



ATSSA
NEW PRODUCTS
ROLLOUT

2025 New Products Rollout Summary



Disclaimer: ATSSA does not endorse or favor a specific product or company over another. The purpose of this report is to raise awareness of innovations submitted through the New Products Rollout (NPRO) program at ATSSA's Annual Convention & Traffic Expo, which showcases advancements in roadway safety. This report does not imply preference or official endorsement.

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NPRO Program Summary

The 2025 ATSSA New Products Rollout (NPRO) highlighted 20 roadway safety innovations that included one award winner and three honorable mentions. Each device or technology showed significant benefits for improving roadway safety for highway workers, emergency responders and various types of users including motorists and vulnerable road users. Devices included in the NPRO also provide greater efficiency in work operations and real-time processing of data and information that is useful to workers and users alike.

Further outreach and promotion of the devices included in this report is warranted and will assist manufacturers with broader deployment of the devices and technologies, enabling agencies to advance roadway safety.

Introduction

Critical thinking on ways to improve roadway safety spurs innovation in devices and technologies that can reduce serious injuries and fatalities on our nation's roadways. Such critical thinking occurs at various levels between public agencies, contractors and manufacturers in the highway industry. As manufacturers evaluate safety challenges for roadway workers, motorists and other users, they create new products to improve safety and alleviate these challenges. Sharing information on these new products can foster greater use, thereby improving roadway safety.

To facilitate greater focus on new innovations, the American Traffic Safety Services Association (ATSSA) created the New Products Rollout (NPRO) – a leading platform for showcasing the latest innovations in roadway safety. In 2025, ATSSA received a record 20 NPRO entries, showcasing each at the 2025 Convention & Traffic Expo in Orlando, Fla., held Feb. 28 through March 4.

The 2025 Convention & Traffic Expo included several interactive techniques for showcasing these new products, including:

- **Meter boards and looped-in videos** at the NPRO and Education Showcase Stage. Scan the code to learn more about the NPRO program.
- **A guided tour** for public agency personnel to hear a brief presentation on each device and have an opportunity to ask questions.
- **Innovation Awards** highlighting the winner (Safety Cloud by HAAS Alert) and three honorable mentions (Secure OS® Soffit, StripeBot and Work Zone Live).
- **Awards Reception** celebrating the finalists and their contributions to roadway safety.



This report highlights emerging technologies and trends in roadway safety including insights on potential impacts, challenges and opportunities. It summarizes the results of the 2025 Innovation Award contest that is held in conjunction with NPRO and provides detail for the 20 products in the following categories:

- Pavement markings, materials, tools and markers
- Positive protection and crash attenuators
- Temporary traffic control
- Worker safety/productivity and road user safety

As noted in the following table, investment trends emphasize automation to increase productivity (such as in application of temporary markings) and artificial intelligence (AI) is leveraged to enhance data processing and real-time information. In addition, several

entries include a new generation of positive protection devices and attenuators, as well as innovation in enhancing worker and road user safety, including vulnerable road users.

| Product Name | Temporary Traffic Control | Worker Safety/ Productivity and Road User Safety | Pavement Markings, Materials, Tools and Markers | Positive Protection* and Crash Attenuators |
|---------------------------------------|---------------------------|--|---|--|
| Residential Driveway Temporary Signal | ● | ● | | |
| Traffic Pro Beds and Trailer | ● | ● | | |
| Guardian Smart Sign | ● | ● | | |
| SVEA Barrier | ● | ● | | |
| Torun Barrier | ● | ● | | ● |
| Work Zone Live | ● | ● | | |
| Safety Cloud | | ● | | |
| Bolt Spider | | ● | | |
| SecurOS® Soffit | | ● | | |
| Zone Command | | ● | | |
| Stamark Removeable Tape | | ● | ● | |
| StripeBot | | ● | ● | |
| Internally Illuminated RPM | | ● | ● | |
| Marking Specification Tracker | | | ● | |
| Next Generation Guardrail Terminal | | ● | | ● |
| 4F-T Terminal | | ● | | ● |
| NOVUS 100 Crash Cushion | | ● | | ● |
| Colorado Barrier | ● | ● | | ● |
| TALL42 Moveable Concrete Barrier | ● | ● | | ● |
| Ape Barrier | ● | ● | | ● |

*Device tested to applicable Manual for Assessing Safety Hardware (MASH) criteria

2025 NPRO Entries

The following sections describe the technologies and devices submitted as NPRO entries for 2025. Each section includes a Quick Response (QR) code that links to a descriptive product video for each device. This report also provides an assessment of opportunities to further highlight new and emerging roadway safety technologies.

While each product in this report is listed under a primary category for organizational purposes, many products serve multiple functions and therefore span multiple categories. As illustrated in the table above, a single product may be relevant to more than one focus area. For instance, Work Zone Live is applicable to both the Temporary Traffic Control category and the Worker Safety/Productivity and Road User Safety category, highlighting the multifunctional nature of many of the solutions presented. Also, within each primary category, products have been arranged in alphabetical order.

Pavement Markings, Materials, Tools and Markers

Internally Illuminated Raised Pavement Marker

Raised pavement markers (RPM) improve roadway safety by increasing visibility of the travel way for users. However, traditional RPMs experience challenges such as poor retention, physical damage and loss of retroreflectivity, especially in areas with heavy traffic flow. In addition, pavement failure may be one reason for loss of functionality or adhesive failure, and missing markers can become hazards and create openings for water to degrade and potentially reduce pavement lifespan. In locations with heavy snowfall, snowplows may also damage or dislodge RPMs, creating the need for maintenance or replacement of traditional designs.

LUBAO created a snowplow resistant RPM powered by solar technology. The device absorbs sunlight during daytime hours to provide 32 hours of continuous illumination at night. The marker is made from high-strength materials and has an IP68 waterproof rating. The internally illuminated design provides

- The Internally Illuminated RPM is a solar road stud light.
- It comes in various colors including white and yellow.
- It provides solar charging for up to 32 continuous hours of LED run time.
- It improves safety and reduces damage to RPMs and supporting pavement.
- Website: lu-bao.com



Figure 1. Example deployment of Internally Illuminated RPMs

visibility from multiple angles to improve road safety in low-light conditions. The device requires a clean core hole and uses glue around the device to maintain position and allow for long-term use.

Markings Specification Tracker

Pavement marking specifications vary by state and contractors are faced with the challenge of keeping up with the various definitions, requirements and units of measure within each specification. In addition, relevant regulations are highly fragmented, with each agency having tailored specifications that must be met.

To alleviate this issue, DOW developed a digital platform that allows users to more easily navigate U.S. waterborne traffic paint specifications. The system consolidates critical requirements such as dry time, formula composition, retroreflectivity and application requirements into one dashboard. The system uses an interactive map and tabular formats for ease of viewing.

System users have access to over 100 critical requirements from more than 50 specification documents – some of which typically require manual review of hundreds of pages of documentation. Users perform side-by-side comparison of selected specifications, screen user-defined performance targets, and compute match scores.

- The Markings Specification Tracker is an electronic system of waterborne paint specifications.
- It is a digital system for scientists, formulators, transportation officials and contractors.
- It streamlines product development.
- It accelerates performance-driven innovation.
- Website: dow.com/en-us.html

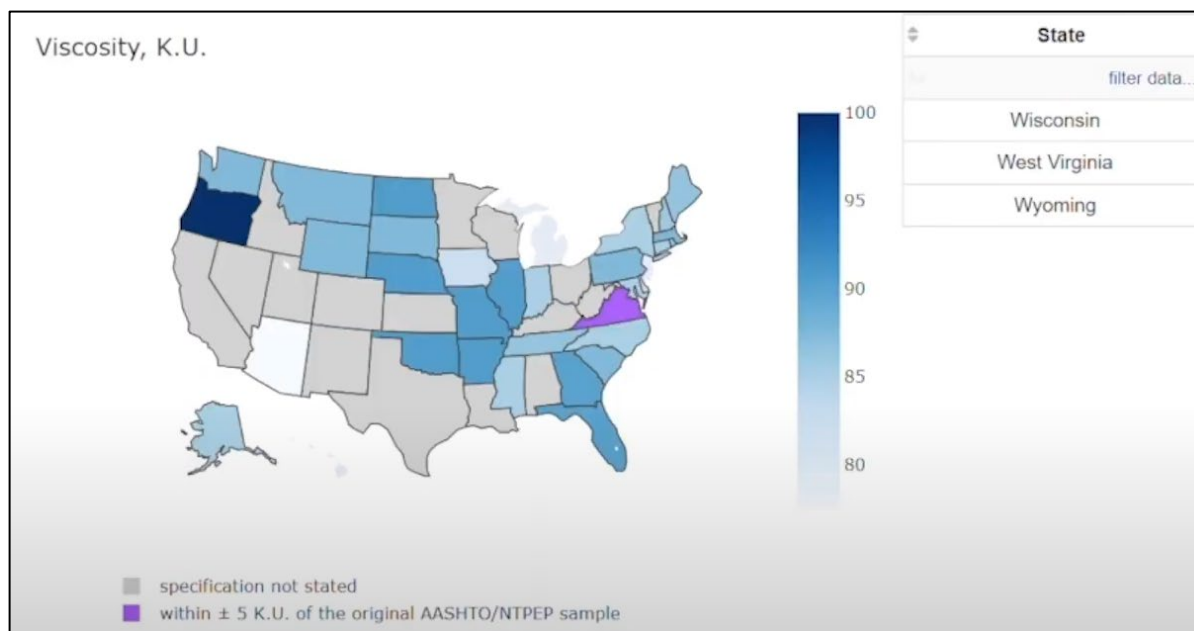


Figure 2. DOW™ Specification Tracker user interface

Stamark™ All Weather Removable Tape Series 710IR

Tape designs for temporary pavement markings are engineered for easy installation and removal, eliminating the need for labor intensive methods like grinding. Temporary tapes benefit both workers and motorists by offering both quick removal and enhanced visibility. However, some tapes can be challenging to remove, potentially causing delays or worker fatigue when the tape breaks into smaller pieces during removal.

To address these challenges, 3M developed Stamark™ All Westher Removable Tape Series 710IR, a high-strength, wet-reflective tape that can be removed intact using a spool mounted on a small



Figure 3. 3M Stamark™ removable tape examples

transport vehicle. With a tensile strength of 1,300 psi, this tape is available in yellow or white and remains highly visible in wet and nighttime conditions. It comes in 4-, 6-, 8- and 10-inch widths to accommodate a variety of applications, including contrast markings. Zirconia-enriched optical beads provide enhanced retroreflectivity. Designed for use on asphalt or concrete surfaces, the tape can be removed manually or mechanically. When using a specialized spool, the roll-up design simplifies disposal.

A contractor that recently applied 710IR for a state agency's pilot project reported significantly easier removal, which reduced the duration of lane closures. Shorter closure times help improve work zone safety by minimizing worker exposure to traffic.

- Stamark™ all-weather removable Tape Series 710IR is a wet reflective, enhanced strength tape.
- It has seen significant usage in Kansas, Illinois and Michigan.
- It is easily removed and maintains internal strength for high-volume, high-speed applications.
- Website:
3m.com/3m/en_US/road-safety-us/



StripeBot

Highway workers remove existing pavement markings using various techniques including water blasting, grinding, or covering the markings for applications such as temporary traffic control in work zones. Some of these techniques can leave marks on the surface that could confuse motorists, and physical removal often requires personnel to work close to traffic. Water blasting is one common technique that is used due to its ability to adequately remove pavement markings and glass beads without pavement scarring.

StripeBot is an automated pavement marking removal tool that is powered with AI. The tool provides 40,000 to 55,000 pounds per square inch (psi) of pressure to remove markings on horizontal surfaces. The removal head is powered by a robot and is compatible with any existing water blasting system. Users can also



Figure 4. StripeBot remote operation demonstration

- **2025 ATSSA Innovation Honorable Mention**
- StripeBot is a remote-controlled marking removal system.
- It picks up markings for easy disposal.
- It is compatible with any water-blasting system on the market.
- It is equipped with AI for autonomous operation.
- *Website:*
apexwaterjetting.com/product/stripebot/



control the system with a handheld remote, and the device uses ultra-high pressure water connections and a vacuum hose. Operation can be performed using either autonomous steering or via remote control.

Using traditional marking removal methods, users walk with the device to guide it and operate it manually. Using AI, the system can operate autonomously, or users can operate the device from a nearby location using the wireless handheld controller. Working behind channelizing devices during pavement marking removal operations provides exposure for workers. StripeBot allows workers to stand a greater distance from moving traffic thereby increasing safety and improving overall efficiency for the operation.

Positive Protection and Crash Attenuators

4F-T™ (4 Foot Flared Trend® Terminal)

Guardrail end terminals are typically tangentially connected to the downstream guardrail system with the purpose of protecting against a known roadway hazard. Designers determine the “length of need” of the guardrail system to protect occupants of errant vehicles based on the trajectory in relation to the roadway hazard. One innovation recently developed involves a different configuration and orientation of the guardrail end treatment.

- The 4F-T™ is a MASH Test Level 3 flared redirective gating end terminal.
- It has a 4-foot flare.
- It reduces nuisance impacts and length of need.
- Website:
valtir.com/product/4f-t-flared-end-terminal

The 4 Foot Flared Trend® Terminal is a guardrail end treatment that is flared away (by 4 feet) from the roadway over its pay-length of 34-feet 4 ½-inches. The flared 4F-T™ is designed to reduce nuisance impacts as well as the length of need of downstream guardrail. The 4F-T™ is a single sided W-Beam guardrail end terminal tested to MASH 2nd Edition (2016) Test Level 3 criteria. The design includes a proprietary impact head attached to one 6-foot length post, a formed ground strut, eight Steel Yielding Terminal Posts (SYTP®), specialized steel spacer blocks and universal slotted 10-gauge W-beam guardrail panels. All components are fabricated from galvanized steel to reduce weather and ultraviolet light related issues.



System characteristics include:

- 34' 4 ½" length weighing approximately 1,300 lbs.
- 12-inch width at impact head, 31-inch height (except at impact head).
- Beginning length of need is 12.5 feet from the first post.



Figure 5. 4F-T™ (4 Foot Flared Trend® Terminal) installed

The 4F-T™ is redirective and gating to absorb the energy of the impact. It is designed for use with single-sided longitudinal highway W-beam guardrail systems for roadside and shoulder installations, in either approach or departure application. The larger flare and reduced footprint is designed to simplify maintenance such as snow removal and sweeping operations by providing more area around the device.

Ape Barrier™

Longitudinal traffic barriers provide protection of the workspace within a work zone by redirecting vehicles and preventing intrusion. Most longitudinal barriers used as positive protection devices are made of concrete or steel. Some lighter materials such as polyethylene water- or sand-filled devices are used in lower-speed settings.

The Ape Barrier™ is a MASH Test Level 3 accredited composite longitudinal barrier made from fiber-reinforced polymer. It is currently being used by the Pennsylvania Turnpike Commission, the City of Hilliard, Ohio, and planned for upcoming Ohio Department of Transportation (ODOT) pilot projects.

Several characteristics of the Ape Barrier™ include:

- Inverted stacking capability for transfer of 864 linear feet on one truck
- 720 linear feet of haul capacity when inverted stacking is not used
- 360 linear feet of haul capacity on a goose neck trailer with smaller truck
- 1,200 pounds of weight per 24-foot-long barrier section
- 32-inch height with a 20-inch base width
- 24-foot standard section length
- 25-year design life.

The high strength-to-weight ratio makes the barrier lighter and expands applications. The



Figure 6. Ape Barrier™ System with connection features

- The Ape Barrier™ is a longitudinal traffic barrier.
- It meets MASH Test Level 3 criteria.
- It has a reinforced polymer design (fiberglass).
- IT has a 25-year design life.
- Unit weight is 50 pounds/lift.
- Website:
asyntsolutions.com/ap-barriers



barrier material is also resistant to roadway de-icing chemicals. The devices can be loaded with a forklift and placed using a lifting device similar to other barriers. Tested on a 3-inch asphalt surface, the device sections can be pinned to the surface to limit deflection.

Colorado Barrier

While some barriers are designed for protection of workers and road users in high-speed situations, others are designed from various types of lighter materials for use in relatively lower speed applications. This often results in easier placement and removal of the devices and may allow for hauling efficiency. Some devices also have several applications such as protective features or pedestrian channelization, depending on the dynamic deflection (the distance the device moves laterally when impacted by a vehicle).

Barriers may be made of other materials such as concrete or steel, and consideration is needed for disposal after their design life. One innovative device uses recycled materials and can itself be recycled after the end of its useful life.

Pretred's Colorado Barrier meets MASH Test Level 2 criteria and is a sustainable rubber barrier made from waste tires. Under the crash test, the barrier deflected 79 inches upon impact. The device can be used as a work zone barrier for temporary construction activities on roadways with up to 40



Figure 7. Colorado Barrier made from recycled tires.

- Colorado Barrier uses 75 to 100 repurposed waste tires per barrier.
- It is designed for low-speed applications.
- It has approximately 79 inches of deflection.
- It is made from at least 95% recycled materials.
- It is also used at airports, parking garages/lots and walkways.
- Website: pretred.com



mph posted speed limits. The work zone barrier is 8 feet in length, 24 inches in width at the base (12 inches at the top), and 32 inches in height. In addition, 20 sections of barrier can be hauled on one truck for installation at a project site. The sections are transported and relocated using a forklift and are available with various reflector options. Pretred is also developing a similar barrier for higher speed applications that is planned for the near future.

Next Generation Terminal (NGT)

Guardrail end terminals protect against a motorist impacting a blunt guardrail end in a crash. The end terminal can significantly decrease the effects of the impact. In one study, a state agency evaluated 15 years of crash data for guardrail terminals and noted that less than 1% of guardrail end terminal crashes resulted in a fatality, and over 60% resulted in property damage only crashes.¹

Some end terminals are redirective, while others have a gating design. Traditional “gating” guardrail end terminals improve safety by bending out of the way to allow a vehicle to pass behind the guardrail. Non-gating end terminals redirect vehicles and do not allow the errant vehicle to pass behind the guardrail section near the impact area.

- The NGT is a MASH Test Level 3 non-gating guardrail end terminal
- Its sections collapse together on impact.
- It has a maximum terminal length of 37.5 feet.
- It is designed to alleviate the need for the clear runout area.
- Website: nextgensafety.net



Figure 8. Next Generation Terminal installed

The Next Generation Terminal (NGT) is tested to MASH Test Level 3 as a non-gating end terminal for W-Beam guardrail sections. This device was also tested at speeds exceeding the MASH Test Level 3 criteria with no impact to the passenger compartment.

The NGT can be used along high-speed corridors where the most fatalities and serious injuries occur. As impact occurs, the rail stays underneath the vehicle, and the posts shear off until the impacting vehicle reaches a complete stop.

The NGT has a tension-based design with patented folding technology, cable-integrated guardrail and plug-welded posts. It is designed to reduce the impact in roadway departure incidents that occur at an impact angle of 15 degrees or less. The NGT includes relatively common parts and can be installed in 45 minutes or less.

¹ <https://www.transportation.gov/briefing-room/fhwa-and-aashto-release-findings-guardrail-terminal-crash-analysis>

NOVUS™ 100

Blunt ends of permanent or temporary barriers must be protected if the end is within the clear zone for the roadway. Barrier applications include permanent installations such as for median walls to separate traffic, along with temporary work zone applications such as protection from drop-off conditions or hazards or to protect workers. If a vehicle strikes a blunt end, the impact may cause serious injury or fatality and therefore they are typically protected with a crash cushion designed to absorb the energy and lessen the impact to the motorist.

The NOVUS™ 100 is a redirective, non-gating cushion tested to MASH Test Level 3 criteria that can be installed on concrete or asphalt. The device protects errant vehicles from impacting the blunt end of a barrier wall and can be used in single-direction or bi-directional applications to shield fixed objects. It is designed to use two types of fasteners with three panel types for ease of repair or replacement of a damaged section.

The NOVUS™ 100 is made from durable, galvanized steel with side panels that are replaceable. The device comes assembled and may be reusable after an impact; however, it must be inspected and evaluated under the direction of the specifying roadway authority.



Figure 9. NOVUS™ 100 installed

- The NOVUS™ 100 is a MASH Test Level 3 crash cushion for permanent or temporary applications
- It is redirective, non-gating.
- It has single-direction or bi-directional applications.
- Dimensions are 21-foot length, 26-inch width and 34 ¾-inch height
- It requires 33 anchors.
- Website:
valtir.com/product/novus-100/



The sides of the device are tapered for smooth redirection capabilities. Vehicle impacts occur at a designed center of gravity that is relatively high on the device to reduce wheel interaction with the base of the device for greater stability. The total weight of the device is approximately 3,800 pounds.

TALL42™

Some types of concrete barrier are portable, meaning they can be transported to a site, installed and removed. However, lane closure is typically needed to install the barrier, and once installed it is less portable compared with other types such as steel barrier (some versions move on wheels). When traffic conditions warrant frequent movements of barrier for long-term projects, a moveable barrier can add a traffic lane during peak periods or be relocated to allow more room for movements within the workspace. One challenge with some portable concrete barriers is crashworthiness under MASH Test Level 4 criteria, which is a test with a single unit truck. The devices are typically lower in height, resulting in challenges with containing or redirecting a large truck.

TALL 42™ is a 42-inch moveable concrete barrier tested to MASH Test Level 4 (up to interstate speeds with large trucks) that reduces truck rollover risk. The height also reduces headlight glare for bidirectional traffic. The T-shaped lifting head allows for transition using the barrier transfer machine. Once deployed, the device provides protection for the workspace from high-speed traffic nearby.

- TALL42™ is a moveable concrete barrier.
- It uses a barrier transfer machine to reposition device.
- It has MASH Test Level 3 deflection of 51 inches.
- It successfully tested to MASH Test Level 4 criteria.
- It has work zone and managed lanes applications.
- Website: moovop.com



Figure 10. TALL42™

The device can be used as described above in work zone applications or for managed lane applications on high-speed roadways. It may also be used in combination with the Quash™ crash cushion to provide protection in the event of an impact with the end of the barrier.

Torun City Barrier

Another type of urban application barrier from Ramudden Global, the Torun barrier, is a MASH test level 2 device that can provide positive protection or channelization of pedestrians in work zones. This device is made of concrete, steel and rubber material. The barrier is 55 inches tall and provides a detectable base for channelizing bicyclists and pedestrians, including people with visual disabilities. The Torun City Barrier is designed to prevent pedestrians from walking into a work area and to visually and physically separate pedestrians from the work area or from traffic.

- Torun barriers are designed for urban work zone applications.
- Sections are 4.7 or 9.4 feet in length and 15 inches wide.
- They may be enhanced using sound panels and fencing on top.
- They allow for placement on uneven terrain and for flaring.
- Website: ramuddenglobal.com

The 4-foot section has a turn radius of 41 feet, and the 9-foot section has a turn radius of 82 feet. A Torun Corner Angle device allows the length of barrier to turn up to 90 degrees where needed, based on the location. For uneven terrain, the device connections allow for up to a 6.5-degree angle either uphill or downhill to match the terrain. The devices are installed from a truck or trailer using lifting hooks and can be repositioned using a lifting chain or sling. The steel rails and rubber feet can be replaced if damaged. For storage, barrier sections can be stacked up to 2 units high. A fence panel can be added to the device that reaches 7 feet in total height. Based on MASH crash testing results, the minimum installed length is 244 feet.



Figure 12. Torun City Barrier (4.7-foot section)

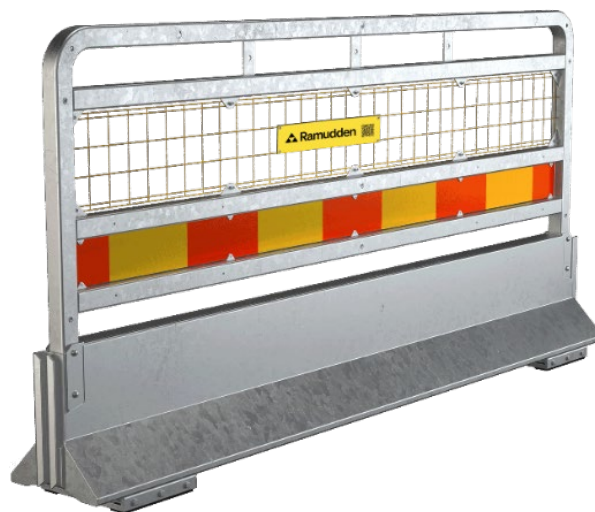


Figure 11. Torun City Barrier (9.4-foot section)

Temporary Traffic Control

Guardian Smart Sign

Liability for crashes in and around work zones often falls on the companies performing the work, even if motorists make mistakes that contribute to the incident. Companies need more tools that can help ensure proper setup, help personnel monitor conditions in the work zone and reduce liability. The Guardian Smart Sign is a technology that can help with all three challenges.

The Guardian Smart Sign is a small sensor attached to the back of a temporary sign to allow organizations to remotely monitor and manage work zone signing. For example, if a sign is knocked down, the sensor relays that information electronically so that a worker can adequately and quickly maintain the sign. The devices can be linked to a portal that not only shows the status of each sign but can also link a standard plan to the layout in the field to ensure compliance. Site 20/20 created the idea for the device after two traffic incidents, both of which involved driver error but ultimately led to liability for the contractor because of issues with the sign setup.

The Guardian Smart Sign also benefits users by ensuring adequate and consistent signing for each project. The technology provides cost savings by reducing the need for labor in onsite compliance monitoring. It also records and stores data for future reference as needed. Battery powered, the device can be included as part of a smart work zone setup where managers can track the location and position of signs in up to 100 different locations. Through the technology's custom portal, users can implement a sign management program, ensuring proper sign application and compliance.

- A Guardian Smart Sign sensor attaches to the back of a sign on a portable stand.
- Information captured electronically can be used to maintain the work zone signing.
- It records and archives data for future use as needed.
- It is used in Florida and Canada.
- Website: site2020.com



Figure 13. Guardian Smart Sign on Portable Support

Residential Driveway Temporary Signal

Portable traffic signals (PTS) control traffic under a variety of temporary situations, such as intermediate- and long-term construction or maintenance projects. PTS include standard signal faces and heads on trailers, pedestals or carts. For one-lane, two-way work zone configurations where the length of workspace is relatively long, users need information on the direction of movement of traffic within the traffic space when turning from a driveway within the work zone.

The Residential Driveway Temporary Signal (RDTS) is a device that connects to portable signals to provide movement indication for driveways when used in a one-lane, two-way work zone. The device includes a circular red lens along with left and right flashing and solid yellow arrow indications. The device works in conjunction with PTSs to guide motorists into the one-lane, two-way work zone. The operation reduces potential directional conflicts by indicating the current mainline travel direction to driveway traffic.

- A RDTS controls exiting driveway traffic within work zones.
- The device connects to PTS on both ends of a one-lane, two-way work zone.
- It controls traffic through directional signal indications.
- It provides safety for motorists entering the traffic stream.
- Website: ver-mac.com

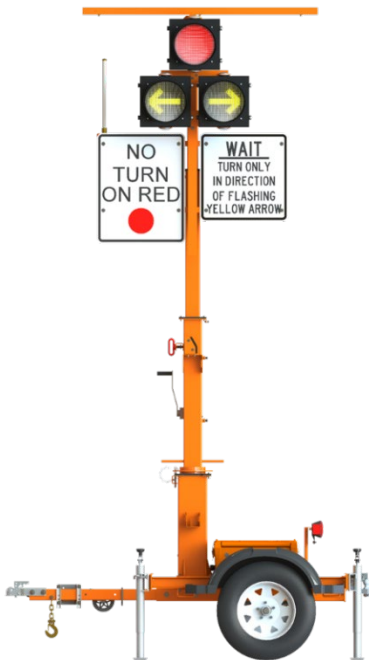


Figure 14. Residential Driveway Temporary Signal

The device features a swivel mast, which can be set at either 7 or 12 feet for optimal visibility. The units can be deployed quickly and configured via a V-Touch interface. An EasySync function enables adding, removing and maintenance of the RDTS while keeping the traffic signal plan operating.

The device can be used in pre-timed, manual or actuated traffic plans in conjunction with the existing PTS. Communications capabilities also allow the device to report its location and status, where a dashboard provides operational monitoring with real-time information as well as historical operation logs. The PTS location is pushed to Waze to alert motorists about the work zone.

Traffic Pro Beds and Trailer

Installation and removal of temporary traffic control (TTC) devices requires careful planning and execution to maximize safety. Agency policies and requirements, along with contractor procedures and methods, help ensure consistent operations and reduce risks when performing installation and removal activities. These practices protect individuals during the activity, though there may still be exposure for workers that requires additional attention. Installation of devices may be needed for work zones or for incident and emergency response where quick deployment is required.

The Traffic Pro Trailer is designed to support installation and removal operations to meet specific needs. One version of the device is equipped for full traffic activities and includes additional features that improve efficiency and safety during incident response. For example, the bed places the employee just behind the cab instead of at the rear of the truck. It also has a seatbelt option for the worker in the bed, with conveyor belt option to bring devices toward the operator as they are placed on the roadway. The trailer device has a ramp on the

- Truck bed and trailer systems are designed for worker safety.
- They make installation and removal of devices safer for workers.
- They reduce fatigue and prevent pinches, strains and soft tissue injuries.
- The trailer can shield the work site.
- Website: trafficprobeds.com/traffic-pro-trailer/



Figure 15. Traffic Pro Trailer

rear of the trailer, with a panel on the side that can hold traffic control devices such as signs and sign stands. Quick access doors are included on the device with access away from traffic. Removable fencing and side doors make up the outer walls of the trailer, thereby allowing it to be positioned in a work zone or incident zone more efficiently. The product can be retrofitted to most trailers to create the Traffic Pro Trailer.

SVEA Barrier

Urban settings provide challenges for temporary barrier applications such as space, deflection area and whether the device protects or only channelizes pedestrians. One device combines concrete barrier with a steel frame to support protective and channelizing functions in urban settings.

The SVEA barrier system is a lightweight, steel-jacketed concrete barrier designed for urban work zones. The steel jacketing around the concrete section is designed to minimize spalling, breakage and wear. The device can be equipped with sound and debris panels or security fencing to enhance safety at a project site. The sound panels provide a reduction of 24 decibels and can be installed up to 17 feet high if needed. The device connections provide up to 3 degrees of movement where needed to accommodate flaring horizontally or vertically for curves or uneven terrain. Installers can typically place up to 75 feet of barrier in approximately 15 minutes.

The device is approximately 18 inches wide and 32 inches tall. Barrier sections are 9.5 feet long and connect using interlocking hooks at each end. A scissor lifting tool can be used at the openings in the barrier to lift from a transport vehicle and place into service or the device can be moved using a forklift. The barrier is tested to several international standards with a minimum installation length of 75 to 94 feet (based on tests performed when installed on an asphalt base). For storage, barrier sections can be stacked up to 3 units high.

- SVEA barriers are designed for urban work zone applications.
- SVEA is a 32-inch-tall concrete barrier with a steel frame.
- It may be enhanced using sound panels and fencing on top.
- It includes drainage openings and lifting points.
- Website: ramuddenglobal.com



Figure 16. SVEA Barrier

Worker Safety/Productivity and Road User Safety

Bolt Spider

Maintenance of devices on the roadside is an important consideration for use of any type of device. Guardrail sections or posts may need to be replaced, requiring workers to use cutting devices where components such as bolts have seized. When introducing heavier power tools, the impacts to worker safety and fatigue increase. Workers may typically use power demolition tools or attempt to remove guardrail bolts while using one hand to keep the bolt from spinning. Traditional techniques not only impact worker safety, but also potentially render removed guardrail sections unusable.

When workers are unable to easily remove the bolt-and-nut combination, additional tools and approaches are required. The Bolt Spider assists work crews with removing seized guardrail splice bolts without common demolition saws. The device clamps onto the traffic side of the guardrail panel and applies significant pressure onto the heads of splice bolts. This ensures the bolt

- Bolt spider improves worker safety.
- It keeps guardrail sections intact for reuse.
- It reduces saw-related fires, fuel spills and discarded blades.
- It reduces injuries.
- Website: boltspider.us



remains in a fixed position while the resistant nut is extracted from the threads of the bolt to remove the panel.

By maintaining the integrity of the panels, contractors can salvage the sections instead of recycling them, thereby increasing the value of the W- beam panel. Sawing a panel for removal also generates pieces of hot metal that workers must protect themselves against. The Bolt Spider allows workers to more easily extract seized bolts thereby improving their safety and increasing the efficiency of the operation.

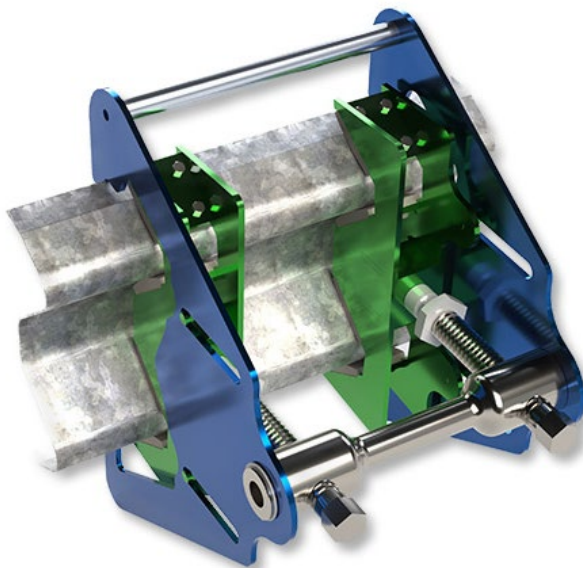


Figure 17. Bolt Spider

Safety Cloud®

Proactive technologies used to communicate road hazards to motorists can greatly improve safety for incidents and work zones. When traffic queues build, the resulting variability in speed can contribute significantly to severe incidents, especially on high-speed roadways. To alleviate these issues, HAAS Alert created Safety Cloud® – a connected vehicle (CV) and digital alert system that provides advance notice (up to 30 seconds) of emergency vehicle or work vehicle presence through connectivity with in-vehicle navigation applications and in-dash infotainment systems. The information gives drivers more time and space to adjust their speed and move over to protect roadway workers and first responders and to prevent crashes, near-misses and equipment strikes.

Safety Cloud® can be used on any alerting vehicle, such as emergency vehicles or work vehicles. The system uses a small transponder mounted in the vehicle or may be added to an existing telematics or fleet management platform already in use. Navigation applications also relay alerts to motorists through connected networks. Fleet users have access to a real-time dashboard for vehicle tracking and management. The platform can track incident response times and other statistics. The system benefits many user groups, including construction and maintenance stakeholders, first responders, tow operators and other transportation and fleet organizations. Safety Cloud® reduces crash risk by up to 90%, reduces hard braking incidents by 80% or more and reduces speeds by 25%. Most drivers (97%) reported slowing

and moving over when receiving advance warning alerts.

The system is currently alerting through compatible 2018 and newer Chrysler, Dodge, Jeep and Ram vehicles as well as compatible 2024 and newer Volkswagens, and through leading navigation apps like Waze and Apple Maps.

- **2025 ATSSA Innovation Award winner**
- Safety Cloud provides information to motorists 20 to 30 seconds in advance of the work zone or road hazard.
- The company is working with nearly 5,000 agencies on implementation.
- It reduces hard braking, near misses, struck-by incidents, and equipment strikes.
- Website: haasalert.com

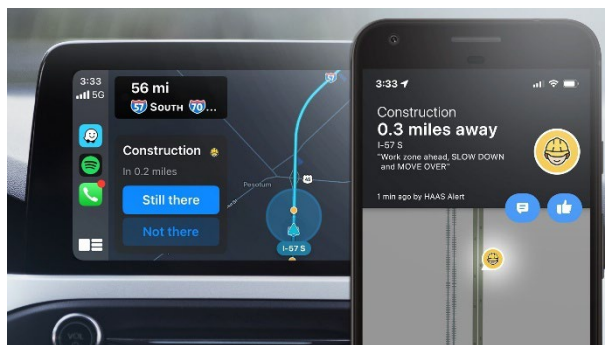


Figure 18. Safety Cloud® notification via apps

SecurOS® Soffit

Pedestrian safety is an important area of focus for the roadway industry, and new technologies can provide benefits to this user group. SecurOS® Soffit is an AI driven detection system with dynamic illumination that guides pedestrians across crosswalks.

The Soffit uses AI to detect the presence of pedestrians at crossings and provides an LED lighting array that illuminates their path for greater visibility. The technology can also be integrated into existing camera systems and used with existing traffic signal technology. For example, pedestrians often have exposure to danger when vehicles turn right on red. This technology allows detection of pedestrians and, through integration with the existing signal operation, can adjust signal patterns to ensure safety.

Soffit uses dynamic LED illumination along a crosswalk to escort pedestrians through the safe travel path while alerting and drawing the attention of drivers with no glare impacts. The system supports both constant and pulsating illumination modes and includes a processing unit in a temperature-controlled cabinet. It also works with other SecurOS® analytic modules and can be integrated with third-party systems via standard communications protocols.

- **2025 ATSSA Innovation Honorable Mention**
- SecurOS® Soffit? draws driver attention to pedestrians.
- It is used on both signalized intersection crosswalks and mid-block crossings.
- AI detects and analyzes pedestrian patterns.
- It is currently deployed in California, Florida and Texas.
- Website: issivs.com



Figure 19. SecurOS® Soffit dynamic illumination

Work Zone Live

Work Zone Live is a digital solution for work zone signing that informs connected vehicles of the presence of a work zone ahead. Through data collected from digital tags placed on work zone devices such as static signs, the system creates a digital twin of the work zone, which then can be referred to for validation and quality control. The exact location of the work zone is shared with various stakeholders. Work Zone Live fills the real-time information gap where smaller or shorter duration work zones are usually not communicated to drivers through typical channels, such as the 511 website or navigational apps.

- **2025 ATSSA Innovation Honorable Mention**
- Work Zone Live collects the location and layout of work zone signs to create a digital twin in the cloud.
- It enhances worker safety by alerting motorists of the presence of any work zone, regardless of size.
- It pushes information to users.
- *Website: ver-mac.com*

A tag is affixed to each sign and can maintain the position for the long term. A dashboard platform provides a summary of the information so users can monitor deployments. The system also sends information to third-party applications for enhanced traveler information through the Work Zone Data Exchange (WZDx). A worker safety module is also available that generates a trigger in a pre-established digital boundary that allows connected equipment to automatically adjust messages displayed on changeable message signs or work zone speed displays, thereby improving worker safety on the project site.

Connected work zone technology has many benefits, including greater driver awareness and attention. Advance warnings also allow users to adapt their driving ahead of time. Work Zone Live can accommodate a fully connected work zone through additional devices such as smart arrow boards and other connected technologies for real-time information on the operation of each device. Connected work zones are mainly used for maintenance, resurfacing projects, inspections and repairs, and work zones with lane closures.

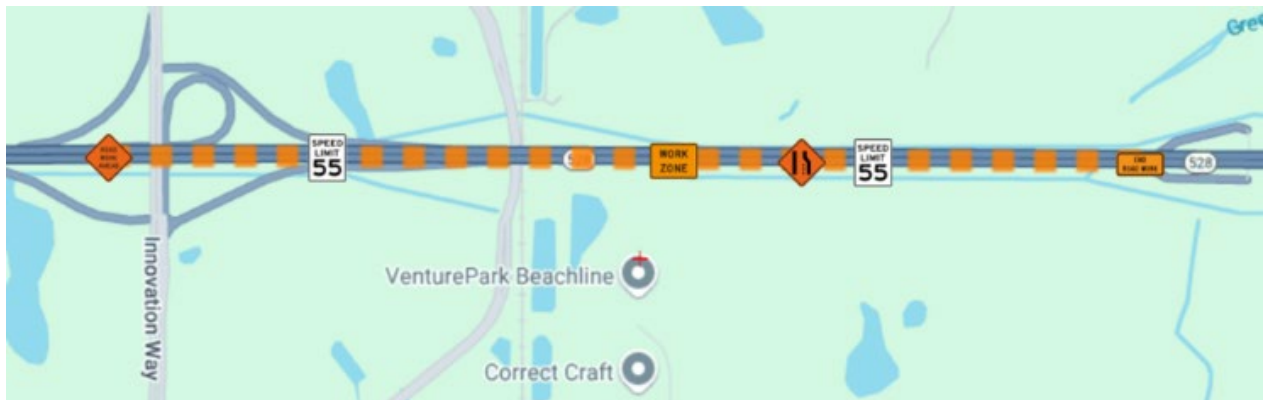


Figure 20. Example of a Work Zone Live dashboard

Zone Command

New technologies process large quantities of video data instantaneously with no need for manual intervention or assessment. Some systems also use AI to process the video data in real-time and provide alerts to users and to workers. These systems not only provide faster processing of data in real time but also learn how to improve accuracy through machine learning and AI. One system provides notification to both workers and potential distracted drivers based on the data collected.

Zone Command is a mobile mounted camera system, powered by AI, that is designed to protect workers and emergency personnel from an imminent collision threat. The system processes video data for each approaching vehicle and analyzes and classifies potential threats. Once the system determines a stopping distance for each vehicle, AI determines if the vehicle is too close to personnel on foot to safely stop in time. Using 9 seconds of live video feed data for each vehicle, the system evaluates conflicts. When activated, the Zone Command sounds an alarm and activates flashing colored arrows on the vehicles (once a vehicle is determined to be on a path to potential collision). The system provides audible, haptic and visual alerts to workers.

- Zone Command detects vehicle trajectories using AI.
- It calculates potential risks using video data.
- AI determines if stopping distance is not achievable based on vehicle location.
- It sounds an alarm and activates colored flashing arrows on vehicles, trailers or other devices.
- Website: zone-command.com



Figure 21. Zone Command – AI camera system

By monitoring traffic and processing data, Zone Command provides 5 to 10 seconds of notification to allow workers to quickly move to a safe location. The system not only alerts workers in the field but also provides alerts for motorists approaching a conflict so they can make decisions to move over, lower speed or just be more aware of the potential conflict. Green and yellow arrows provide general warnings and greater awareness, while a red bar and alarm sound indicates the imminent conflict.

2026 NPRO Application Details

Applications for NPRO 2026 will open in August and are due by Nov. 1, 2025. Exhibitors may submit up to two new products, provided they were introduced after Jan. 1, 2024. Accepted entries will be listed online and displayed on the Traffic Expo floor at ATSSA's 2026 Convention & Traffic Expo in Houston, allowing industry professionals and public agency representatives to review the latest roadway safety innovations.

Participants in the NPRO Tour will have their products reviewed by DOT judges, who assess submissions for their potential impact on roadway safety. Selected entries may be considered for the Innovation Award, which recognizes outstanding advancements in safety technology.

For more details on eligibility, submission guidelines and deadlines, visit the official ATSSA NPRO page: Expo.ATSSA.com/New-Products-Rollout.



For more information, contact ATSSA at 540-368-1701 or customerservice@atssa.com.