



SAFETY SHORTS

General Safety • Highway Departments • Law Enforcement & Corrections

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ROAD/HIGHWAY DEPARTMENTS

By: KC Pawling, Road Safety and Loss Prevention Specialist

Small Flags, Big Risk: Marking Road Hazards the Correct Way

County road systems often present unique safety challenges, particularly when temporary hazards develop such as washed-out shoulders, culvert failures, soft spots, or edge drop-offs. In many cases, crews rely on flags to alert motorists and maintenance personnel to these conditions. While flagging can be an effective first step, not all flags provide adequate warning. In fact, improper flag use can increase liability rather than reduce it.

To truly protect the traveling public and limit exposure, flags must be selected and used with attention to size, visibility, placement, and overall effectiveness. Just as important, they need to be part of a broader approach to hazard awareness that aligns with established safety standards.

Flags are intended to serve as a temporary visual warning, helping draw attention to abnormal or unsafe roadway conditions until repairs can be completed or more formal traffic control measures are installed. The Manual on Uniform Traffic Control Devices (MUTCD, 11th Edition) emphasizes that drivers must be given enough time to see, recognize, and respond to hazards. A flag that lacks visibility or is poorly placed does not meet that expectation.

When using flags to alert drivers to temporary road hazards, consider the following:

Size and material. One of the most important factors is size. Flags used for roadway hazards should be large enough to be seen clearly at normal travel speeds and distances. A commonly accepted minimum is 18 inches by 18 inches, although larger flags are often more effective. These should be made of durable, weather-resistant material. Larger flags also tend to move more in the wind, which helps catch a driver's attention.

Color/visibility. Color and visibility are equally important. Fluorescent orange is widely recognized as the standard color for temporary traffic control and roadside hazards, consistent with MUTCD work zone

principles. This color stands out in most environments and signals caution to drivers. For conditions that extend into nighttime or low-light periods, adding retroreflective material or supplemental visibility devices becomes essential. The goal is not just to make the flag visible, but to ensure it is immediately recognized as a warning.

Positioning. How and where flags are placed can make the difference between an effective warning and one that is easily missed. Flags should be mounted high enough—generally 36 to 48 inches above the ground or higher depending on vegetation or terrain—to remain in a driver’s line of sight. They should be placed on the same side of the road as the hazard. Rather than relying on a single flag, crews should consider using multiple flags to define or “frame” the hazard area. This creates a clearer visual cue and improves a driver’s ability to understand the situation ahead. On higher-speed county roads, providing advance notice through spacing becomes especially important, as drivers need additional time to react.

Types of Flags to Avoid. It is also important to understand what not to use. Small utility locate flags, while common on job sites, are not designed for traffic warning. Their limited size, low height, and intended purpose for close-range identification make them ineffective for alerting drivers. When these flags are used in place of proper hazard markers, they can create a false sense of security. If a driver cannot reasonably detect a hazard in time to respond, the marking has failed—and from a liability standpoint, that can be significant.

When a Flag is Not an Adequate Warning. Another key consideration is recognizing when flags alone are not enough. Flags should be viewed as a temporary or supplemental measure rather than a complete solution. If a hazard is more severe, persists for an extended time, or encroaches into the traveled portion of the roadway, additional traffic control devices should be used. This may include warning signs such as “Soft Shoulder” or “Road Edge Drop-Off,” as well as cones, drums, or delineators. In more complex situations, a temporary traffic control plan may be necessary to align fully with MUTCD Part 6 requirements.

Environmental Conditions. Visibility must also be maintained under changing conditions. Hazards do not disappear when sunlight fades, and neither should their warnings. When flags remain in place overnight or during periods of poor visibility such as rain, fog, dust, or snow, additional measures like retroreflective materials or object markers should be used. Ensuring visibility at all times supports both safety and compliance with established standards.

Need for Continuous Monitoring. Ongoing inspection and maintenance are critical to keeping flagging effective. Flags should be checked regularly, particularly after storms, strong winds, or heavy traffic activity. A flag that is torn, faded, knocked down, or obscured by vegetation no longer provides meaningful warning. Prompt replacement or adjustment is necessary to maintain effectiveness. At the same time, it is equally important to remove flags once a hazard has been corrected. Leaving outdated warnings in place can reduce driver trust and lead to complacency.

Documentation. From a risk management perspective, documentation and consistency play an important role. Recording when hazards are identified, how they are marked, and when they are corrected helps demonstrate due diligence. Taking photos of proper flag placement can provide additional support if questions arise later. Just as important, crews should apply consistent practices across the county so that drivers can quickly recognize what flagged hazards mean, no matter where they are traveling.

Regulatory Requirements. Although flags themselves are not heavily detailed as standalone devices in regulations, their use is guided by broader safety principles found in the MUTCD, ANSI visibility standards, OSHA requirements, and ATSSA best practices. All of these emphasize the same underlying message: hazards must be clearly visible, understandable, and appropriately marked to give road users time to react.

In the end, properly marking roadside hazards is not just a routine task, it is a critical piece of public safety and liability prevention. Taking the time to use the right size flags, placing them correctly, and supporting them with appropriate traffic control measures can make a meaningful difference. Simply put, if drivers cannot see a hazard in time to react, it is not effectively marked.

If you need a training scheduled, or just simply want help developing or improving your safety and training program, you can contact me via email at kcpawling@nirma.info or phone at 402-310-4417.

GENERAL SAFETY

By: Chad Engle, Loss Prevention Manager and Safety Specialist

Lithium-Ion Battery Safety

Earlier this month, I attended the American Society of Safety Professionals (ASSP) Safety 2026 Conference. On my Southwest Airlines flight, I noticed a new addition to the pre-flight safety briefing: passengers were instructed to keep portable battery packs **in sight** rather than in overhead compartments.

While no explanation was provided, the reasoning became clear during a conference session titled “*Hot Cells, High Stakes: Mitigating Lithium Battery Fire Risks in the Workplace.*”

A key concept discussed was **thermal runaway**—a chain reaction in lithium-ion (Li-Ion) batteries where overheating leads to a rapid, violent fire that is extremely difficult to extinguish.

This may seem like a rare issue, but the presenter shared that **approximately two battery-related fires occur per week on airplanes**, and incidents are increasing on construction sites where the rough handling and use of Li-Ion powered tools is common.

When you think about it, Li-ion batteries are everywhere:

Electric vehicles, e-bikes, scooters, lawn equipment, laptops, tablets, phones, power tools, smartwatches, robotic vacuums, toys—the list continues to grow.

Why Li-Ion Batteries Fail

Li-Ion batteries can ignite due to:

- Mechanical damage
- High temperatures (thermal stress)
- Manufacturing defects
- Aging and repeated charging cycles

Prevention Tips

To reduce risk:

- Use only manufacturer-approved or certified chargers
- Regularly inspect batteries for swelling, dents, heat, or unusual odors
- Stop using damaged devices immediately
- Charge devices on hard, nonflammable surfaces
- Avoid charging on beds, couches, or carpets
- Do not charge overnight or near flammable materials
- Avoid extreme heat or cold exposure
- Use batteries with recognized certifications (e.g., UL Listed)

Emergency Preparedness

If a thermal runaway event occurs, preparation is critical.

- Include battery fire scenarios in your Emergency Action Plan (EAP)
- Train employees or family members on response procedures
- If a battery is smoking, bulging or damaged, move it outside and away from your home. Dial 911 and identify that you have a battery actively smoking.
- When handling a damaged battery use safety goggles and heavy nitrile or butyl gloves to prevent chemical burns from leaking lithium fluid
- Do not submerge a damaged battery in water
- Submerge the battery in a sturdy bucket filled with an inert butter like dry sand, dirt, or kitty litter

Specialized products are available, including:

- Fire-resistant battery storage containers
- Li-Ion battery fire containment kits are available through industrial and first-responder suppliers
- Fire suppression blankets for devices ranging from phones to electric vehicles

Because these fires are difficult to extinguish, **property damage costs can be significantly higher than typical fires.**

Proper Battery Disposal

Never dispose of Li-Ion batteries in regular trash. Improper disposal can lead to fires in garbage trucks and waste facilities.

Always use approved battery recycling or disposal programs.

Final Recommendations

Take the following steps today:

- Identify all Li-Ion batteries in your home and workplace
- Inspect and maintain them regularly
- Follow safe charging practices
- Dispose of batteries properly
- Develop and practice a thermal runaway response plan

Please don't hesitate to reach out with any questions. I can be reached at **chad@nirma.info** or **402-742-9225**.

LAW ENFORCEMENT/CORRECTIONS

By: Todd Duncan, Law Enforcement and Safety Specialist

The #1 Threat to First Responders Isn't What You Think

Most law enforcement and corrections professionals spend their careers preparing for active shooters, violent offenders, traffic crashes, and other high-risk situations. Yet the greatest threat to many officers is far less visible.

Heart disease remains the leading cause of death in the United States, and first responders face an even greater risk than the general population.

The Numbers Are Hard to Ignore

- **Nearly half of U.S. adults** have some form of cardiovascular disease.
- Heart disease causes **approximately 1 in every 5 deaths** in the United States.
- Sudden cardiac events are one of the leading causes of **on-duty deaths** among law enforcement officers.
- Research has shown that officers are **significantly more likely to experience a cardiac event during high-stress duties** such as physical altercations, foot pursuits, tactical operations, and sudden emergency responses than during routine activities.

Why Are First Responders at Higher Risk?

The job itself creates the perfect storm for cardiovascular disease.

Repeated exposure to high-adrenaline incidents increases heart rate and blood pressure. Shift work disrupts sleep and normal hormone regulation. Long hours sitting in patrol vehicles or control rooms reduce physical activity, while poor sleep, chronic stress, unhealthy food choices, tobacco use, and elevated blood pressure further accelerate the buildup of plaque inside the arteries.

The dangerous part is that **heart disease often develops silently for decades**. Many people feel perfectly healthy until they experience chest pain, a heart attack, or sudden cardiac arrest.

Know Your Numbers

One of the best ways to reduce your risk is to identify problems early. Talk with your healthcare provider about regular screenings, including:

- Blood pressure
- Cholesterol (including LDL cholesterol)
- Blood sugar (A1C or fasting glucose)
- Body weight and waist circumference
- Family history of heart disease

- For some individuals—especially those over age 40 with multiple risk factors—a **Coronary Artery Calcium (CAC) scan** may help identify hidden plaque before symptoms develop.

Five Steps That Can Save Your Life

1. **Exercise regularly.** Aim for at least 150 minutes of moderate exercise each week, including both cardiovascular and strength training.
2. **Eat a heart-healthy diet.** Focus on vegetables, fruits, whole grains, beans, nuts, fish, and other lean proteins while limiting processed foods, added sugars, and saturated fats.
3. **Prioritize sleep and stress management.** Good sleep, stress reduction, and recovery are essential—not luxuries.
4. **Control the controllable.** Work with your healthcare provider to manage blood pressure, cholesterol, diabetes, and other medical conditions.
5. **Don't ignore warning signs.** Chest discomfort, unusual shortness of breath, pain radiating to the arm or jaw, unexplained fatigue, or dizziness should never be dismissed.

Don't Let the Silent Killer Win

You spend your career protecting others. Make your own health part of your officer safety strategy.

The best body armor in the world can't protect you from clogged arteries, but healthy habits, regular medical screenings, and early intervention can.

Stay professional. Stay accountable. Protect the badge.

NIRMA Member Officials, Supervisors, and Managers:

Have a human resource question or issue? Contact NIRMA's Human Resources Helpline at (866) 896-6423.

Have a non-HR legal question or issue? Contact NIRMA's Legal Link at (402) 742-9240 or by email at legallink@nirma.info