A “freak accident” on Interstate 10 along the Mississippi Gulf Coast left a Tulane University senior dead Tuesday after an 18-wheeler lost a pair of wheels that crossed the highway and struck her in the parking lot of a rest area. Click here for accident link.

Unfortunately, this was not such a freak accident. In fact, on 8/1/18 in Brooklyn, New York, a New York City Police Department maintenance employee died on his way to work after his SUV was struck by a wheel that came off the rear passenger side of a rear load truck. Click here for accident link

These are tragic fatalities highlight the need for improved wheel inspection and maintenance.

Contributing factors in wheels off incidents can include poor drivers, poor maintenance and poor parts. Bad drivers run up and over curbs, deep potholes and cause stresses that add up, they allow dirt to build up on the wheels, leading to corrosion and loose lug nuts and they don’t take the time to properly inspect their equipment. Defective parts can be a contributing factor as well.

However, the National Transportation Safety Board concluded that "...the leading causes of wheel separations from medium and heavy trucks are improper tightening of wheel fasteners and bearing failure; both are the result of inadequate maintenance." The last time wheel separations came under serious scrutiny in this country was 1992, following a rash of wheel separations that left seven people dead. The NTSB report resulted in policies and procedures have been developed to mitigate the problem, but recurring incidents continue to be a result of poor wheel maintenance programs.

In 643 incidents where the mode of failure was reported, failure of the wheel fasteners occurred in 65% of the incidents, while wheel bearings were the mode of failure in 26%. Failure of the wheel itself or the axle spindle resulting in separations accounted for only 9% of the 643 incidents. Those types of failures are considered exceptions to the norm. Of 80 separation reports between 2000 and 2003 involving wheel fasteners, 83% noted that the suspect wheel had recently been repaired.

Technicians who remove or install wheels and rims from the vehicle must be properly trained per Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.177, which requires training for all employees that service truck tires and wheels.

Proper procedures include, but are not limited to the following:
- Stud inspection and replacement
- Tool use, such as use of calibrated torque wrenches, not impact wrenches
- Thorough cleaning and inspection, such as removing all rust and debris from mating surfaces
- Proper drum seating and use of anti-indexing sleeves
- Nut installation and final torque

Back on the road, drivers must perform daily inspections of tires and wheels, which should include:
- Check each lug for looseness by twisting it, or as indicated by rust streaks or shiny metal
- Check if wheel, nut, stud or clamp is broken. There should be no missing lugs or missing studs
- Look for any cracks, elongation, or oxidation at the lug holes or other part of a rim or spokes
- Check for evidence of slippage of wheel assembly on cast spoke hub
- If equipped, check if there is an improper spacer installed between dual wheels.

The safety culture of your organization is your primary defense against wheel-off incidents