

# Truck Side Guard Ordinance

Boston, MA

## Description

In October 2014, the Boston City Council passed the nation's first truck side guard ordinance, which requires that enhanced safety measures (side guards, convex mirrors, cross-over mirrors, and blind-spot awareness decals) be installed on all city-owned and city-contracted motor vehicles weighing over 10,000 lbs. and semi-trailers exceeding 26,000 lbs. The intent of these requirements is to reduce the number of bicycle and pedestrian fatalities caused by collisions with trucks, in part by encouraging private companies operating large trucks in the city to adopt these safety measures voluntarily. (More information on Boston's ordinance is available at: <http://goo.gl/NFBLeM>)

## Process

In 2012, five fatal cycling collisions occurred in the city of Boston, four of which involved a truck or bus. Two were broadside crashes. In early 2013, the Mayor's Office of New Urban Mechanics and the Public Works Department consulted with the U.S. Department of Transportation Volpe Center and decided to pilot three different types of truck side guards to mitigate such crashes, using 17 vehicles from the city's own fleet. Installing side guard equipment costs about \$1,800 per truck, and they can last the lifetime of the vehicle.

For the pilot, three different side guard models were installed—steel rail, steel mesh, and Airflow Deflector, a polymer composite material. Rail and mesh models were custom fabricated by Massachusetts manufacturers while the Airflow Deflector was an off-the-shelf product. The pilot demonstrated that it is possible to remove the side guards to service the vehicles, that vehicles can still mount curbs, and that vehicles will not become stuck in snow or debris. The city tested and collected data for over a year, ultimately choosing the Airflow Deflector model because it is commercially available, can be easily cut to size to fit each truck, and can be removed easily with few tools.

In March 2014, the city's new trash collection contract bid included a provision that each vehicle have side guards installed. However, the city did not include the exact specifications for the guards, complicating the

## KEY ACCOMPLISHMENTS

- Largest municipal pilot of side guards in the nation.
- First U.S. city ordinance to require side guards and cross-over mirrors.
- Currently over 80 vehicles outfitted with side guards through this effort.
- Bicyclist struck by city-contracted truck equipped with side guards survived crash.

implementation process. Today, side guards are installed on nearly all city-contracted trash trucks with a few exceptions, such as trucks on which side guards would interfere with hydraulics. City-owned trucks that frequent high-volume pedestrian and cyclist areas in Boston's downtown core have extra flashing lights and awareness decals attached.

In April 2014, a privately operated trash truck in the Charlestown neighborhood of Boston struck and killed a cyclist. Martin Walsh, the newly elected mayor of Boston, took notice. He wanted to learn more about expanding the adoption of truck side guards, including legislation. The city drafted an ordinance requiring vehicles that contract with the city to install side guards, blind-spot mirrors, cross-over mirrors, and necessary awareness decals. The ordinance went before the City Council and passed unanimously in October 2014, taking effect in May 2015. (Ordinance full text: <http://goo.gl/ScSk1B>)

There are a few exceptions to the ordinance. Trucks in certain categories such as snow removal vehicles, street sweepers, and emergency vehicles are exempt from the requirements. A truck that already has a toolbox installed where side guards would be installed will meet the requirements and pass inspection if the toolbox meets side guard specifications.

Boston's Inspectional Services Department (ISD) is the enforcement agency for the truck side guard program. The program falls under the Weights and Measures Division. They trained and dedicated two inspectors to side guard inspections. ISD also created a video walk-



## TRUCK SIDE GUARD MODELS



### Airflow Deflector Side Guard

In this off-the-shelf system, fiberglass composite panels present a smooth impact surface that is flush with the vehicle body. Panels are cut to size and readily removed without tools when access to the undercarriage is required. Aluminum brackets mounted to the chassis support the panels.



### Steel or Aluminum Rail Side Guard

On rail-style side guards, continuous horizontal rails provide a smooth impact surface, while the spaces between rails enable access to hydraulic levers, etc. Rail-style guards were custom built for Boston, but they could be made as a configurable, off-the-shelf system, similar to the predominant side guards used on European and Asian trucks.



### Steel Mesh Side Guard

Steel mesh side guards use an angle iron frame and thin expanded steel mesh to provide a continuous impact surface. Steel brackets mount the mesh frame to the underbody and chassis. The design is lighter than the rail style, but access to undercarriage components is less convenient than with rail or removable panel guards.

through of a truck side guard inspection so that potential vendors know what to expect. (Watch the video: <https://youtu.be/VB122ctIEWI>)

Since the ordinance went into effect in May 2015, the city has undertaken outreach and educational efforts with current vendors with large trucks, focusing on educating contractors before punishing them for noncompliance. To help spread the word about this new ordinance, the city has shared flyers and the video of a side guard inspection with several large State trucking organizations, conducted mass mailings to firms submitting bids, and followed up with the primary point of contact for each vendor.

As for next steps, the city's near-term priorities include continuing to reach out and educate. In the longer run, the city plans to focus on stronger enforcement to increase compliance.

## Lessons Learned and Recommendations

City of Boston staff realized throughout this process that it is a challenge to implement this type of policy at the local level. City government has limited authority over trucks operating within the city other than enforcement through local contracts. The mayor is currently working with State legislators to establish truck side guard requirements throughout the Commonwealth of Massachusetts. To local

jurisdictions seeking to implement a truck side guard requirement, the city recommends:

- Leading by example by piloting side guards on a city fleet.
- Requiring side guards and safety mirrors in contracts for city services. Reference the Volpe national side guard standard for exact specifications, available here: <https://goo.gl/1dIoPu>.
- Replacing a commercially available product after a crash is easier than replacing a custom-built product. Private companies are also more likely to adopt an existing product rather than build a customized solution.

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