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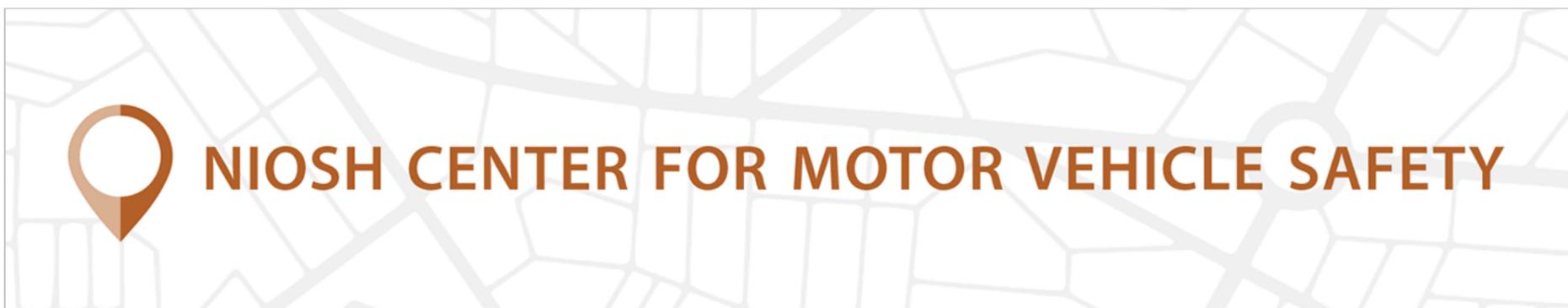


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Promoting productive workplaces through safety and health research **NIOSH**

Behind the Wheel at Work – Vol 7 No 3



Behind the Wheel at Work is a quarterly eNewsletter bringing you the latest news from the NIOSH Center for Motor Vehicle Safety.

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The Classics

This month we're refreshing some of our favorite *Behind the Wheel at Work* articles.

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Choosing the Safest Vehicles for Your Employees

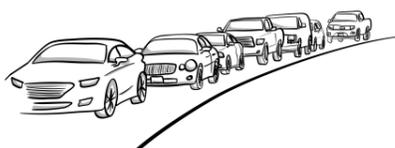


Photo by ©A-Digit / Getty Images

If you're an employer who buys or leases vehicles for your workers to use on business, you'll need to consider two levels of safety: how well the vehicle protects its occupants in the event of a crash (its "crashworthiness"), and which safety features are most effective in preventing a crash.

First, let's consider how well vehicles protect their occupants if there is a crash. In the United States, the following organizations assign safety ratings based on combined results from crash tests:

- The [National Highway Traffic Safety Administration \(NHTSA\)](#) gives each vehicle 1 to 5 stars, evaluating how vehicles perform in crash tests (one star is the lowest rating; five stars is the highest). NHTSA also provides up-to-date information on vehicle [recalls](#) .

- The [Insurance Institute for Highway Safety \(IIHS\)](#) [↗](#) designates a vehicle that best protects its occupants as a Top Safety Pick or Top Safety Pick+.

Next, businesses and consumers alike can choose from a range of automated safety features available on new vehicles today, often referred to as advanced driver assistance systems (ADAS). As we noted in a [previous issue](#), levels of automation range from 0 (no automation) to 5 (full automation).

Challenges in selecting vehicles with ADAS

Effectiveness

The IIHS analyzes crash and injury claims for all years, makes, and models of vehicles, comparing vehicles with and without each type of ADAS. This [IIHS fact sheet](#) [↗](#) summarizes the evidence supporting the benefits of ADAS. Keep in mind that some newer features aren't shown because there aren't enough cases to analyze.

Employee understanding

40% of those who responded to a [survey by the University of Iowa](#) [↗](#) said that at some point, their vehicle had behaved in a way they didn't understand. This result led to the creation of [mycardoeswhat.org](#) [↗](#) in partnership with the National Safety Council. This simple interactive site explains how each type of ADAS safety feature works, using strategies tailored to fit people of different ages and learning styles.

The bottom line: Resources are available to help employers and consumers select the safest possible vehicles, and to help drivers understand how automated vehicle safety features work.

Driver Training: The Basics



Photo by ©Kali Nine LLC / Getty Images

Why it matters [↗](#)

Why it matters

- Ensure that new employees have the basic skills, knowledge, and attitudes to operate vehicles safely and in accordance with your company's expectations.
- Give more experienced drivers a periodic "refresher" to maintain their skills and knowledge.
- Give high-risk drivers the opportunity to improve their skills, knowledge, and attitudes.

How to offer [↗](#)

You can offer driver training online, in the classroom, in a driving simulator, behind the wheel, or through a combination of methods. Best practice is to cover theory through classroom or online instruction, followed by practical training, which is most effective if done behind the wheel.

When to schedule [↗](#)

Timing is important for training new drivers. Get drivers trained as soon as possible after they are hired. Training can introduce the policies your new drivers are expected to follow and demonstrates that motor vehicle safety is a priority for your company.

Because safe driving is as much about attitudes as it is about vehicle operating skills, driver training also provides an opportunity to reinforce your company's overall values about safety.

What topics to cover

Safe driving skills

- Keep a safe following distance.
- Avoid harsh acceleration and braking.
- Drive safely in inclement weather.
- Pull forward into a parking space where possible.

Hazard perception and situational awareness

- Scan the road and surrounding areas (ahead, behind, and next to you) for other vehicles, pedestrians, and cyclists.
- Check for braking or stopped vehicles and debris in the road.
- Decide on and take action to avoid a crash.

The vehicle

- Do a 360-degree walk-around before entering the vehicle. For example, check tires and ensure there is nothing blocking the vehicle.
- Keep tires properly inflated.
- Adjust seats and mirrors.
- Maintain the vehicle according to manufacturer recommendations.
- Understand how advanced driver assistance systems (ADAS) safety features operate.

Risky driving

- Understand the dangers of impaired, fatigued, and distracted driving; speeding; and not wearing a seat belt.

For drivers of large trucks and buses

- Topics important to safe operation of these vehicles. For example, securing cargo, pre-trip inspections.

Remedial training

- Address risky behaviors shown by individual drivers. For example, remedial training for drivers who have been involved in rear-end crashes.

What we know about the effectiveness of driver training

While more research is still needed, a [study](#) of 70 companies found that several driver training practices (such as driver training in any form to all employees, training drivers who will be using personal vehicles, and remedial training to high risk drivers) were significantly associated with lower rates of injury.^[1]

Driver training required by law or regulation

For drivers of large trucks and buses

- There are currently no federal regulations that require companies to give initial driver training or refresher training to experienced drivers. It is often up to the driver to meet federal requirements to qualify as an operator and the employer to make sure that drivers have met these requirements.
- Under federal regulations now in force, drivers of large trucks and buses with less than one year of experience must complete “[entry-level driver training](#)  ” before testing for certain commercial driver’s licenses (CDLs).
- CDL drivers must show additional knowledge and skills if they want to obtain [endorsements to operate more specialized vehicles](#)  such as double and triple trailers, vehicles carrying hazardous materials, and school buses.

For drivers of emergency response vehicles

- States and localities usually require drivers of fire apparatus, ambulances, and police vehicles to receive intensive driver training before they begin work.

For drivers of light vehicles

- Workers who operate vehicles weighing 10,000 pounds or less are not required to have driver training related to their employment.
-

How to plan your program

How to plan your program. Developing an effective driver training program requires planning. There are things to consider before you engage a fleet service provider to train your employee drivers or assign your own employees to be trainers.

Understand what your training program should emphasize

- Look at your company’s crash and claims data to determine what types of incidents your drivers are involved in. If they make frequent stops, you may find that backing and parking incidents are your biggest problem. If most of your company travel is on congested urban streets, you may see that rear-end or intersection crashes dominate.
- Also look for evidence of risky driving behaviors such as using a cell phone, texting, speeding, and not wearing a seat belt. You might find this information in your crash and claims data, in motor vehicle record checks, or in data from in-vehicle monitoring systems (IVMS).

Use multiple approaches to tailor the training to your fleet and drivers

- Consult [your fleet risk assessment](#) or do a risk assessment if you don’t yet have one. This will help identify the types of driving environments your drivers encounter and suggest topics that should be included in your training.
- Consider using driver risk assessments to identify gaps in driver knowledge and attitudes.

- Make sure that drivers are trained on the vehicles they will be expected to operate. Company vehicles may have advanced driver assistance systems (ADAS), such as adaptive cruise control, lane departure warning/correction, and automatic emergency braking, that they don't have on their personal vehicles. Drivers need to understand what these systems can and cannot do.

Resources on driving training and risk assessment ^

International Association of Oil & Gas Producers, 2020. [Land transportation safety recommended practice \(OGP 365\)](#) [↗](#), version 4.0 (August 2020). International Association of Oil & Gas Producers, Land Transportation Safety Subcommittee, London.

Network of Employers for Traffic Safety, 2015. [NETS guide to defensive driver training](#) [↗](#). Network of Employers for Traffic Safety, Vienna, VA.

ANSI/ASSE, 2017. ANSI/ASSE Z15.1-2017, Safe practices for motor vehicle operations. American National Standards Institute, New York.

The bottom line. Driver training can help protect your employee drivers from crashes and injuries, but it is only one part of a [comprehensive motor vehicle safety program](#).

7 Steps to a Journey Management Procedure



Photo by ©A-Digit / Getty Images

Journey management refers to a planned and systematic process of reducing transportation-related risks within a company's operations. The objective is to minimize unnecessary trips, distances driven, and the risks associated with necessary trips.

This 7-step process can help guide your organization to add a journey management procedure (JMP) to your road safety program.

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This 7-step process can help guide your organization to add a journey management procedure (JMP) to your road safety program.

1. **Adopt journey management (JM) as part of your overall road safety management system** by creating a JM policy statement that explains the goals and expectations for its use to reduce crash risk. Determine the standards your JMPs must meet and document those standards in your JM policy. For example, you might decide that each operating location must develop a JMP to suit local conditions. You might also require that supervisors drive regularly-used routes periodically to identify new hazards.
2. **Determine necessary driving activities** by challenging the need for any trip. Is travel necessary? Is travel by road necessary? Can multiple needs for travel be met in a single trip by combining loads or "chaining" together smaller trips? Is it necessary for my company to do the transporting?
3. **Start a risk register** that identifies common hazards or conditions that may cause a motor vehicle incident. Review your fleet's previous incidents and use driver input to help identify hazards and conditions. Here's how you might organize an entry on winter driving in your risk register:

Activity	Category	Hazard	Risk
Winter driving	Driver	High levels of sustained alertness needed in extreme driving conditions	Driver fatigue or micro-sleep, leading to a crash

4. **Identify controls** to prevent and/or reduce each risk, and add them to the risk register. Primary controls include elimination (foregoing unnecessary travel), substitution (e.g., using a safer mode of transportation), engineering (e.g., requiring new vehicles to be equipped with automatic emergency braking), administrative (e.g., giving stop-work authority if driving is too hazardous), and personal protection (e.g., requiring all vehicle occupants to use seat belts).
5. **Create a JMP document and inform workers.** The JMP brings the JM policy statement, standards, risk register, and risk controls together in one document. When informing managers, supervisors, and workers of the JMP, emphasize the benefits to safety and productivity as a result of increased efficiency.
6. **Manage each trip** before, during, and after the journey. Assess risk, monitor risk, and learn about new risks by encouraging drivers to inform you of any new or temporary hazards.
7. **Review the JMP's success,** and keep in mind that the operating environment is constantly changing. Tracking incidents can measure the success of a JMP and signal a need for adjustments.

The bottom line. A thoughtfully designed journey management procedure can enhance your road safety program.

Pratt, Retzer, and Tate [2014]. [Reducing road risk using journey management.](#) *Proceedings of the ASSE Professional Development Conference.*

Tips for Driving in Hurricane Season

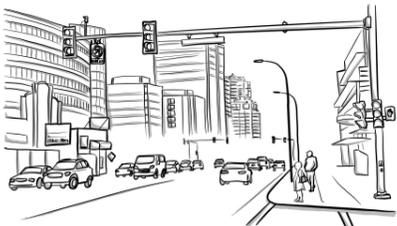


Photo by ©A-Digit / Getty Images

Hurricanes – massive storm systems that form over warm ocean waters and move toward land – can affect any U.S. coast or territory in or near the Atlantic or Pacific Ocean.

[1] Hurricane season is June 1 to November 30 in the Atlantic and May 15 to November 30 in the Pacific.[1]

These storms can disrupt business operations and put workers who drive at risk. It is important to prepare for high winds and flooding so that your drivers know what to do before, during, and after a storm hits.

- If driving is necessary before or after a hurricane, make sure that drivers and supervisors agree on the driver's route, destination, and travel schedule.
- Set policies that require drivers to consult with their supervisors to continue driving if the weather is bad.
- Check [official weather bulletins](#) [↗](#) that monitor the storm's path and strength.
- Provide workers with an emergency kit with food, flares, jumper cables, maps, tools, a fire extinguisher, flashlight, and extra batteries.[2] Consider adding a portable phone charger.
- Give workers information about road construction/closures, roadways likely to flood, washed-out bridges, and other hazards (e.g., downed trees, power lines).
- Remind workers:
 - If driving through an area under a hurricane warning, find safe shelter right away as hurricane conditions are imminent.[3] Hurricane warnings are issued 36 hours in advance of the anticipated onset of tropical-storm-force winds to allow important preparations to take place.[3]
 - Stay off roads during a hurricane.
 - If you must drive after a hurricane:
 - Travel slowly and be extra patient. Intersections may be without lights making driving more dangerous.[4] If you come to an intersection with a traffic light out, treat the intersection as if it were a four-way stop.[5]
 - Watch for fallen objects in the road, downed power lines, and weakened walls, bridges, roads, and sidewalks that might collapse.[6]
 - Never drive over downed power lines or through water that is in contact with them.[7].[8] Even without sparks or fire, a downed line can energize the ground up to 35 feet away and even more in wet conditions.[8]
 - [Turn Around Don't Drown®](#) [🚗](#) [↗](#) if you encounter a flooded road, and stay off bridges over fast-moving water. Twelve inches of moving water can carry off a small car, and 18-24 inches of moving water can carry away larger vehicles such as trucks, vans, and SUVs.[9]
 - Do not drive if you are fatigued. Fatigue impairs your ability to use good judgment when responding to hazards. If your job is to help others cope with the effects of a hurricane, you can't help them if you don't get there safely.

The bottom line. Evaluate the need for driving before, during, and immediately after a storm.

[1] [Ready.gov](#) 

[2] [Centers for Disease Control and Prevention \(CDC\)](#)

[3] [National Ocean Service](#) 

[4] [Consumer Reports](#) 

[5] [New World Climate](#) 

[6] [National Weather Service](#) 

[7] [Occupational Safety and Health Administration \(OSHA\)](#)  

[8] [Electrical Safety Foundation International](#) 

[9] [National Weather Service](#)  

Driving During the Holidays, On and Off the Job



Photo by ©vitpho / Getty Images

Along with celebration, the holidays bring increased vehicle traffic. Workers who drive as part of their job may share the roads with fatigued or impaired travelers, and in dangerous weather conditions. Many workers are themselves holiday travelers, and some may be driving a company vehicle approved for personal use.

Every winter NIOSH shares ways that employers can keep their workers safe while working in cold weather conditions. Use the following tips for on- and off-the-job driving, and learn more about working in cold in this month's newsletter.

- Give workers information about road construction/closures, bad road conditions, and other driving dangers.
- Provide workers with a driver emergency kit checklist that includes the following: ice scraper, blanket, flashlight, batteries, flares, jumper cables, first aid kit, bottled water, and nonperishable snacks.
- Set policies that allow drivers to consult with their supervisors to adjust driving hours if they have trouble seeing at night, and to stop driving if they are too tired or the weather is bad.
- Set policies that prohibit operating a vehicle under the influence of substances that could affect the ability to drive safely.
- Give workers general information about the possible effects of prescription and over-the-counter medications on their driving. Your company's health and wellness program may be able to help you locate and distribute this information.
- Remind workers:
 - Buckle up: every trip, every person. It only takes a second.
 - Do not drive if you are fatigued. Stop and take breaks as needed.
 - Keep alert and aware of your surroundings. Other drivers may be impaired, fatigued, or rushing to reach their destinations.
 - Tell your supervisor when you expect to arrive at a destination, and contact your supervisor to confirm your arrival.

The bottom line. Don't let safety take a holiday.

More Information

- Please send your comments and suggestions to us: kur4@cdc.gov
- Visit our webpage: [Motor Vehicle Safety at Work](#)

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