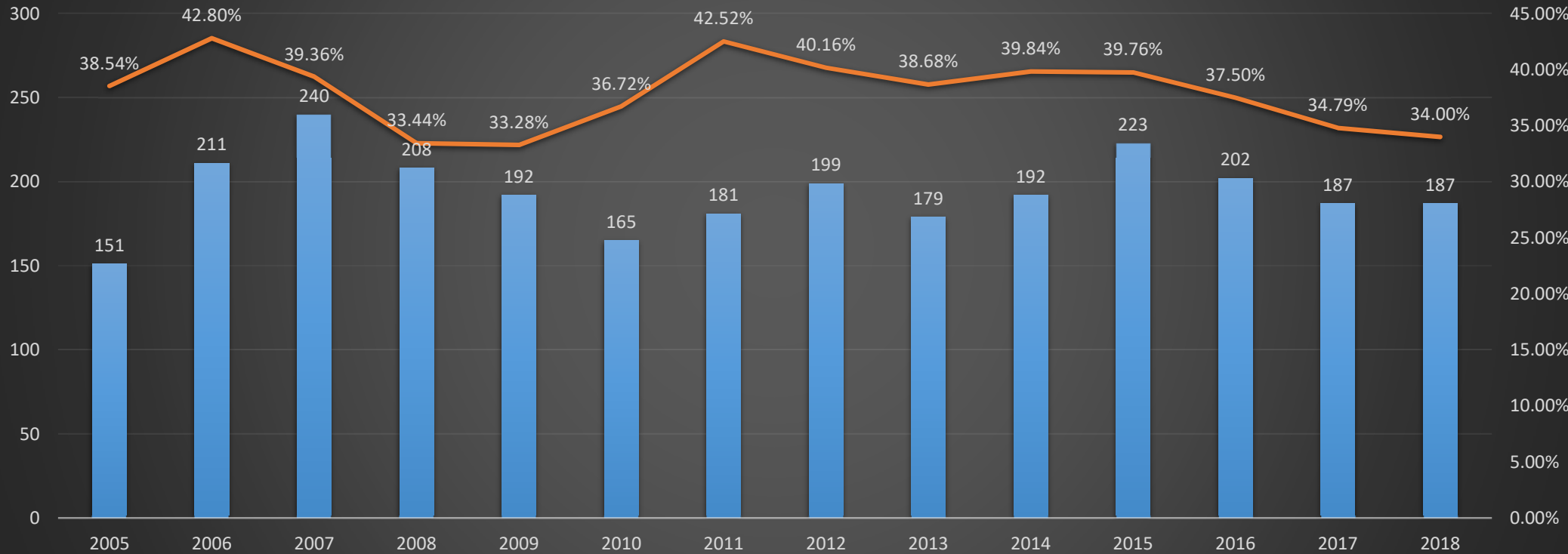
| YEAR | BAC 0 | | KNOWN BAC > 0 | | PENDING AND ALCOHOL USE UNKOWN | | NOT TESTED AND ALCOHOL USE UNKOWN | | UNKNOWN | | TOTAL |
|------|---------|-------|---------------|-------|--------------------------------|------|-----------------------------------|-------|---------|------|---------|
| | DRIVERS | % | DRIVERS | % | DRIVERS | % | DRIVERS | % | DRIVERS | % | DRIVERS |
| 2014 | 291 | 57.5% | 56 | 11.1% | 9 | 1.8% | 149 | 29.4% | 1 | 0.2% | 506 |
| 2015 | 339 | 59.4% | 69 | 12.1% | 2 | 0.4% | 152 | 26.6% | 9 | 1.6% | 571 |
| 2016 | 338 | 52.9% | 61 | 9.5% | 2 | 0.3% | 231 | 36.2% | 6 | 0.9% | 639 |
| 2017 | 324 | 54.4% | 52 | 8.7% | 0 | 0.0% | 219 | 36.7% | 0 | 0.0% | 596 |
| 2018 | 365 | 56.3% | 56 | 8.6% | 0 | 0.0% | 227 | 35.0% | 0 | 0.0% | 648 |

DIFFERENCE - Surviving DRIVERS

| | | | | | | | | | | | |
|--------|-------|-------|------|-------|---------|-------|-------|-------|---------|-------|-------|
| 1 YEAR | 12.7% | 2.0% | 7.7% | -0.1% | 0.0% | 0.0% | 3.7% | -1.7% | 0.0% | 0.0% | 8.7% |
| 5 YEAR | 25.4% | -1.2% | 0.0% | -2.4% | -100.0% | -1.8% | 52.3% | 5.6% | -100.0% | -0.2% | 28.1% |



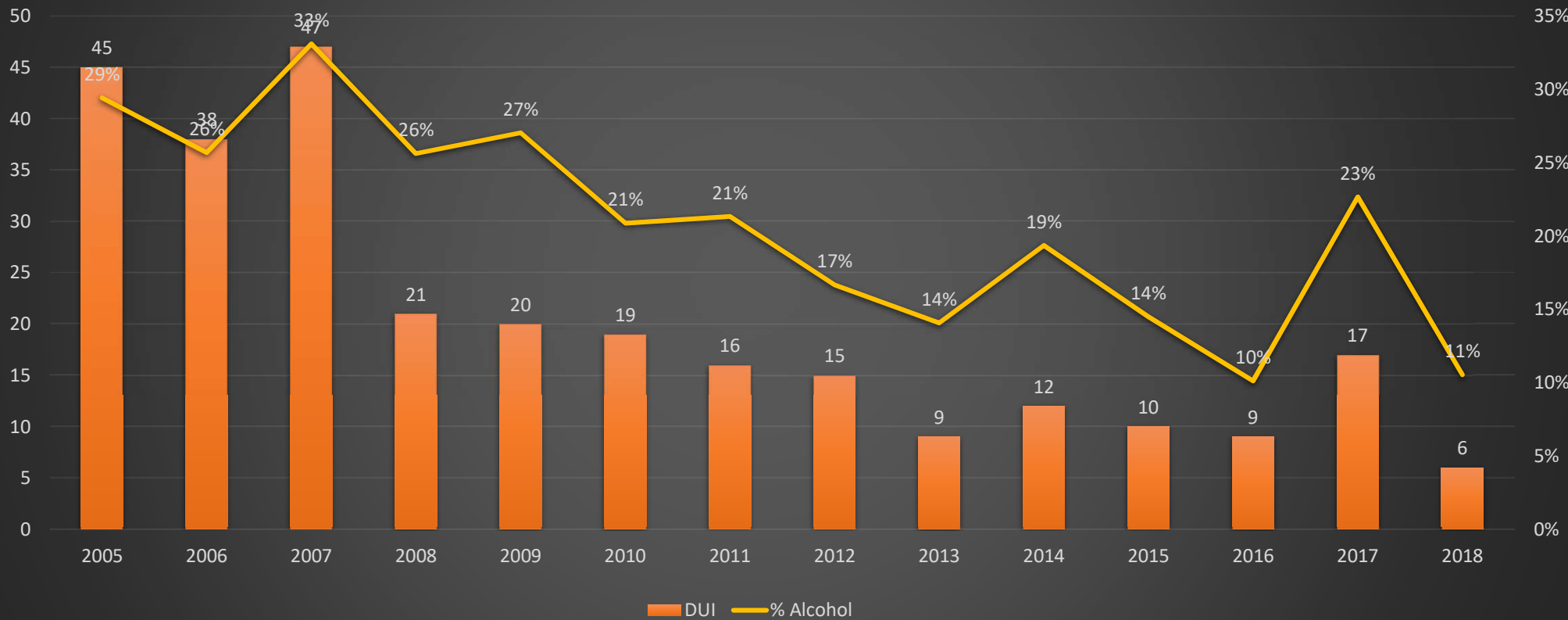
Fatalities in Crashes with BAC \geq 0.08 & % DWI





Fatalities Underage DUI

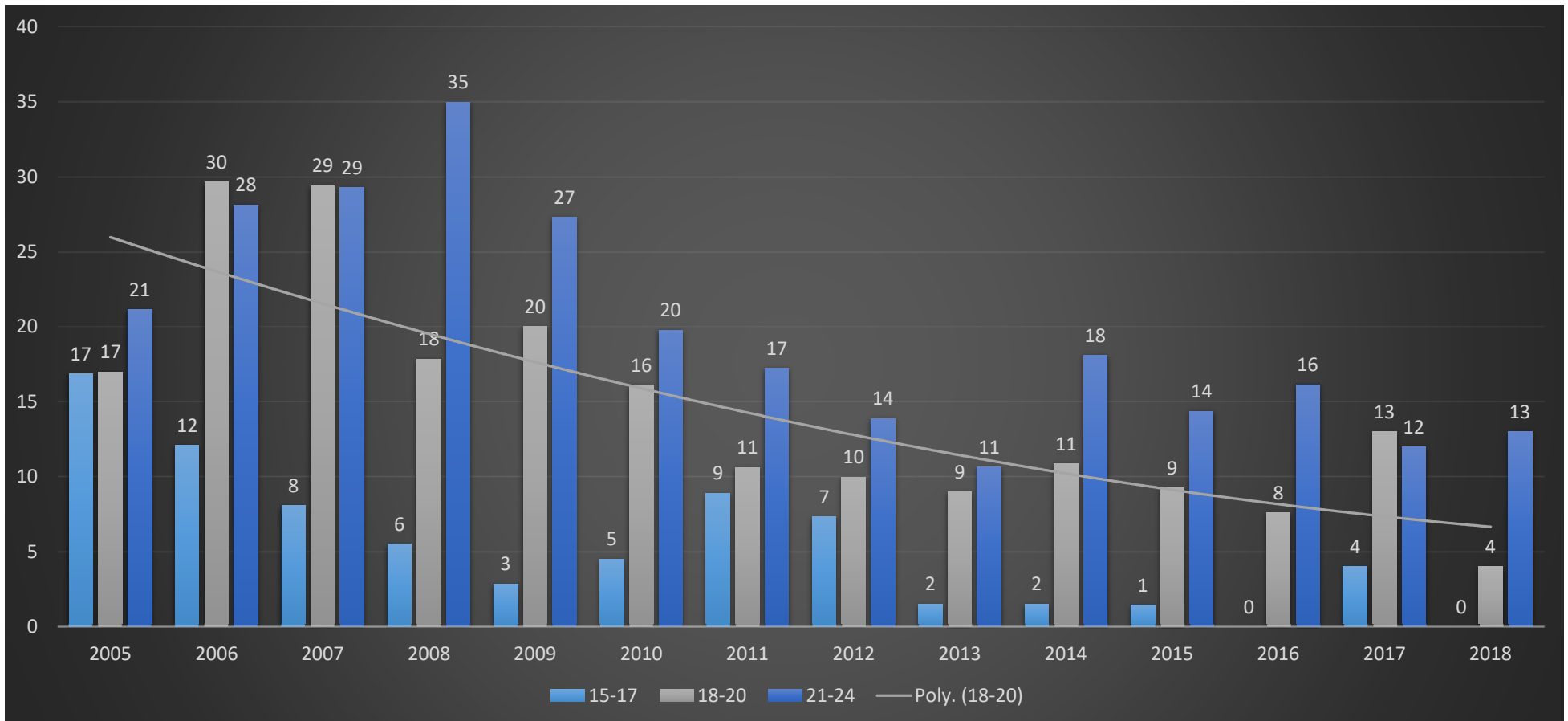
Percent of Alcohol involvement of 18-20-Year-Old Drivers in Fatal Crashes





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Rate (per 100,000 lic. Drivers) Youth Drivers and Alcohol Involvement

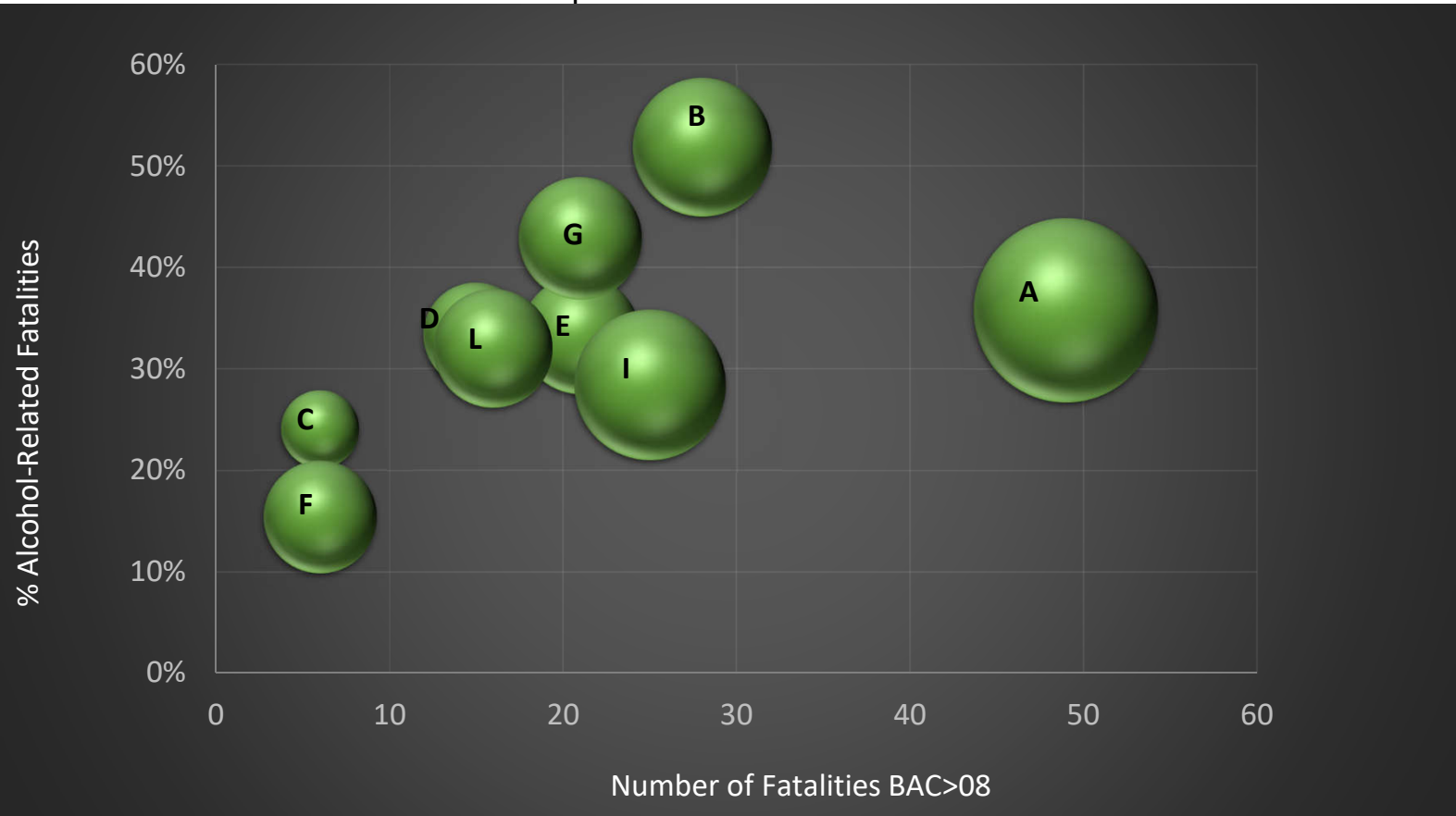




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DWI Fatalities and % DWI Fatalities
Involving of BAC \geq 0.08 by Troop Area

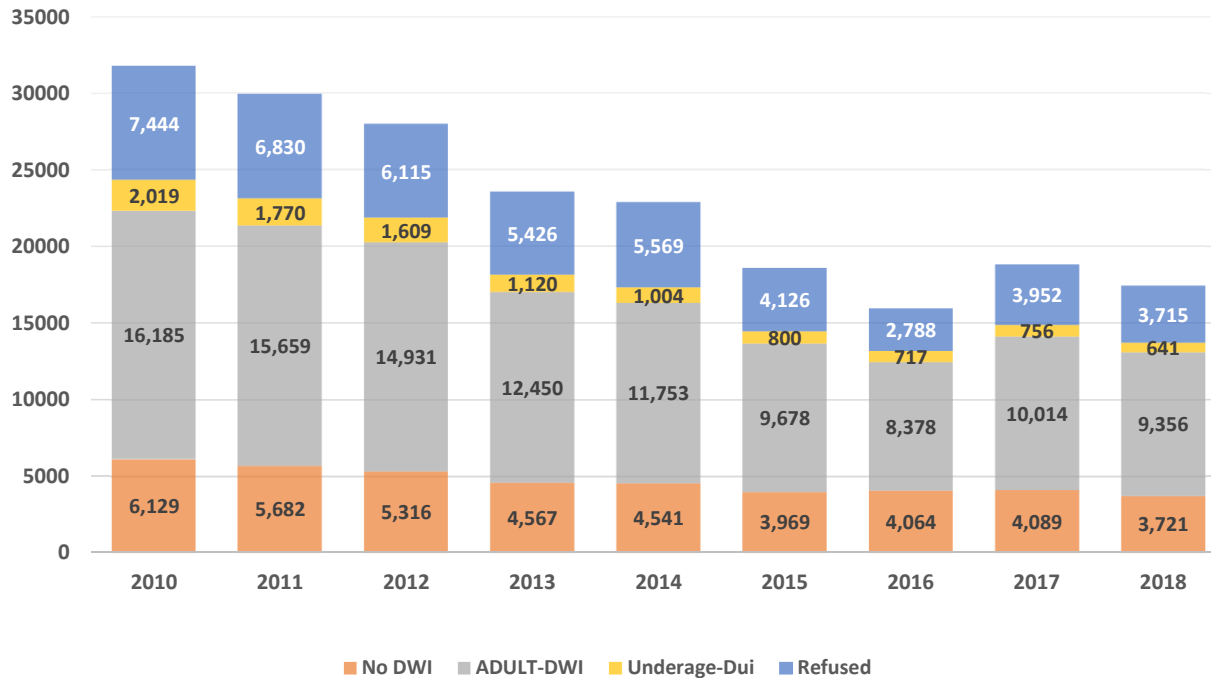
Size of bubble represents total number of fatalities.





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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.



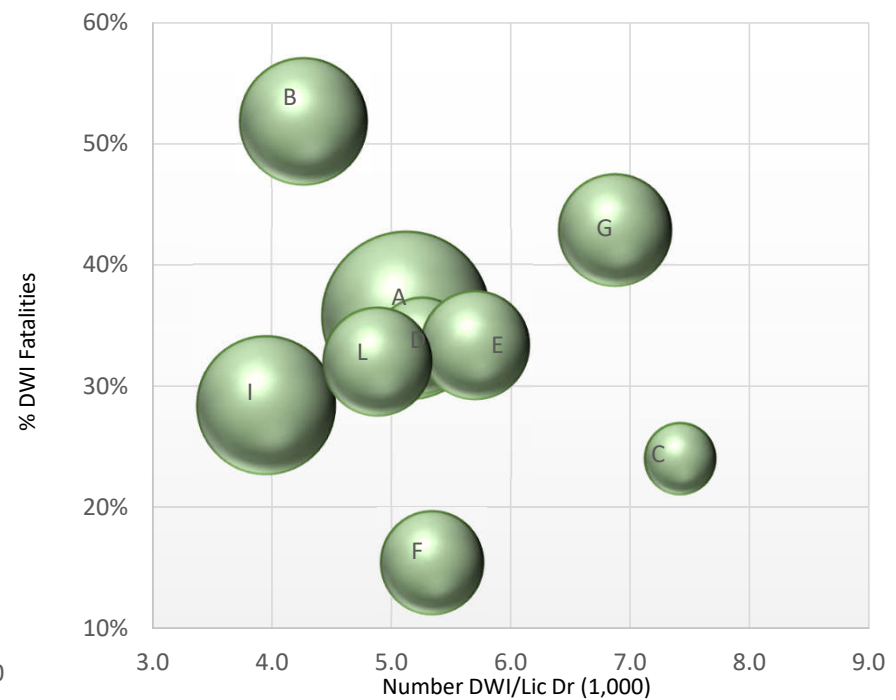
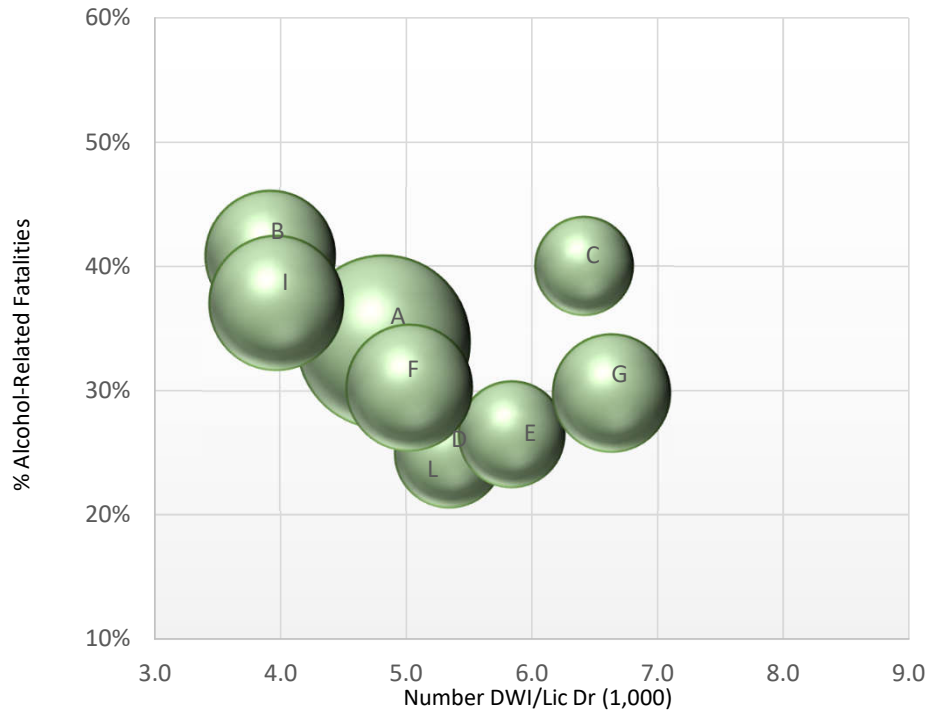
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DWI Fatalities & DWI Arrests by Troop Area

Size of bubble represents total number of fatalities.



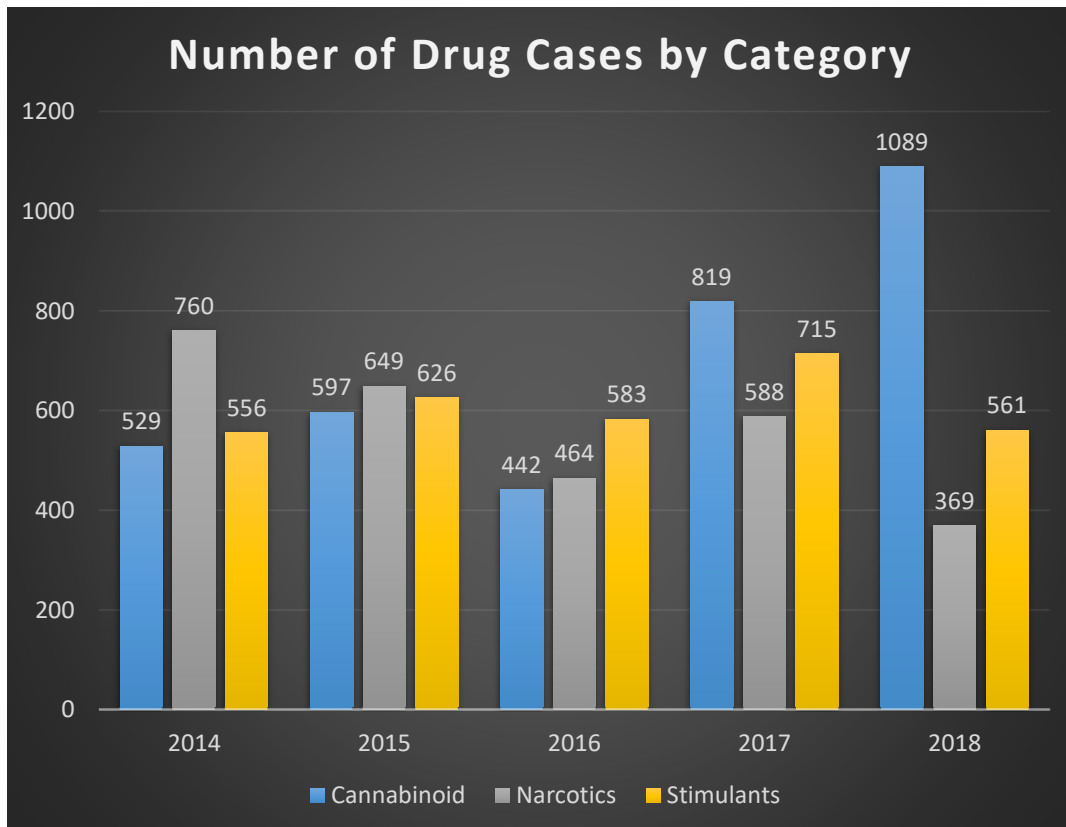
2017





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Drugged Driving (Crime Lab Data Only)

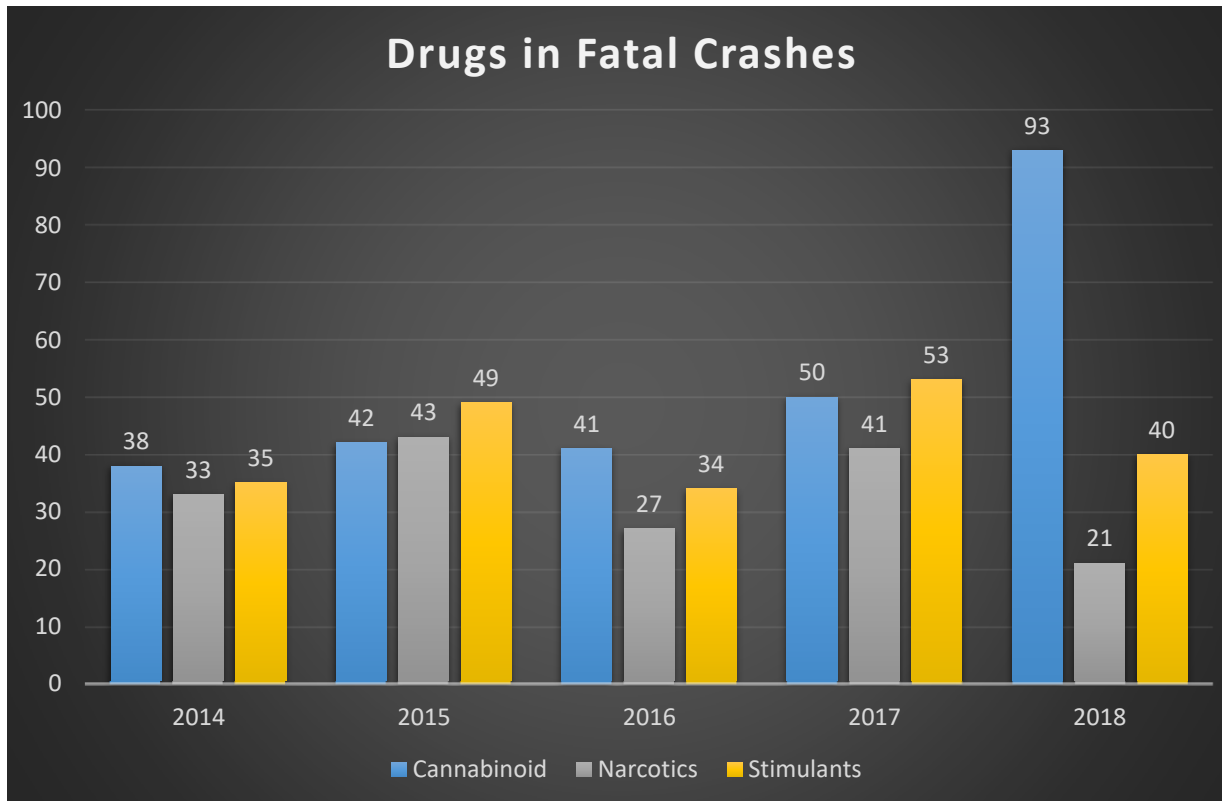


| Year | Description | | | |
|------|---------------------|-------|----------------|-----------|
| | Crash Investigation | D.W.I | Fatality Crash | Hit & Run |
| 2014 | 96 | 2,244 | 303 | 3 |
| 2015 | 167 | 2,103 | 312 | 11 |
| 2016 | 100 | 1,598 | 266 | 7 |
| 2017 | 126 | 1,993 | 306 | 11 |
| 2018 | 126 | 1,977 | 378 | 13 |



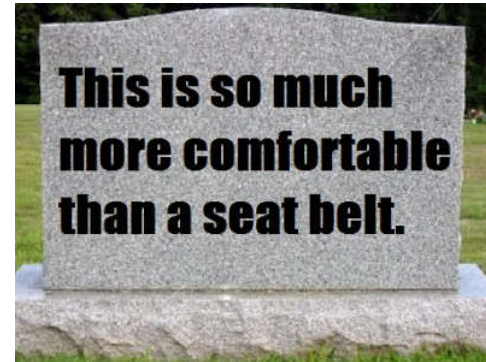
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Drugs in Fatal Crashes (Crime Lab Data Only)





Occupant Protection



What progress has Louisiana made over the past 20 years?
What are the insights from the 2019 data?
How are fatalities linked to belt use by troop area?

Seat Belt Usage (Survey)

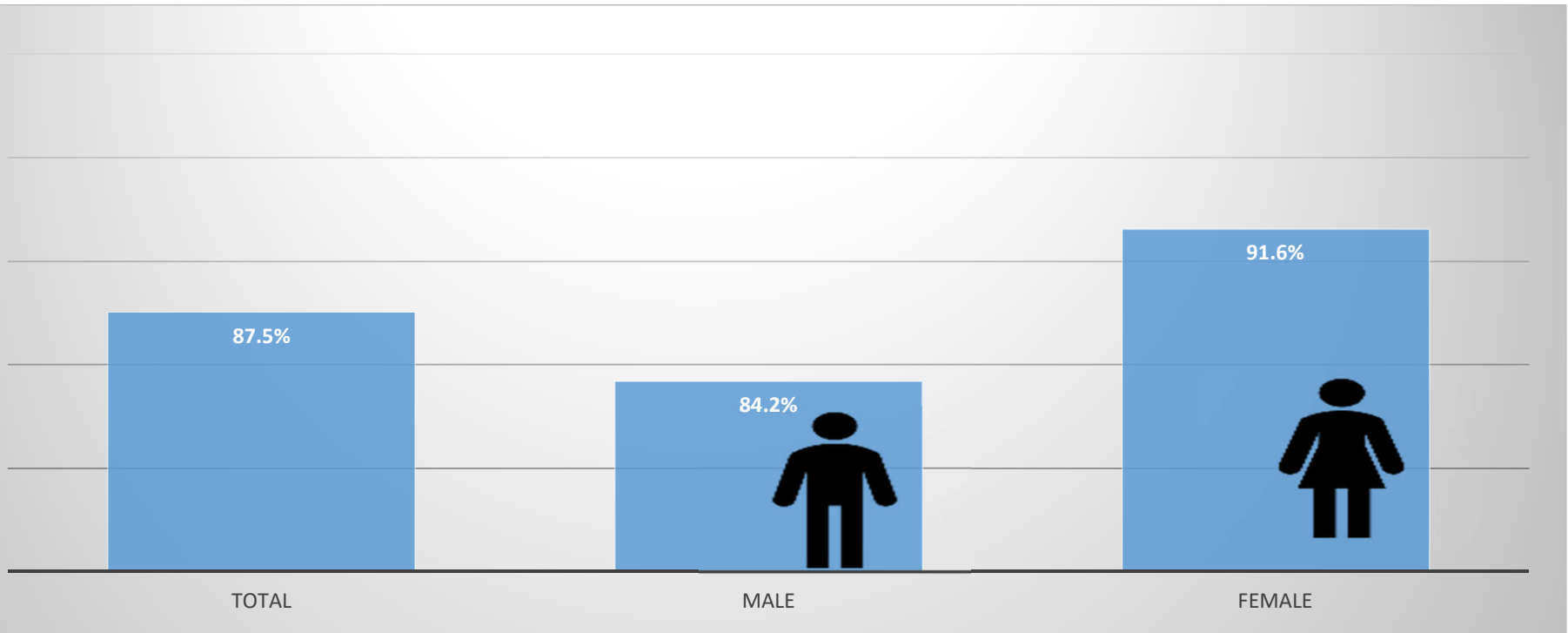




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Belt Use by Gender

Belt use among male is still significantly below female belt use.

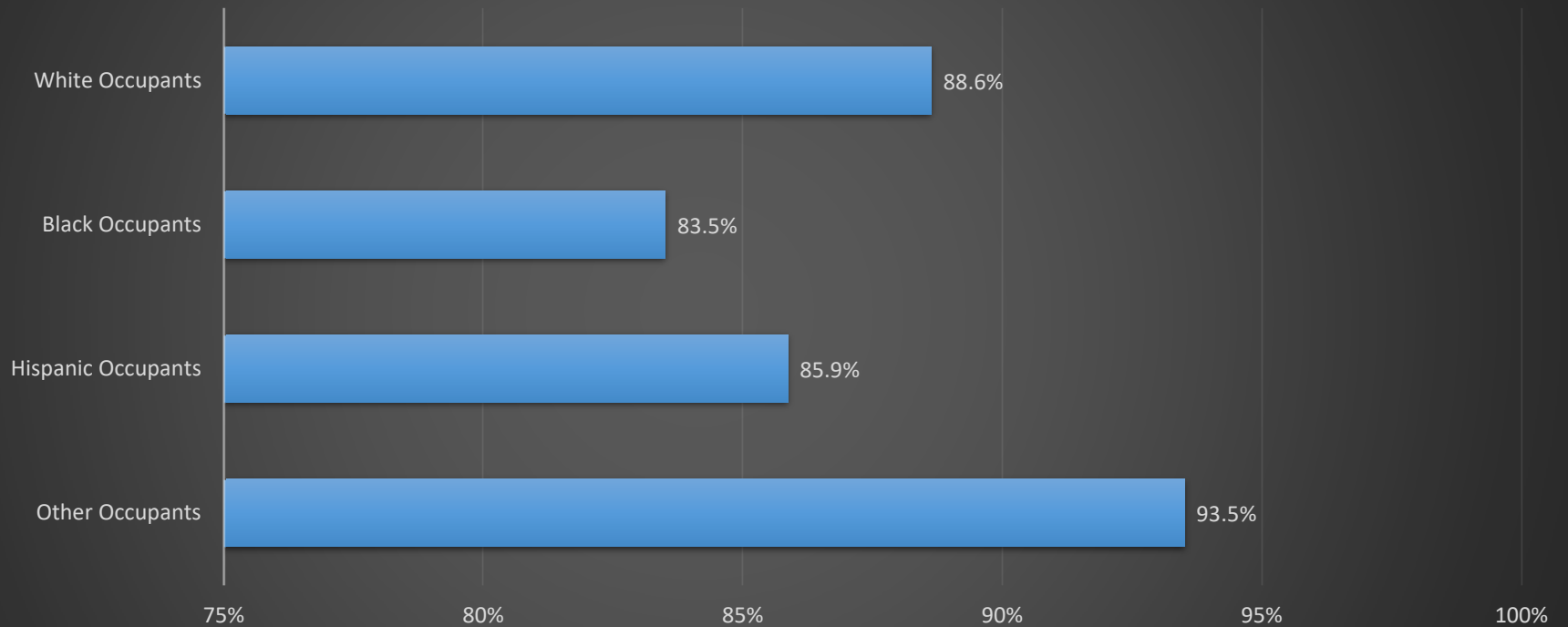




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Belt Use By Ethnicity

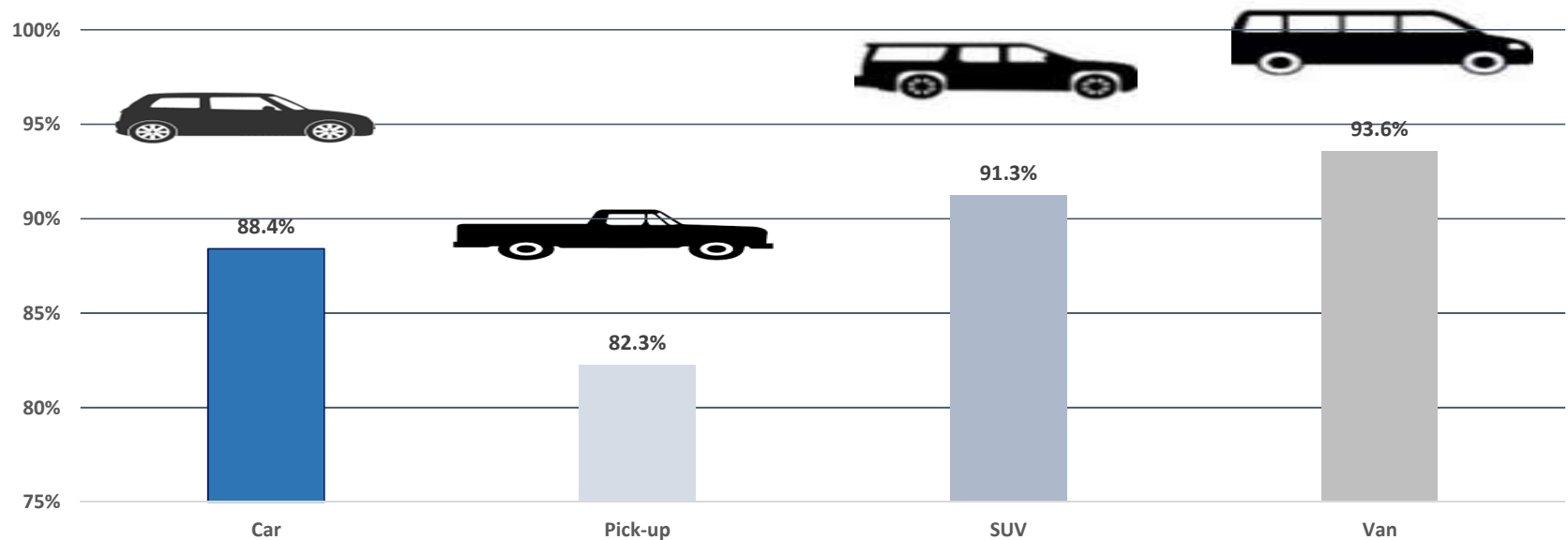
There is still a 5 percentage points gap between belt use of white and black front seat occupants.





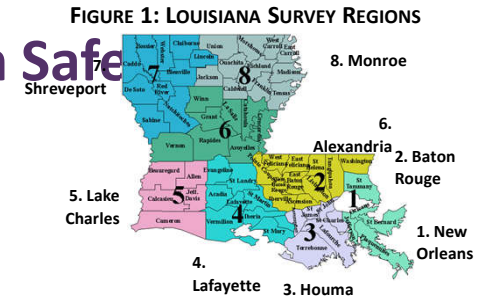
Belt Use by Vehicle Type

- There is still a 6 to 9 percentage point gap in belt use between pickup trucks and other vehicle occupants.





Center for Analytics & Research in Transportation Safe Seat Belt Use by Region

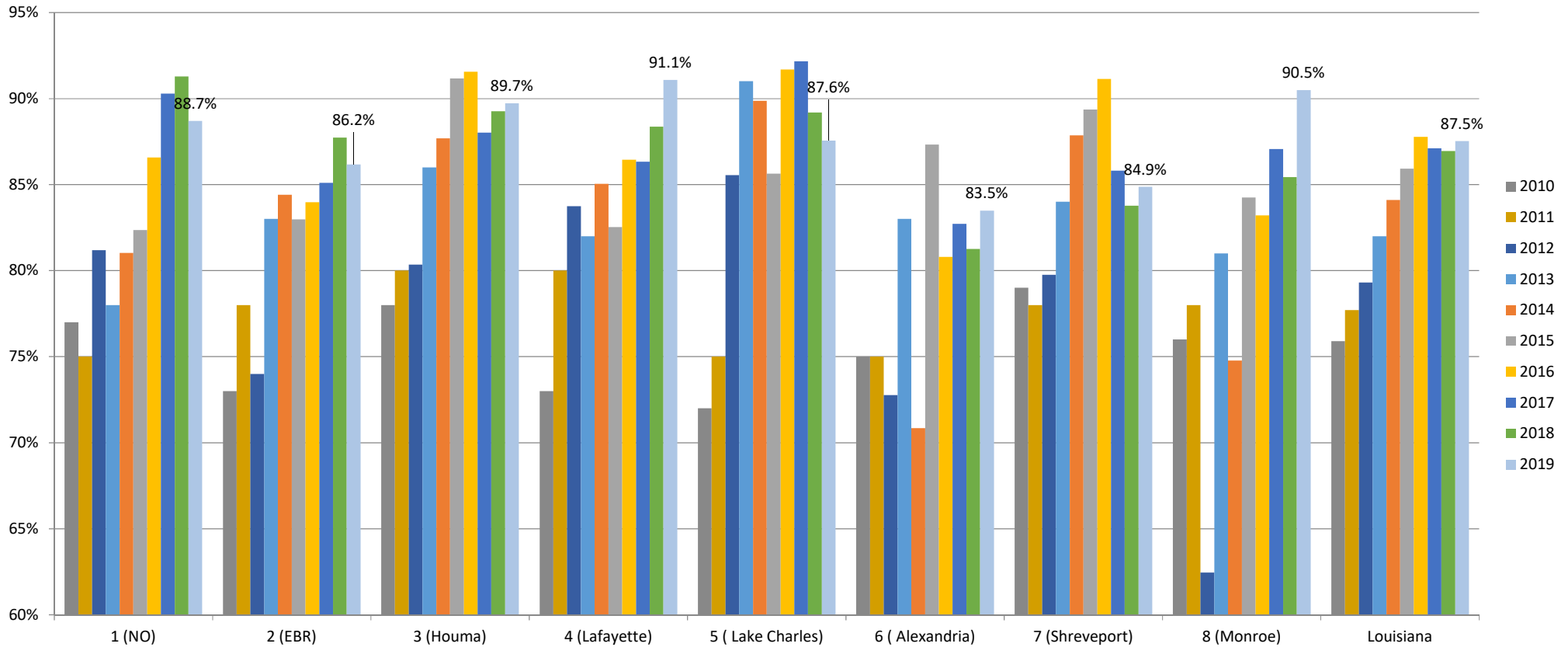


| Region | Estimate | STD Error | Diff 2019-2018 |
|----------------|--------------|-------------|----------------|
| 1-New Orleans | 88.7% | 0.4% | -2.6%* |
| 2-Baton Rouge | 86.2% | 0.9% | -1.6% |
| 3-Houma | 89.7% | 0.7% | 0.5% |
| 4-Lafayette | 91.1% | 0.8% | 2.7% |
| 5-Lake Charles | 87.6% | 1.4% | -1.6% |
| 6-Alexandria | 83.5% | 0.6% | 2.2%* |
| 7-Shreveport | 84.9% | 1.0% | 1.1% |
| 8-Monroe | 90.5% | 1.4% | 5.0%* |
| LA total | 87.5% | 0.4% | 0.6% |



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Seat Belt Usage by Region 2010-2019





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Seat Belt Use by Troop



| Troop | Estimate | STD Error | Diff 2018-2017 |
|----------------|----------|-----------|----------------|
| A-Baton Rouge | 86.9% | 0.7% | -1.0% |
| B-New Orleans | 87.0% | 0.4% | -2.4%* |
| C-Houma | 91.5% | 0.9% | 1.1% |
| D-Calcasieu | 87.6% | 1.4% | -1.6% |
| E-Natchitoches | 81.3% | 0.7% | 0.7% |
| F-Monroe | 90.7% | 1.2% | 5.6%* |
| G-Shreveport | 85.9% | 1.2% | 1.3% |
| I-Lafayette | 91.1% | 0.8% | 2.7% |
| L-Hammond | 88.5% | 1.3% | -2.4% |



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Belt Use by Parish



| Parish | OCCUPANTS-2019 | OCCUPANTS-2018 | OCCUPANTS-2017 | OCCUPANTS-2016 | OCCUPANTS-2015 | 5-Year Average |
|------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Terrebonne | 94.3% | 94.0% | 93.2% | 95.7% | 90.0% | 93.2% |
| Lafourche | 93.4% | 94.4% | 87.4% | 94.3% | 94.8% | 91.5% |
| Beauregard | 95.4% | 93.2% | 77.4% | 91.0% | 90.9% | 89.1% |
| Jefferson Davis | 93.8% | 89.7% | 96.2% | 93.5% | 92.5% | 93.1% |
| St. Tammany | 92.9% | 94.4% | 86.9% | 86.4% | 87.9% | 88.5% |
| St. Charles | 90.6% | 93.5% | 87.0% | 93.0% | 83.1% | 88.2% |
| Calcasieu | 91.3% | 92.6% | 93.8% | 93.4% | 78.9% | 89.1% |
| Pointe Coupee | 92.6% | 92.0% | 81.1% | 92.4% | 83.4% | 86.5% |
| Ascension | 88.7% | 90.0% | 88.7% | 88.2% | 91.3% | 88.9% |
| St. Landry | 89.5% | 91.1% | 86.7% | 89.2% | 88.9% | 88.3% |
| St. Martin | 91.0% | 89.5% | 88.3% | 92.1% | 86.7% | 88.7% |
| Vermilion | 89.0% | 93.8% | 83.1% | 89.4% | 91.5% | 87.3% |
| Bossier | 85.9% | 85.2% | 90.0% | 87.0% | 89.6% | 88.7% |
| Caddo | 86.8% | 84.7% | 92.5% | 88.9% | 89.5% | 89.1% |
| Lincoln | 92.4% | 87.5% | 87.6% | 88.7% | 87.1% | 87.5% |
| Acadia | 93.3% | 87.8% | 94.9% | 87.5% | 82.0% | 87.9% |
| Evangeline | 86.1% | 89.0% | 89.4% | 88.0% | 93.6% | 87.9% |
| East Baton Rouge | 88.3% | 89.3% | 89.1% | 89.2% | 83.3% | 87.0% |
| Vernon | 82.6% | 85.4% | 87.4% | 86.6% | 84.5% | 86.9% |
| Jefferson | 89.0% | 89.5% | 89.0% | 88.5% | 83.6% | 86.2% |
| Lafayette | 91.6% | 91.5% | 87.9% | 89.0% | 78.7% | 86.3% |
| West Baton Rouge | 92.7% | 91.0% | 92.2% | 82.9% | 79.9% | 86.7% |
| Livingston | 87.1% | 89.3% | 80.9% | 85.8% | 82.1% | 83.7% |
| Ouachita | 90.4% | 85.1% | 83.6% | 87.1% | 83.9% | 84.4% |
| St. Mary | 89.7% | 90.0% | 92.4% | 82.0% | 82.6% | 85.2% |
| St. James | 91.6% | 91.5% | 84.6% | 80.1% | 82.3% | 85.0% |
| Assumption | 80.1% | 75.8% | 86.4% | 83.9% | 94.5% | 86.3% |
| Tangipahoa | 86.7% | 87.8% | 86.8% | 82.3% | 81.9% | 84.0% |
| De Soto | 77.5% | 75.9% | 86.5% | 92.1% | 86.3% | 85.0% |
| Iberville | 80.7% | 77.4% | 91.5% | 87.1% | 80.0% | 85.3% |
| Natchitoches | 79.2% | 83.8% | 92.6% | 85.5% | 81.5% | 84.1% |
| Orleans | 85.8% | 91.8% | 87.1% | 90.1% | 75.5% | 82.2% |
| Iberia | 91.4% | 88.8% | 93.6% | 84.0% | 68.8% | 83.4% |
| Sabine | 74.7% | 73.7% | 75.8% | 85.9% | 86.2% | 80.4% |
| Rapides | 82.7% | 78.9% | 88.2% | 82.0% | 87.5% | 81.8% |
| St. John | 85.9% | 87.1% | 87.3% | 82.2% | 76.0% | 80.1% |
| Washington | 82.3% | 95.5% | 79.3% | 76.9% | 77.3% | 79.7% |
| Union | 84.1% | 90.8% | 86.3% | 76.2% | 86.0% | 78.4% |



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| | Driver | | Passenger | | All Occupants | | Diff from Past Year | Significance |
|---------------------|------------|----------|-----------|----------|---------------|----------|---------------------|--------------|
| | Estimate | STDError | Estimate | STDError | Estimate | STDError | | |
| | Sex | | | | | | | |
| Male | 84.2% | 0.6% | 83.7% | 1.1% | 84.2% | 0.6% | 0.4% | 36.4% |
| Female | 91.6% | 0.4% | 91.6% | 0.7% | 91.6% | 0.4% | 0.8% | 81.7% |
| | | | | | | | | |
| Race | | | | | | | | |
| White | 88.2% | 0.5% | 90.8% | 0.7% | 88.6% | 0.4% | 0.9% | 81.8% |
| Black | 84.0% | 0.7% | 81.1% | 1.6% | 83.5% | 0.6% | -0.3% | 25.1% |
| Hispanic | 87.0% | 1.8% | 82.4% | 3.0% | 85.9% | 2.4% | -4.0% | 82.3% |
| Other | 92.6% | 3.1% | 97.4% | 0.9% | 93.5% | 2.5% | -1.6% | 45.5% |
| | | | | | | | | |
| Vehicle Type | | | | | | | | |
| Car | 88.6% | 0.5% | 87.4% | 1.1% | 88.4% | 0.5% | -0.4% | 42.0% |
| Pick-up | 81.6% | 0.9% | 85.6% | 1.4% | 82.3% | 0.9% | 1.0% | 57.9% |
| SUV | 91.2% | 0.7% | 91.7% | 1.1% | 91.3% | 0.6% | 1.2% | 83.4% |
| Van | 93.1% | 1.0% | 95.1% | 0.9% | 93.6% | 0.8% | 3.7% | 95.9% |



Road Type and Vehicle Type

| Road Type | Estimate | STD-Error | Diff |
|------------|----------|-----------|-------|
| Interstate | 89.3% | 0.4% | -0.7% |
| US & State | 87.0% | 0.2% | -0.1% |
| Local Road | 87.8% | 0.8% | 1.8% |

| Region | CAR | STD Error | PICKUP | STD Error | SUV | STD Error | VAN | STD Error | Diff PKUP-other |
|-----------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|-----------------|
| 1-New Orleans | 88.0% | 0.7% | 84.1% | 1.0% | 91.7% | 0.6% | 92.7% | 1.5% | -6.7% |
| 2-Baton Rouge | 88.3% | 0.9% | 78.4% | 2.3% | 91.6% | 1.2% | 94.9% | 1.3% | -13.3% |
| 3-Houma | 88.4% | 1.2% | 87.1% | 1.3% | 93.7% | 1.2% | 98.5% | 0.5% | -6.4% |
| 4-Lafayette | 93.5% | 1.0% | 86.9% | 2.1% | 92.2% | 2.0% | 96.4% | 1.3% | -7.1% |
| 5-Lake Charles | 84.1% | 3.1% | 86.6% | 2.1% | 91.1% | 2.4% | 95.9% | 2.0% | -3.8% |
| 6-Alexandria | 84.9% | 0.9% | 78.5% | 1.2% | 87.0% | 1.0% | 87.7% | 2.2% | -8.0% |
| 7-Shreveport | 86.5% | 1.3% | 76.6% | 2.5% | 90.2% | 1.6% | 88.8% | 3.5% | -11.9% |
| 8-Monroe | 93.2% | 1.8% | 83.7% | 3.5% | 92.5% | 2.0% | 97.0% | 1.4% | -10.5% |
| LA total | 88.4% | 0.5% | 82.3% | 0.9% | 91.3% | 0.6% | 93.6% | 0.8% | -8.8% |



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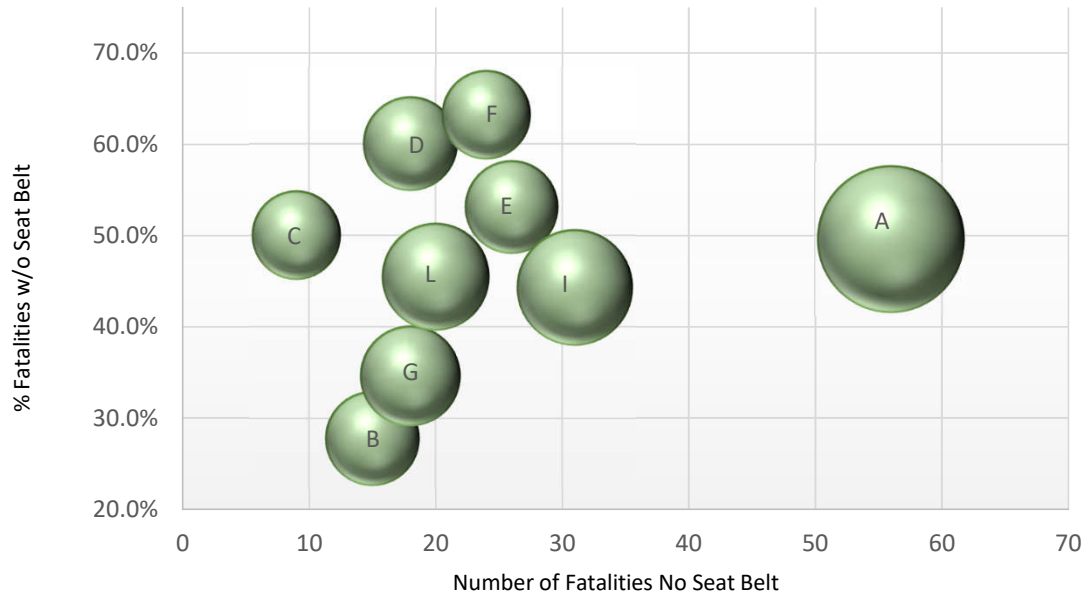
Rear Seat Belt Use

| Year | Auto | Pickup | SUV | Van | Total |
|------|--------|--------|--------|--------|--------|
| 2008 | 27.30% | 12.50% | 31.30% | 29.40% | 27.20% |
| 2010 | 50.00% | 47.80% | 77.20% | 90.70% | 58.40% |
| 2011 | 46.00% | 40.30% | 71.40% | 93.60% | 53.80% |
| 2013 | 50.88% | 46.97% | 67.09% | 62.30% | 54.84% |
| 2014 | 48.76% | 42.39% | 69.31% | 77.36% | 54.92% |
| 2015 | 67.85% | 55.12% | 80.53% | 79.22% | 68.86% |
| 2016 | 70.92% | 45.83% | 80.52% | 84.09% | 68.83% |
| 2017 | 65.75% | 50.00% | 71.22% | 77.78% | 65.61% |
| 2018 | 61.97% | 57.58% | 73.91% | 89.47% | 65.53% |
| 2019 | 62.50% | 62.16% | 81.89% | 76.79% | 68.12% |



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Unbelted Fatalities: Percentage versus number of fatalities





Center for Analytics & Research in Transportation Safety

2018 Child Occupant Protection Survey

Louisiana Child Passenger Safety Law

| Age/Size | Restraint Use |
|--|---|
| Birth to at least 2 years old | Ride rear facing in an infant or convertible child safety seat |
| At least 2 years old and has outgrown the rear facing seat by height or weight | Ride in a forward-facing child safety seat with an internal harness |
| 4 years old and has outgrown the forward-facing seat with internal harness by height or weight | Ride restrained in a belt positioning child booster seat using a lap shoulder seat belt |
| 9 years old or has outgrown the booster seat and can pass the 5 Step Test | Ride restrained with a lap shoulder seat belt secured correctly on the vehicle seat |
| Younger than 13 years old | Ride in the rear seat of a vehicle, when available and properly restrained |

A child who can be placed in more than one category shall use the more protective category.
Child safety seats must be used according to the manufacturer's instructions.

5 Step Test: The seat belt fits correctly when the child sits all the way back against the vehicle seat, the child's knees bend over the edge of the vehicle seat, the belt fits snugly across the child's thighs and lower hips and not the child's abdomen, and when the shoulder strap snugly crosses the center of the child's chest and not the child's neck.



Effective 8/1/2019

Table 4: RESTRAINT TYPE/USE BY AGE CATEGORY— UNWEIGHTED DATA

| | Age < 1 (n=84) | Age 1-3 (n=405) | Age 4-5 (n=455) | Age 6-12 (n=936) |
|------------------------|-------------------|--------------------|--------------------|---------------------|
| Rear-Facing Carrier | 85.7% (n=72) | 7.7% (n=31) | 0% (n=0) | 0% (n=0) |
| Forward-Facing Carrier | 10.7% (n=9) | 75.1% (n=304) | 1.3% (n=6) | 0% (n=0) |
| Booster Seat | 0% (n=0) | 0.5% (n=2) | 39.4% (n=181) | 1.1% (n=10) |
| Vehicle Safety Belt | 1.2% (n=1) | 0.7% (n=3) | 23.1% (n=106) | 77.8% (n=733) |
| No Restraint Used | 2.4% (n=2) | 16.0% (n=65) | 35.3% (n=162) | 20.5% (n=193) |



Center for Analytics & Research in Transportation Safety

2018 Child Occupant Protection Survey

Louisiana Child Passenger Safety Law

| Age/Size | Restraint Use |
|--|---|
| Birth to at least 2 years old | Ride rear facing in an infant or convertible child safety seat |
| At least 2 years old and has outgrown the rear facing seat by height or weight | Ride in a forward-facing child safety seat with an internal harness |
| 4 years old and has outgrown the forward-facing seat with internal harness by height or weight | Ride restrained in a belt positioning child booster seat using a lap shoulder seat belt |
| 9 years old or has outgrown the booster seat and can pass the 5 Step Test | Ride restrained with a lap shoulder seat belt secured correctly on the vehicle seat |
| Younger than 13 years old | Ride in the rear seat of a vehicle, when available and properly restrained |

A child who can be placed in more than one category shall use the more protective category.
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5 Step Test: The seat belt fits correctly when the child sits all the way back against the vehicle seat, the child's knees bend over the edge of the vehicle seat, the belt fits snugly across the child's thighs and lower hips and not the child's abdomen, and when the shoulder strap snugly crosses the center of the child's chest and not the child's neck.



Effective 8/1/2019

| | Age < 1 (n=84) | Age 1-3 (n=405) | Age 4-5 (n=455) | Age 6-12 (n=936) |
|------------------------|-------------------|--------------------|--------------------|---------------------|
| Rear-Facing Carrier | 85.7% (n=72) | 7.7% (n=31) | 0% (n=0) | 0% (n=0) |
| Forward-Facing Carrier | 10.7% (n=9) | 75.1% (n=304) | 1.3% (n=6) | 0% (n=0) |
| Booster Seat | 0% (n=0) | 0.5% (n=2) | 39.4% (n=181) | 1.1% (n=10) |
| Vehicle Safety Belt | 1.2% (n=1) | 0.7% (n=3) | 23.1% (n=106) | 77.8% (n=733) |
| No Restraint Used | 2.4% (n=2) | 16.0% (n=65) | 35.3% (n=162) | 20.5% (n=193) |



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Fatal to Severe Injuries of children Age <13 Over the past five years

| OCC_PROTSYS_CD (group) | Back | | | | | | | |
|------------------------|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
| | Infant | | 2-3 | | 4-8 | | 9-12 | |
| | Fatal-Severe | # | Fatal-Severe | # | Fatal-Severe | # | Fatal-Severe | # |
| None | 5.80% | 19 | 6.00% | 51 | 2.40% | 202 | 1.40% | 126 |
| Lap Belt | 9.60% | 5 | 3.40% | 9 | 2.90% | 41 | 2.10% | 19 |
| CSS Improperly Used | 2.80% | 40 | 2.80% | 55 | 2.40% | 46 | 3.50% | 5 |
| Seat Belt | 1.00% | 17 | 1.40% | 57 | 1.20% | 402 | 1.60% | 458 |
| Shoulder Belt | 1.10% | 1 | 1.40% | 3 | 2.10% | 17 | 4.40% | 22 |
| CSS Properly used | 0.60% | 119 | 0.80% | 176 | 1.00% | 220 | 0.90% | 9 |



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Fatal to Severe Injuries of children Age <13
Over the past five years

| OCC_PROTSYS_CD (group) | Front | | | | | | | |
|------------------------|---------------|-----------|---------------|-----------|---------------|-----------|---------------|-----------|
| | Infant | | 2-3 | | 4-8 | | 9-12 | |
| | Fatal-Severe | # | Fatal-Severe | # | Fatal-Severe | # | Fatal-Severe | # |
| None | 11.60% | 10 | 10.60% | 13 | 12.70% | 47 | 19.50% | 50 |
| Lap Belt | 20.00% | 1 | | | 4.30% | 7 | 1.40% | 2 |
| CSS Improperly Used | 5.70% | 4 | 7.60% | 7 | 4.90% | 5 | | |
| Seat Belt | | | 2.70% | 6 | 2.30% | 97 | 1.50% | 203 |
| Shoulder Belt | | | 8.70% | 2 | 3.80% | 5 | 4.30% | 10 |
| CSS Properly Used | 0.80% | 3 | 1.20% | 6 | 1.70% | 9 | | |



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Child Safety by Region

| Regions | Age < 1 | Age 1 - 3 | Age 4 - 5 | Age 6 - 12 | Age <6 | Age <13 | Error Age <6 | Error Age <13 |
|--------------------|---------|-----------|-----------|------------|--------|---------|--------------|---------------|
| 1. New Orleans | 100.0% | 87.0% | 74.0% | 88.6% | 83.1% | 86.7% | 3.3% | 2.2% |
| 2. Baton Rouge | NA | 85.5% | 67.4% | 66.1% | 76.4% | 69.4% | 3.2% | 2.6% |
| 3. Houma/Thibodaux | 95.9% | 83.5% | 66.0% | 70.0% | 78.8% | 73.1% | 3.1% | 3.3% |
| 4. Lafayette | 100.0% | 98.4% | 66.7% | 85.4% | 87.5% | 86.1% | 4.2% | 2.7% |
| 5. Lake Charles | 100.0% | 97.9% | 28.3%* | 82.1% | 73.1% | 78.9% | 8.2% | 4.0% |
| 6. Alexandria | 100.0% | 100.0% | 72.1% | 85.9% | 91.2% | 87.8% | 4.1% | 2.8% |
| 7. Shreveport | 91.2% | 72.6% | 59.5% | 84.8% | 71.1% | 79.7% | 3.8% | 2.7% |
| 8. Monroe | 100.0% | 73.2% | 67.6% | 65.1% | 75.1% | 68.6% | 3.7% | 4.5% |
| Statewide | 98.3% | 86.9% | 65.8% | 79.7% | 80.2% | 79.9% | 1.5% | 1.0% |
| Error | 0.7% | 1.9% | 3.1% | 1.4% | 1.5% | 1.0% | | |

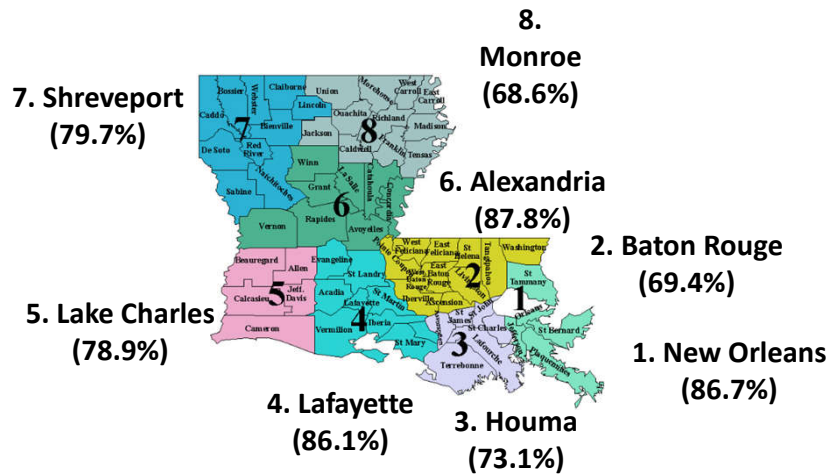


CHILD RESTRAINT USAGE ESTIMATES BY TROOP

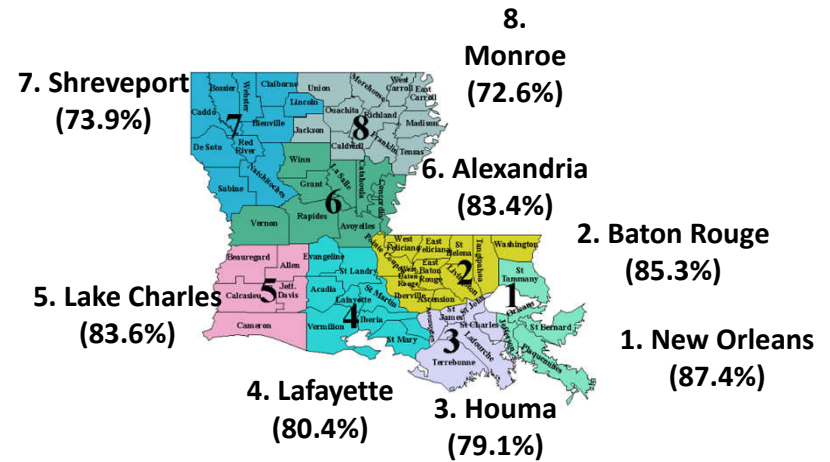
| Troop Region | Age < 1 | Age 1 - 3 | Age 4 - 5 | Age 6 - 12 | Age < 6 | Age < 13 | Standard Error Age <6 | Standard Error Age <13 |
|------------------|----------------|-----------|-----------|------------|---------|--------------|-----------------------|------------------------|
| A (Baton Rouge) | 50.0% * | 85.9% | 69.2% | 63.3% | 77.3% | 67.8% | 3.3% | 2.2% |
| B (New Orleans) | 100.0% | 84.6% | 72.0% | 85.7% | 81.0% | 84.1% | 3.2% | 2.6% |
| C (Houma) | 100.0% | 91.2% | 78.3% | 80.9% | 87.7% | 83.4% | 3.1% | 3.3% |
| D (Lake Charles) | 100.0% | 97.9% | 28.3% | 82.1% | 73.1% | 78.9% | 4.2% | 2.7% |
| E (Alexandria) | 100.0% | 100.0% | 72.1% | 85.9% | 91.2% | 87.8% | 8.2% | 4.0% |
| F (Monroe) | 100.0% | 73.2% | 67.6% | 65.1% | 75.1% | 68.6% | 4.1% | 2.8% |
| G (Shreveport) | 91.2% | 72.6% | 59.5% | 84.8% | 71.1% | 79.7% | 3.8% | 2.7% |
| I (Lafayette) | 100.0% | 98.4% | 66.7% | 85.4% | 87.5% | 86.1% | 3.7% | 4.5% |
| L (Hammond) | 100.0% | 87.7% | 65.0% | 86.1% | 79.3% | 83.8% | 3.7% | 4.5% |
| Standard Error | 0.7% | 1.9% | 3.1% | 1.4% | 1.5% | 1.0% | | |

2018 Child Restraint Usage v. 5-Year Average

2019 Child Restraint Usage (Age < 13) per Region

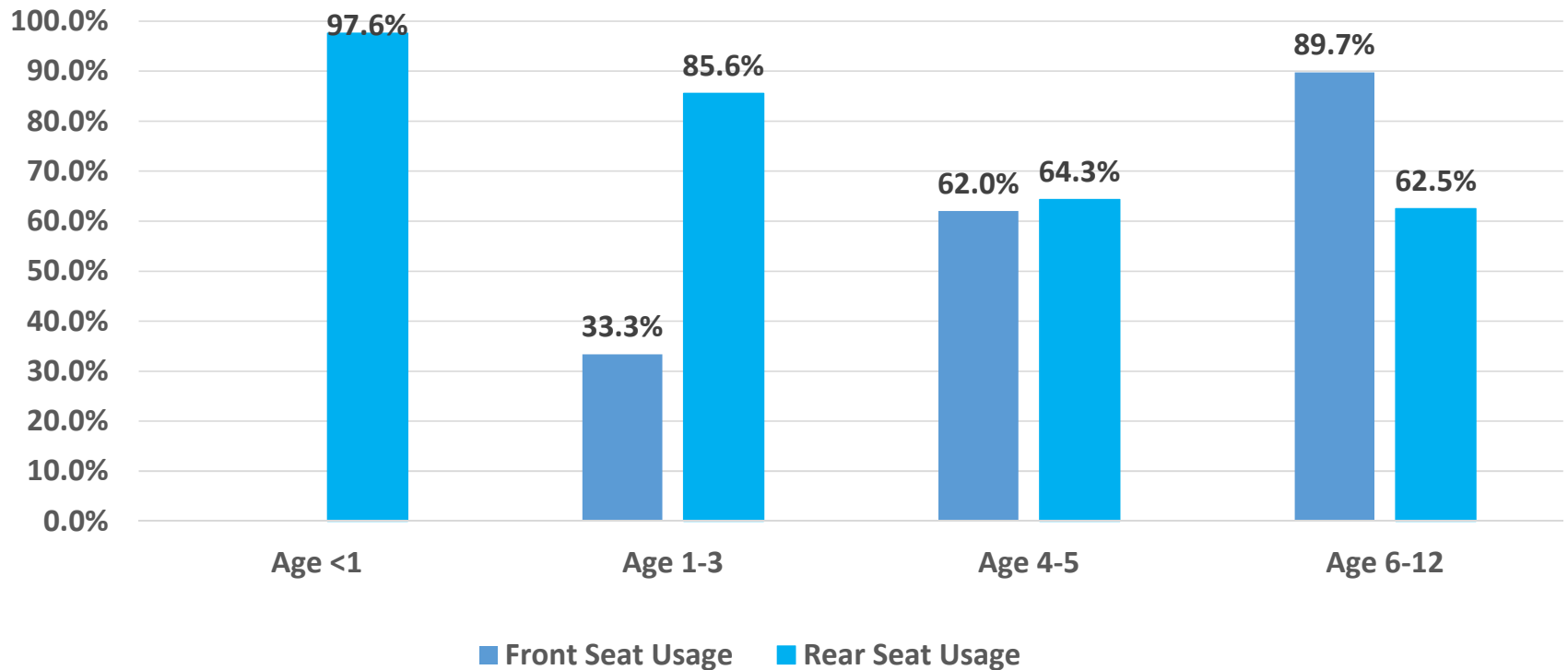


Five-year Average Child Restraint Usage (Age < 13) per Region



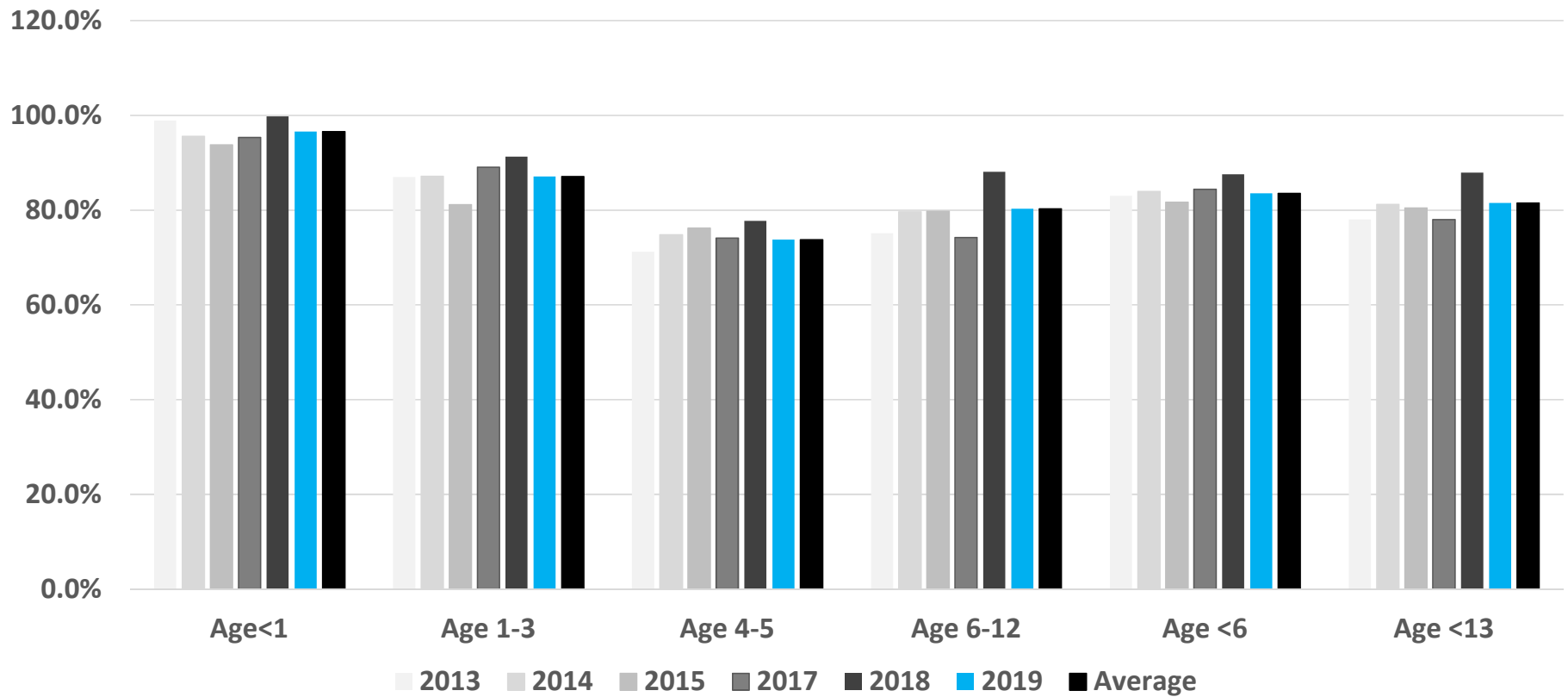


Child Occupant Protection by Seating Position



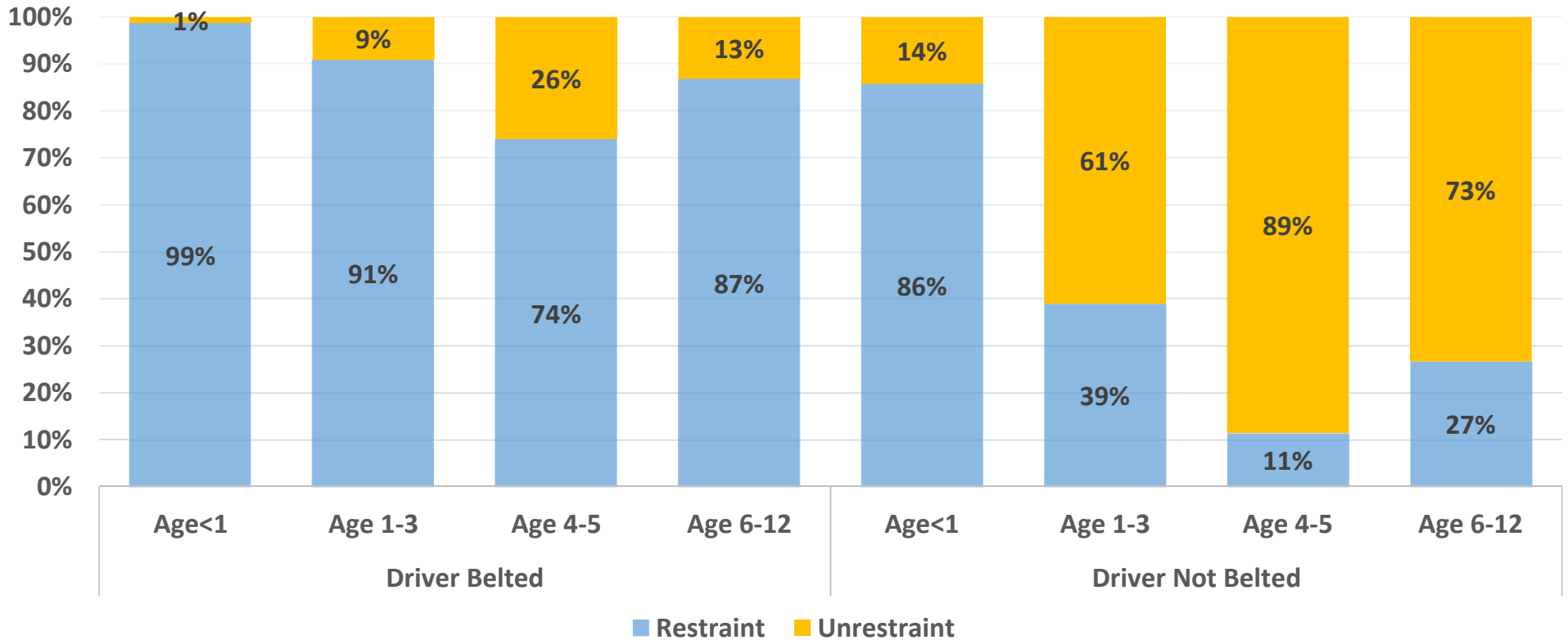


Child Occupant Protection by Year and Age Group





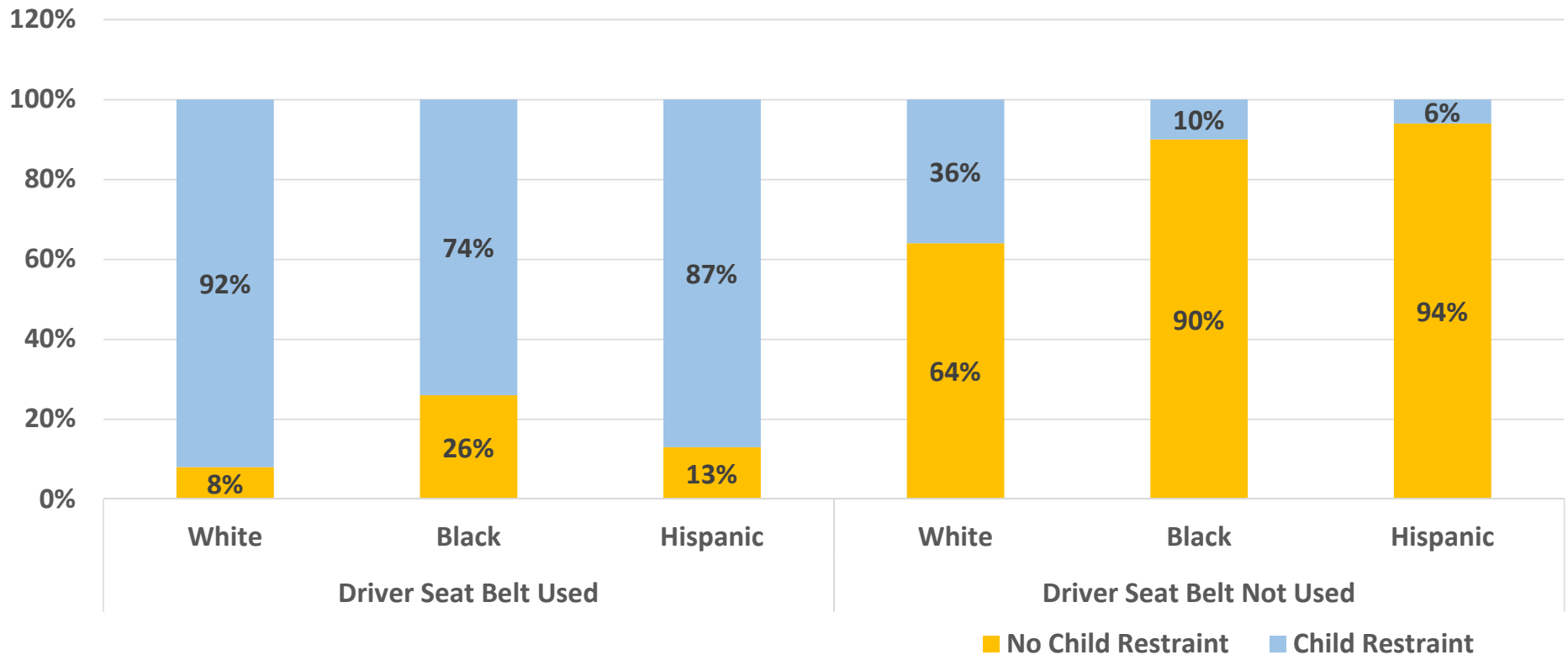
CHILD RESTRAINT USAGE ESTIMATE BY AGE GROUP AND DRIVER BELT USE





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CHILD RESTRAINT USAGE ESTIMATE FOR CHILDREN AGES 1-12 BY DRIVER RACE (2018-2019)





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Summary (2017 versus 2018)

- Fatalities have not changed
- Alcohol impaired fatalities have not changed
- Pedestrian fatalities increased by 40%
- Youth fatal crash rates have declined
- Youth fatal crash rates with Alcohol Involvement have not changed
- Seat belt use rates were slightly up in 2019 compared to 2018
- Cannabis use in fatal crashes tested by the LSP crime lab increased by 86%
- Troop C
 - increased DWI arrests from 6.5 to 8.5 per 1,000 licensed drivers
 - cut the number of fatalities in half
 - impaired driver fatalities dropped from 40% to 25%.
- Crash Costs increase by 2.8% from 2017 to 2018



Outlook 2019 and beyond

- The main factors driving fatalities and injuries
 1. Economic activities unchanged
 2. Number of licensed drivers unchanged
 3. Number of vehicles on the road remains the same
 4. Seat belt use remains the same
 5. Car safety remains the same
 6. Alcohol use declines slightly
 7. Road safety improves
- Fatalities will stay flat or increase slightly over the next 5 years
- Severe to moderate Injuries will decline slightly because old cars are phased out
- Fewer serious crashes on US & State roads more non serious crashes on City roads