

FLORIDA DEPARTMENT OF TRANSPORTATION
SAFETY & HEALTH ADVISOR
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The New Normal: Lithium Batteries

By Keith Myhre

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We are living during a time when we have many daily conveniences because of our electronic technology operating from batteries, not via an electrical cord. Many of our “must have” items are using disposable or rechargeable batteries. Lithium and lithium-ion batteries have grown to be the two most popular types in use today. We frequently are learning of stories relating their dangers and spontaneous behavior when overcharged or used incorrectly. Unlike many other disposable and rechargeable batteries, lithium while being both long-lasting (single use) and holding charges much longer (lithium-ion), because of their makeup, they can store a large amount of energy. The risk of releasing toxic gas and substances (thermal runaway), fire, explosion, or electric shock, are all very real risks to this convenient energy source. Read the following safety information from the National Fire Protection Association. The holidays are coming soon and you’ll need batteries!



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Lithium-Ion Battery Safety



Lithium-ion batteries supply power to many kinds of devices including smart phones, laptops, e-scooters and e-bikes, e-cigarettes, smoke alarms, toys, and even cars. If not used correctly, or if damaged, these batteries can catch on fire or explode.

The problem

- These batteries store a large amount of energy in a small amount of space.
- Sometimes batteries are not used the right way; batteries not designed for a specific use can be dangerous.
- Like any product, a small number of these batteries are defective. They can overheat, catch fire, or explode.

Safety Tips

- Purchase and use devices that are listed by a qualified testing laboratory.
- Always follow the manufacturer's instructions.
- Only use the battery that is designed for the device.
- Put batteries in the device the right way.
- Only use the charging cord that came with the device.
- Do not charge a device under your pillow, on your bed, or on a couch.
- Do not keep charging the device or device battery after it is fully charged.
- Keep batteries at room temperature when possible. Do not charge them at temperatures below 32°F (0°C) or above 105°F (40°C).
- Store batteries away from anything that can catch fire.

Signs of a Problem

Stop using the battery if you notice these problems: odor, change in color, too much heat, change in shape, leaking, or odd noises. If it is safe to do so, move the device away from anything that can catch fire. Call **9-1-1**.

Battery Disposal

- Do not put lithium-ion batteries in the trash.
- Recycling is always the best option.
- Take them to a battery recycling location or contact your community for disposal instructions.
- Do not put discarded batteries in piles.

Charging an E-bike

Charge your battery in a flat, dry area away from children, direct sunlight, liquids, tripping hazards, and in a location where the e-bike is not at risk of falling.



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PROTECTION ASSOCIATION**

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Stagnation is the “New Smoking”

In recent years, medical experts have expressed concern about our increasingly sedentary lifestyle, particularly for those of us who work in jobs that keep us tied to our desks. Some have gone so far as to suggest sitting might be as dangerous to our health, if not more, than smoking. Though it may be a bit of a stretch to compare the two (they are distinct behaviors with different levels of associated risk), the health risks of too much sitting should not be discounted. Research has found an association between high volumes of sitting (e.g., 8+ hours/day) and adverse health outcomes — greater instances of metabolic syndrome (a cluster of conditions such as high blood pressure, increased blood sugar, and high cholesterol), a 10-20% higher risk of death from cardiovascular disease and cancer, and almost double the risk of type 2 diabetes — deeply concerning, considering the majority of American adults spend around 8 hours a day sitting. One might assume the solution is simple — just stand up. Standing desks have taken off during the past decade as a way to avoid prolonged sitting. But what if sitting itself isn't the problem? Prolonged standing carries its own set of hazards: it increases pressure on the cartilage in the knees, hips, and balls of the feet, which can cause inflammation and stiffness; it requires 20% more energy than sitting, and while it burns more calories, it also places a greater strain on the circulatory system, which can lead to leg swelling, varicose veins, and even a serious condition known as chronic venous insufficiency, or CVI (often referred to as phlebitis). Not only that, standing doesn't prevent or even reduce most of the health issues associated with prolonged sitting. That's because the converse of sitting is not standing, but moving. Sitting and standing are both stagnant activities that decrease flexibility, blood flow, and absorption of nutrients needed for the brain and muscles to work properly. “Think about a fresh flowing stream versus water that sits,” suggests Greg Wells, assistant professor at the University of Toronto. “Sitting water becomes stagnant with low oxygen, and viruses and bacteria grow in it. There's a similar effect inside the human body.”



Stagnation is the “New Smoking” (cont.)

According to the American Heart Association, sedentary jobs have increased 83% since 1950, and those who sit longer at work are not inclined to make up for it by exercising more in their off hours, but are actually more likely to sit longer outside of work as well. It may seem counterintuitive, but keeping your body active throughout the workday actually increases the likelihood that you’ll be more active outside of work as well. What most experts currently recommend for long hours of sedentary work is to alternate between sitting and standing throughout the day. This can be achieved either with or without a standing desk — taking breaks from traditional desk work to get up, stretch, and walk around throughout the day can help. Advice on how often and how long to stand varies, but most recommend changing from a seated position at least once an hour. The most important thing is to make it a habit to change between static and dynamic activity. Studies have indicated that most people will revert to their old ways of sitting for too long after an initial trial period. Setting alarms or other types of reminders can help us to remember to move until a new habit is established (and going forward).

Health Issues Associated with Stagnation

<u>PROLONGED SITTING</u>		
Cardiovascular Disease	Obesity	Type 2 Diabetes
High Blood Pressure	High Blood Sugar	High Cholesterol
Heart Disease	Stroke	Cancer
Hip and Back Pain	Osteoporosis	Blood Clotting in Legs

<u>PROLONGED STANDING</u>		
Foot Pain	Varicose Veins	Muscular Fatigue
Lower Back Pain	Arthritis	Edema in Legs and Feet
Painful Hip and Knee Joints	Neck/Shoulder Stiffness	Phlebitis (CVI)

<u>THE REMEDIES</u>				
<i>Stand Up</i>	<i>Take Stairs</i>	<i>Hydrate</i>	<i>Walk</i>	<i>Alternate Standing and Sitting</i>

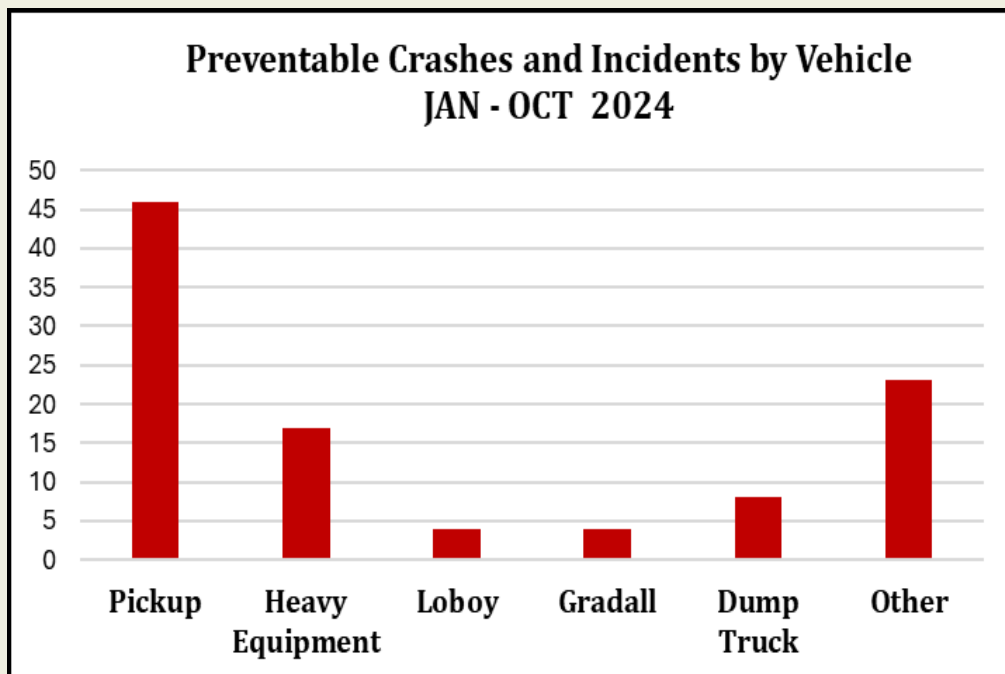
FDOT Preventable Vehicle Crashes and Incidents: January—October 2024

By Keith Myhre

Central Office, FDOT Occupational Safety and Health Programs

With less than two months remaining in 2024, there have been over 100 preventable vehicle crashes and incidents with FDOT vehicles and heavy equipment statewide. FDOT pickup trucks account for 45% of the vehicles involved in crashes and incidents. Backing collisions and colliding with moving or stopped vehicles were the top crash descriptions.

Our Industrial Safety and Information Management System (ISIMS) provides this information and more. This system allows supervisors and management to follow injury and illness trends in various workplace areas and conditions. **Please make every effort to enter all vehicle and injury reports into ISIMS as soon as they are completed. Information trends are available by district and statewide, and are crucial to identifying trends and improvements.**



FDOT Preventable Vehicle Crashes and Incidents: January—October 2024 (continued)

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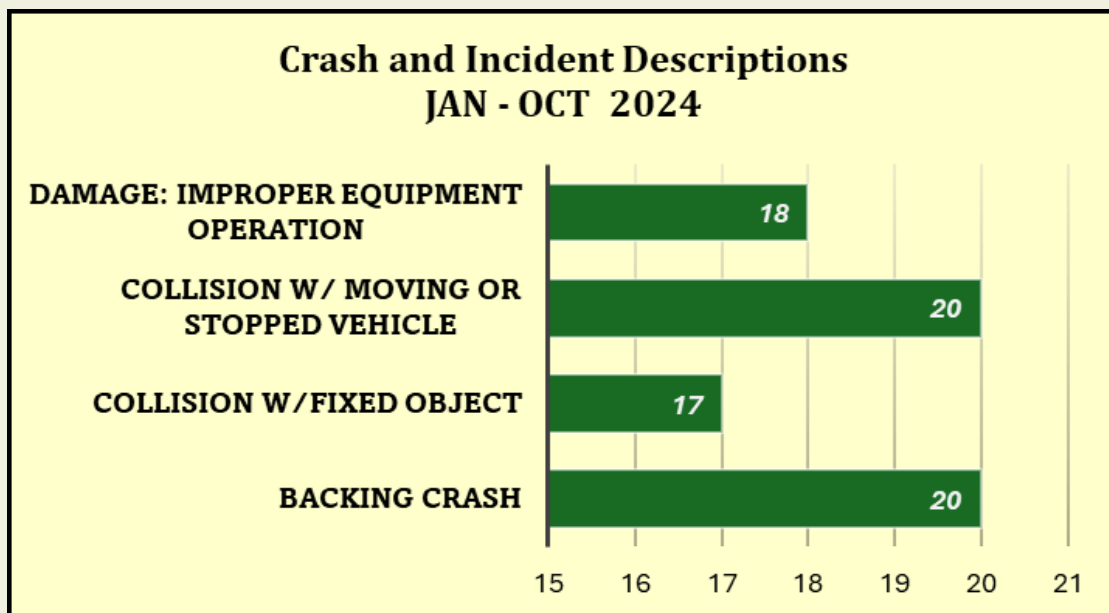
Central Office, FDOT Occupational Safety and Health Programs

Chapters 10 and 13, of the new **FDOT Occupational Health and Safety Manual**, directs employees on the expected and safe practices for employee operation of motor vehicles and heavy industrial equipment.

The following key principles for successful vehicle operation are:

All employees must be properly licensed and are required to have their license in their possession at all times when operation Department owned or leased motor vehicles or heavy equipment.

- ◆ *Follow posted speed limits*
- ◆ *Use directional signals*
- ◆ *Use proper following distances*
- ◆ *Properly secure loads*
- ◆ *Avoid sudden stops or maneuvers*
- ◆ *Operators must inspect and safely operate assigned vehicles/equipment*
- ◆ *Yield to pedestrians*
- ◆ *Report all crashes/incidents/damage*
- ◆ *Report any citations*
- ◆ *Motorists and operators must wear safety belts*



Information courtesy of the FDOT Industrial Safety Information Management System (ISIMS)

LET'S GET EVERYONE HOME SAFE FOR THE HOLIDAYS



CRASH RESPONDER SAFETY WEEK

November 18-22, 2024

MULTI-LANE ROAD



**LET'S GET OUR FIRST
RESPONDERS HOME SAFELY.
REMEMBER TO PROTECT THOSE
WHO PROTECT YOU.**



Did You Know?

*Chapter 10, of the new **FDOT Occupational Health and Safety Manual**, directs employees on wise practices of workplace head safety. Head protection must be worn by employees in the following work sites and operations: tree trimming and cleanup, underneath overhead construction and maintenance work, underneath overhead sign work, working around equipment with moving or working parts over shoulder height, using chainsaws, working in excavations/trenches, manholes or catch basins 4 feet in depth or more, and designated construction sites.*

Supervisors must ensure that all employees wear approved head protection when working at or visiting Department work sites where there is a possible danger of head injury. Approved colors for FDOT hard hats are orange, yellow or white. Head protection must be inspected regularly by the employee and replaced immediately if found to be defective, such as being cracked or otherwise damaged.



The Safety Advisor is distributed electronically to all FDOT staff monthly to promote indoor and outdoor workplace safety and generate an overall awareness of safety in our lives. It is produced monthly by the State Safety Office in Tallahassee, Florida.

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See Department safety information at: <https://www.fdot.gov/safety>
Anonymously report hazards in your workplace: (850) 414-5255

