

# Doing Away with Death Traps

Municipal Vision Zero initiatives aim to stop fatal interactions between work trucks, bicyclists, motorcyclists, and pedestrians.

**U.S.** Senators Marco Rubio (R-FL) and Kirsten Gillibrand (D-NY) have introduced legislation aimed at keeping cars, bicyclists, and pedestrians from sliding under a truck's body or trailer. Such incidents are often fatal even at low speed, killing more than 300 people every year. The Stop Underrides Act of 2017 (S. 2219) would require adding "underride guards" behind each front wheel along the undercarriage.

U.S. Representatives Mark DeSaulnier (D-CA) and Steve Cohen (D-TN) have introduced the companion bill in the House (H.R. 4622). While both bills must be referred to committee, voted on by each chamber, reconciled, and signed by the president before becoming law, the bipartisan effort to improve road safety is endorsed by the National Safety Council and Advocates for Highway and Auto Safety.

## Blocking Access to a Vulnerable Area

Referred to as vulnerable road users (VRUs) by the U.S. DOT, bicyclists, motorcyclists, and pedestrians can fall into the exposed space between the front and rear wheels when they strike trucks that have a high ground clearance. According to the agency's John A. Volpe National Transportation Systems Center in Cambridge, Mass., nearly half of bicyclists and more than one-quarter of pe-



The U.S. DOT has considered requiring side guards since the 1960s. In the absence of a national mandate, many cities are adopting ordinances. Dur-A-Guard

destrians killed by a large truck first impact the vehicle's side.

Barriers that block this vulnerable spot have been required since the 1980s in the European Union and Japan and, more recently, in China, Brazil, and Peru. After the United Kingdom mandated side guards in 1983, cyclist fatalities fell 61% and pedestrian fatalities fell by 20%. Volpe Center research indicates the guards cost an average of \$847 and add 6 pounds to 73 pounds to a truck's weight.

"Municipal sanitation departments in congested cities should seriously consider adding them," says Solid Waste Association of North America (SWANA) Executive Director and CEO David Biderman.

Some already have, as part of U.S. DOT-inspired Toward Zero Deaths, or Vision Zero initiatives. The latter, launched by Sweden in 1997 to make safety the responsibility of transportation system designers as well as road users, lowered fatalities 50% even though traffic volumes increased.

In 2012, after four fatal collisions between trucks and bicyclists, Boston installed steel mesh, steel rail, or polymer composite guards on 17 vehicles for about \$1,800 each. The pilot project proved guards don't affect serviceability, ability to mount curbs, or maneuverability in debris and snow. In 2014,

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Boston became the nation's first city to require them on city-owned and -contracted vehicles with gross vehicle weight rating (GVWR) over 10,000 pounds and semitrailers over 26,000 pounds. (The ordinance also requires convex mirrors, crossover mirrors, and blind-spot

awareness decals.) Emergency and snow removal vehicles, street sweepers, and trucks with toolboxes that meet side guard specifications are exempt.

Chicago, Denver, San Francisco, and Seattle – among others – have followed suit. New York City is requiring guards

on 10,000 vehicles by 2024 as part of its Vision Zero Action Plan for ending traffic deaths and injuries. This year, the city is incentivizing waste contractors to install guards on trucks with 2007 model year or newer engines that comply with Volpe Center-recommended standards for designing, manufacturing, testing, reviewing, and/or procuring side guards and guard-equipped vehicles. Intended for use by public or private medium/heavy-duty truck fleets, jurisdictions that require guards, guard manufacturers, and truck manufacturers and dealers, DOT-VNTSC-OSTR-16-05 requires guards to withstand 440 pounds of force.

“It’s an inexpensive way to avoid a potentially catastrophic situation,” says Ken Levine, former corporate safety director for Action Carting Environmental Services in Teaneck, N.J., which has retrofitted about 60 trucks. DureX Inc., a Union, N.J.-based metal fabricator that makes the Dura-Guard, worked with him to accommodate his fleet’s various makes, models, and configurations. “They custom-fit the guards on trucks with tanks, toolboxes, sidewalls, and bodywork,” he says.

### Material and Design Options

Guards are available as panel systems or rail systems. They’re made of aluminum, steel, or polymer composite. Some are hinged to swing up and down for easy installation and maintenance; some are detachable.

“We looked into the swing-up, swing-down-type, which provide access under the truck, but liked the removable guards better,” says Levine. “One person can easily pull them off for maintenance and then put them back on.”

It’s difficult to find one guard that fits the many chassis sizes public works departments use, but DureX has created a universal design that accommodates most.

“Municipalities could get them drop-shipped,” says Levine. “If you save a life, what price tag can you put on that?” **PW**

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