Thanksgiving driving patterns increase risk for fatal crashes

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(Phys.org)—Thanksgiving often means more food for Americans, but it also means more traffic on the road that brings a greater chance for fatal crashes, according to a recent study of traffic data by The University of Alabama Center for Advanced Public Safety.

Analyzing Alabama and national fatal crash data during Thanksgiving week, defined as the Monday before Thanksgiving through the Sunday after it, researchers at the center, known as CAPS, found speeding, driving under the influence of alcohol, time of day and weather all contributed to more fatal crashes in Alabama and the United States. They are common factors in fatal crashes throughout the year, except exaggerated by the activity of Thanksgiving week.

There are more parties, more vehicles on the road at night, more drivers on less-familiar roads, more tired drivers behind the wheel and more distracted drivers.

"With substantially increased traffic volume over a short period, this combination is a recipe for potential disaster," said Dr. Allen Parrish, CAPS director and professor of computer science at The University of Alabama.

The study was based primarily on 2011 traffic data from Alabama, but it also compared these results against the most recent data from the Fatality Analysis Reporting System, or FARS, maintained by the National Highway Traffic Safety Administration. The FARS data

covered the six years from 2005-2010. The Alabama data considered all reported crashes within Alabama, while the FARS data contains all fatal crashes nationally.

The research was done through UA-developed data-analysis software called Critical Analysis Reporting Environment, or CARE, used by researchers at CAPS.

"CARE enabled us to easily compare Thanksgiving week with every other week of the year and look at every attribute in the crash records, both in the Alabama and the FARS databases." Parrish said.

Nationally, there was an average 748 fatalities per week during the six-year study, yet Thanksgiving week averaged 50 more fatalities, indicating that this is a relatively more dangerous time to be on the road, according to the FARS data. In Alabama, about 16 fatal crashes occurred in an average week in 2011, but during Thanksgiving there were 17 fatal crashes, according to traffic data.

The CAPS study is intended to determine the reasons for this increase, as well as other correlating factors. They include:

- Speed was the most overrepresented factor in all of the Alabama crashes regardless of severity, with it listed more than twice as much in crash data as the primary contributing circumstance than in weeks other than Thanksgiving.
- In Alabama, lighting conditions were a significant factor in fatal crashes, with nighttime crashes overrepresented. This is expected with the shorter days and the time change. However the extra days off from work during this week means increased nightlife and alcohol-influenced driving.
- The only significantly overrepresented travelling hours in the

FARS data were from 5-7 p.m. with 20 percent more fatalities during this time of Thanksgiving week than the rest of the year. At this time of year these would typically not be daylight hours for most of the nation, confirming the Alabama results.

- Driving under the influence was more prevalent during Thanksgiving in Alabama last year, accounting for at least six of the 17 fatal crashes in the state. Of fatal crashes, 10 occurred during the long Wednesday through Sunday weekend, which is also indicative alcohol-influence driving as a cause.
- Tuesday was by far the worst day of the 2011 Thanksgiving week in Alabama, involving about 23 percent of the crashes. Weather also played a role with 67 percent of the crashes occurring in rain or on wet pavement. However, a comparison with the rain involvement on the Sunday following Thanksgiving showed the large number of crashes in Alabama on Tuesday was a combination of the weather and the larger than usual number of vehicles on the road.
- The Wednesday before Thanksgiving was no more overrepresented than Monday in Alabama, confirming recent findings that Alabamians leave for their Thanksgiving travel much earlier in the week. However, the national data showed Wednesday to be significantly overrepresented, having more than 25 percent than the expected proportion of fatalities for that day.
- By far the best travel day in Alabama was Thanksgiving Day, when few travelers are on the road. However, the FARS data showed a significantly higher number of fatalities nationally during the 24 hours of Thanksgiving Day. A further analysis of these fatalities showed that 30 percent of them occurred during the early morning hours, a strong indication that DUI may have played a part in many, if not most, of these before-daylight crashes.
- As for location, the rural areas of those counties that have major metropolitan areas in Alabama tended to be the places where

drivers should be most cautious during the Thanksgiving week.

- The most critical times and locations in Alabama are highly correlated with deer strikes, which occurred during the Thanksgiving week at a proportion of about 25 percent more than other weeks. Deer become quite nocturnal under hunting pressure this time of year in Alabama, which could account for the uptick in deer-related crashes.
- Although drivers ages 16-25 followed their typical pattern of causing more than twice their expected proportion of crashes as older drivers, unexpectedly 19-year-olds were significantly over-represented, causing close to 5 percent of all crashes during Thanksgiving week. The FARS data showed a proportionately high number of 20- and 21-year-olds killed, accounting for about 7 percent of all fatalities during Thanksgiving week nationally.
- The FARS data also showed Thanksgiving week to be a relatively bad time for pedestrians, with a statistically significant 11 percent more fatalities than other weeks, a result that was not reflected in Alabama perhaps due to its more rural nature.
- Still, Thanksgiving week is becoming less deadly for drivers nationally. The FARS data showed that Thanksgiving week beat the National trend of overall fatality reductions. Between 2005 and 2010 crash fatalities fell 25 percent while the fatalities during Thanksgiving week dropped almost 31 percent.

Parrish said there are tips to greatly increase the chances of a safe and enjoyable Thanksgiving holiday:

- Do not drink and drive, and do not ride with anyone who has had any alcohol or drug use. Avoid the late night and early morning hours to avoid becoming an innocent victim of an impaired driver.
- Watch the weather, and try to avoid times of decreased visibility

or wet pavement, especially when coupled with darkness. If caught in a heavy storm, take a break from driving until the shower passes.

- Leave early enough to accomplish most driving in the daylight.
- Thanksgiving Day during the daylight hours is a good time to travel to avoid crashes.
- Travelers in rural areas, especially where deer are protected, should recognize the nocturnal nature of deer, and that they begin to seek food at dusk at this time of year. Be especially careful in new construction areas where rye has been planted as a cover on re-worked shoulders and roadsides.
- Delegate all cell phone use and texting to a passenger in order to keep the driver free from distractions. This has clearly become one of the major traffic safety issues over the past five years.
- Fasten all safety belts and restraints. This is the best defense against becoming a fatality victim.
- Do not speed. Reducing speed by 10 mph halves the probability of being killed in a crash. Most navigation systems clearly confirm an extra 5 mph does not shave much time off a trip, but speeding can be deadly.
- Drive to reduce your risk by backing off vehicles instead of tailgating. Stay out of the blind spots of large trucks, and let aggressive drivers pass.

The www.SafeHomeAlabama.gov website provides a comprehensive view of all known organized traffic safety efforts in the state of Alabama.

UA's Center for Advanced Public Safety used its own CARE software to analyze the data to obtain the statistics for this article. Try CARE online analysis at caps.ua.edu/online_analysis.aspx. Researchers at CAPS routinely provide a variety of safety studies and planning documents, such as Crash Facts Books and Highway Safety Plans.

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Provided by University of Alabama in Tuscaloosa

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