



**HILL & SMITH**  
**SMART SAFETY FIRST**

**ROADSIDE SAFETY**

# INTEGRATION +

A full-page background image showing two men in safety vests and hard hats standing in front of a backhoe loader. The man on the left wears a white hard hat and a yellow safety vest over a light blue shirt. The man on the right wears an orange hard hat, sunglasses, and a yellow safety vest over a plaid shirt. A third person is visible in the background operating the backhoe. The scene is outdoors with trees and a clear sky.

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# INTELLIGENCE

A photograph of three men standing on a road. The man on the left is wearing a yellow hard hat, safety glasses, and a high-visibility yellow vest with a black diamond logo containing the letters 'HS'. He is smiling and looking towards the other two men. The two men on the right are wearing green hard hats and high-visibility green vests. They are all looking down at something in their hands. The background shows a road with some vehicles in the distance and trees on the side.

## **HILL & SMITH COMBINES THE MOST COMPREHENSIVE SAFETY SOLUTIONS WITH THE MOST ADVANCED SMART TECHNOLOGIES.**

We live and breathe to help drivers, passengers, and workers live and breathe as long as possible.

Always improving roadside safety, we work with you to solve problems that keep people safer. Hill & Smith leads the industry through the perfect combination of product/service integration (a breadth of products from a single resource) with innovative intelligence (complete smart product connectivity).

It's what you've come to expect from the only manufacturer of transportation safety products that combines Integration + Intelligence, all in service to our continued quest to maximize roadside safety.

# SMART CUSHION®

SPEED DEPENDENT IMPACT ATTENUATOR

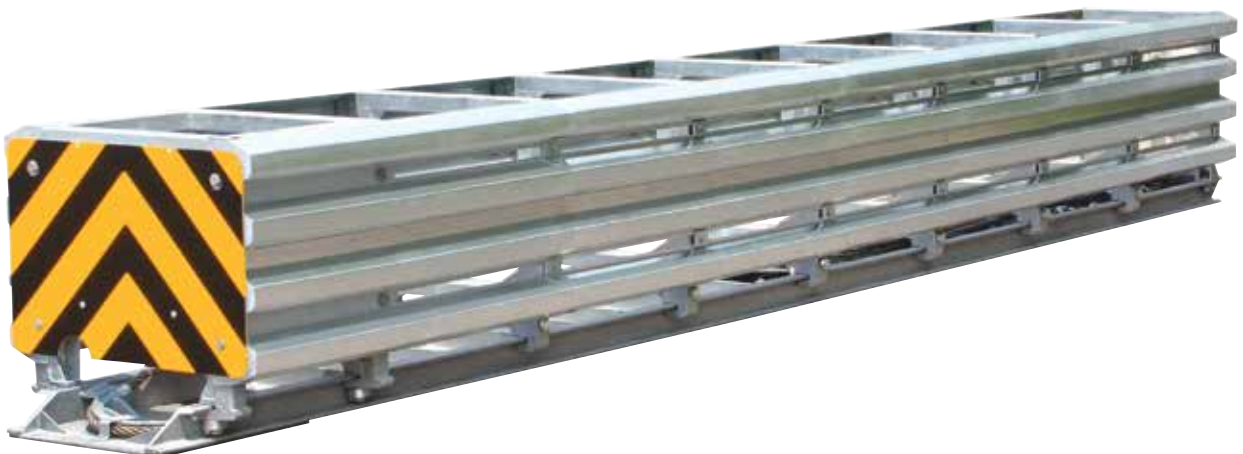
## REDUCE SPEED RISK TO INCREASE SAFETY.

### THE WORLD'S ONLY SPEED-DEPENDENT CRASH ATTENUATORS

The Smart Cushion® crash attenuator is a revolutionary, speed-dependent product that varies stopping resistance during an impact. The Smart Cushion® crash attenuator allows lighter and slower-moving vehicles to have longer ridedown distances and lower ridedown g-forces.

#### FEATURES:

- Fully redirective, non-gating, bidirectional, impact attenuator
- Designed to be reset after an impact in under 30 minutes
- Life-cycle cost savings with minimum replacement parts needed
- Low-cost repair
- MASH eligible





**SPECS:** SCI70GM / TL2

**LENGTH**  
13' 6"

**WIDTH**  
24"

**HEIGHT**  
34"

**WEIGHT**  
2,740 lbs

**SPECS:** SCI100GM / TL3

**LENGTH**  
21' 6"

**WIDTH**  
24"

**HEIGHT**  
34"

**WEIGHT**  
3,450 lbs



**SPECS:**

**LENGTH**  
**22' 6"**

**WIDTH**  
**37.5"**

**HEIGHT**  
**33.5"**

**WEIGHT**  
**3,200lbs**



## TAPERED FOR SAFETY, NOT STYLE.

### MASH TL-3 CARTRIDGE-BASED ATTENUATOR

The SmartPod® impact attenuator is repairable, fully redirective, non-gating, bidirectional and tested to AASHTO MASH-16 for Test Level 3. This crash cushion is used to help protect motorists from hazards in both permanent and temporary work zone locations.

It can transition to wide hazards and attach to most types of median and roadside barriers.

#### FEATURES:

- Fully redirective, non-gating, bidirectional
- Fully assembled / skid mounted delivery
- Easily replace energy absorbing PODS
- MASH-16, test level 3





## OUR SIGNATURE CREATION FOR SUPERIOR CONSTRUCTION SAFETY.

### PORTABLE STEEL BARRIER SYSTEM

Since its introduction to the highway safety industry in 2008, the Zoneguard® steel barrier system has become the most widely used temporary steel barrier in the country. DOTs, contractors, and traffic control companies throughout the U.S. have seen firsthand its many safety and money-saving benefits.

#### FEATURES:

- MASH eligible
- Install up to 1,500 LF per hour
- 750 LF hauled per truck
- 15-20+ life expectancy
- Proven track record (used on US roads since 2008)





**SPECS:**

**LENGTH**  
**50'**

**WIDTH**  
**27.56"**

**HEIGHT**  
**32"**

**WEIGHT**  
**3,100 lbs**

# SMART CUSHION®

SPEED DEPENDENT IMPACT ATTENUATOR

## CASE STUDY



\* The impacted Smart Cushion attenuator to the left is used as example.



The Smart Cushion® attenuator is a revolutionary speed-dependent cushion that varies stopping resistance during an impact. Smart Cushion® allows lighter and slower-moving vehicles to have longer ride down distances and lower ride down g-forces.

Unlike fixed-resistance attenuators, Smart Cushion® does not reach maximum stopping resistance unless a vehicle is traveling at the maximum design speed. This fully re-directive, non-gating, bidirectional impact attenuator is designed for maximum safety and re-usability, as well as outstanding durability before, during and after an impact.

### RENO TRACKING OF SMART CUSHION

Traveling on US-395 in Reno, NV, you will come across our Smart Cushion® crash attenuator in the median. The Smart Cushion is used to protect drivers from making direct contact with the concrete barrier at Exit 68A; I-580 split to I-80, thus redirecting them away from the obstruction.

*This specific barrier was impacted ~130 times over the span of 13 years, resulting in many cost efficient and time saving repairs.*

Between 2013 and 2026, the attenuator was impacted by accidents an average of 10 times / year. Side impacts to Smart Cushion rarely require repairs. The reverse-tapered design eliminates side panel stress on frontal impacts to reduce damage and system fatigue from multiple impacts. This eliminates mobilization, repair labor and parts after side impacts (averaging 30% – 40% of the incidents, depending on the roadway geometry). The average cost of repairs for these impacts is \$289.

#### IMPACT ON SAME SMART CUSHION

| Assuming 130 Impacts (10/yr) |            |
|------------------------------|------------|
| Labor                        | \$146      |
| Materials                    | \$37       |
| Equipment                    | \$106      |
| Total/Impact                 | \$289      |
| Total Cost Over 13 Years     |            |
| Smart Cushion                | \$57,570   |
| Sacrificial Cushion          | \$650,000+ |

Post-impact, Smart Cushion requires a dual-stage pull-out and replacing just two 1/4" shear bolts. Minimal damage means quick resetting and reduced worker exposure to traffic, as well as lower costs for traffic control, replacement parts and labor.



## CASE STUDY

Zoneguard® is one of the most extensively crash tested temporary barriers on the market today, having undergone testing to both NCHRP-350 (National Cooperative Highway Research Program Report 350) and MASH (Manual for Assessing Safety Hardware) standards. Zoneguard's rigid cross-section and low center of gravity result in industry-leading crash performance and a proven level of lifesaving protection.

### TRAGEDY THWARTED ON INDIANA INTERSTATE

On the morning of September 16th, 2015, a construction crew for Indiana-based contractor Pioneer Associates Inc. was working behind Zoneguard® while completing a bridge deck overlay project on County Road 28 over Interstate 69, near Fort Wayne, Indiana. Two workers were on a temporary scaffold that was positioned only a few feet from the barrier and another worker was nearby.

At around 8 a.m., the driver of a fully loaded dump truck (approximately 60,000-70,000 pounds) lost control of his vehicle and came barreling towards the work zone. Startled by the loud sound of a collision, the workers gripped the scaffold and braced for a potential impact. When they looked around to survey the scene, they were amazed to find the dump truck halting to a stop on the road's shoulder after being safely redirected by the barrier. The Zoneguard® barrier system was mostly unaffected, and more importantly, still safely positioned between them and the nearby travel lanes, keeping the two workers, the surrounding crew, the truck driver and passing drivers out of harms way.

Fortunately, Zoneguard® had been installed in its Minimum Deflection System anchoring configuration, which limited the deflection to mere inches at the point of impact.

Zoneguard® performed as advertised and Pioneer Associates, Inc. was convinced, as Project Manager Aaron Jones shared, "Zoneguard saved at least two lives and a serious injury today."



**"Zoneguard saved at least two lives and a serious injury today."**

Aaron Jones  
Pioneer Associates, Inc.





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