Did You Know?
Traffic Safety Facts to Help Your Family Survive this Year's Holiday Season (HS)
By David B. Brown (brown@cs.ua.edu)
University of Alabama Center for Advanced Public Safety (CAPS)
Data Comparisons: CY2016-2020 HS vs Non-HS
November 2021

The following facts were found in by a five-year comparison of the last 17 days in each of the years (December 15th-31st inclusive) against all of the other days in those years (2016-2020). Collectively, this last 17 days of the years will be referenced as the *Holiday Season*. The word *expected* will appear quite often in the fact statements. The *expected* distribution of the crash attributes during the Holiday Season is calculated from a comparison with the same non-Holiday Season crash history.

If there are no differences between the Holiday and non-Holiday periods, then the percentage differences will be zero. The higher the percentage difference, the greater the particular attribute value appears in the Holiday Season. For example, the higher percentage of 11.7% of Impaired Driving/DUI during the Holiday Season indicates that significantly more are driving in the HS after consuming alcohol or other drugs. The term *over-represented* will also be used to indicate that an expected value has been exceeded to a significant degree. So, for this example we can say that ID/DUI was *over-represented* during the Holiday Season by 11.7%.

These are the facts discovered organized by their general subject areas (percent over-representations are given in parenthesis):

- Geographic
    - The highest over-represented counties in the Holliday Season were: Henry (23.0%), Perry (21.5%), Jackson (21.0%), and Covington (20.2%).
    - The highest over-represented cities in the Holiday Season were: Oxford (48.9%), Prattville (22.3%), Jasper (24.9%), Millbrook (33.8%), Scottsboro (24.2%), and Athens (26.5%).
    - Rural areas of the state were over-represented during the Holiday Season, with 4.7% higher than expected crash proportion, which accounted for 365 more than expected crashes on the rural roads.
    - Most of the roadway types (e.g., State, Interstate and County) had about the same number and proportion of crashes as expected. But Federal Highways had about 7.4% more crashes than expected and Municipal Roads had about 2.3% fewer than expected.

- Driver Behavior
    - The top over-represented crash causes for the Holiday Season were: Unseen Object/Person/Vehicle (14.5%), **Driving too Fast for Conditions (14.3%), Impaired Driving/DUI (11.7%), and Swerved to Avoid Animal (27.3%).** The unseen object causes occurred mostly after dark, as did swerving to avoid animals, which were, in almost all cases, deer (see Lighting Conditions below).
    - Single Vehicle Crashes were 15.7% higher than expected, with 7521 crashes.

- o Head-On Front to Front were 16,8% higher than expected with 819 crashes, which were dramatically some of the most severe.

- Crash Severity Causes
  - o Fatalities were 6.8% higher than expected. There were 276 persons killed during the HS five years, which comes out to over 55 per year. An estimated 14 persons could have been reduced if the severity were at the same level as in the non-HS. Items that follow in the section indicate how these lives could have been saved.
  - o Speeds at impact were highly over-represented in the 56 to 70 MPH range. In addition, all speeds 71 MPH and above were also over-represented. Such high impact speeds would account for high severity crashes as well as fatalities.
  - o Impaired driving crashes alcohol were 14.9% higher than in the non-HS. Impaired driving non-alcohol drugs were 5.5% higher than in the non-HS. Driving impaired not only increases the probability of a crash, it often makes these crashes much more severe because of the lack of restraints.
  - o Restraint Use. Drivers who were wearing their seatbelts had a probability of death was 0.148% or one in every 676 crashes. Those not properly restrained had a probability of being killed of 7%, or 1 in every 14 crashes. This death probability for unrestrained drivers was close to 50 times that of restrained drivers.

- Times and Lighting Conditions
  - o Time of Day. Two times are significantly above their expected proportions: (1) 5:00 to 5:59 PM (21.7%) and (2) 6:00 to 6:59 PM (22.9%). In the Holiday Season, these two times would be in darkness, while before the clocks were turned back, these times would be in afternoon and evening daylight.
  - o Day of the Week. The pattern observed is typical for most weeks in which alcohol and drugs are involved: Sunday had 3,846 crashes, which was 18.5% higher than expected, and Saturday had 4,741 crashes, which was 12.4% above expected. Not all impaired driving crashes are reported as such, and your driver does not have to be impaired for you to be killed another driver who is DUI.
  - o All Lighting Conditions except Daylight were significantly over-represented with the dark conditions ranging from 48% to 79% higher than in the non-HS days. Much of this is caused by the reduction in sunlight in this time of year, but a good proportion is also the choice to travel during these dark hours. About 45% of the crashes in the Holiday Season occurred after dark as compared to about 28% for non-HS.
  - o Problems in darkness include limited sight acuity, the presence of deer, drowsiness, and slower EMS response time. Impaired drivers are also much more prevalent during these times. It is quite clear that darkness played a major role both in the frequency and severity of the Holiday Season crashes. We highly urge drivers during the Holiday Season days to avoid night-time driving to the extent possible.