

Highway-Rail Grade Crossing Safety and Trespass Prevention

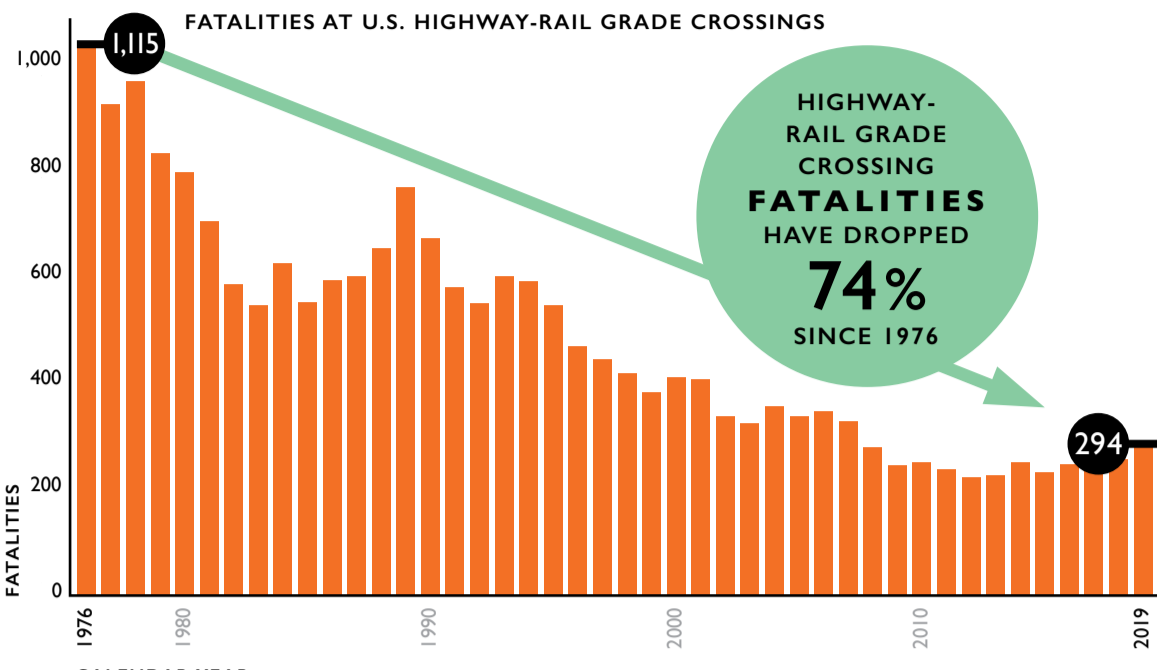
KEEPING PEOPLE SAFE AROUND TRAINS

For over 50 years, the **U.S. DOT's Federal Railroad Administration (FRA)** has looked to the **U.S. DOT Volpe National Transportation Systems Center**, to help reduce highway-rail grade crossing and trespassing incidents. Highway-rail crossing and trespasser deaths account for over 95 percent of all rail-related deaths—and most of these deaths are avoidable.

A highway-rail grade crossing is a location where railroad tracks intersect a public or private thoroughfare, sidewalk, or pathway. Every day, trains travel across more than

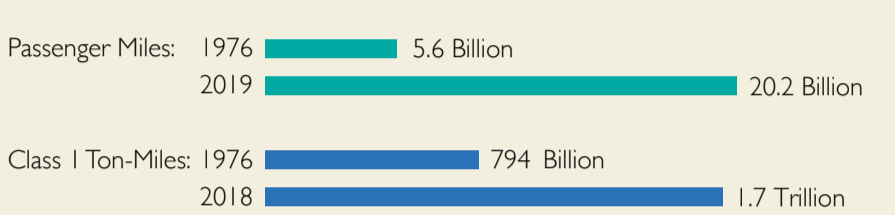
210,000

highway-rail grade crossings.

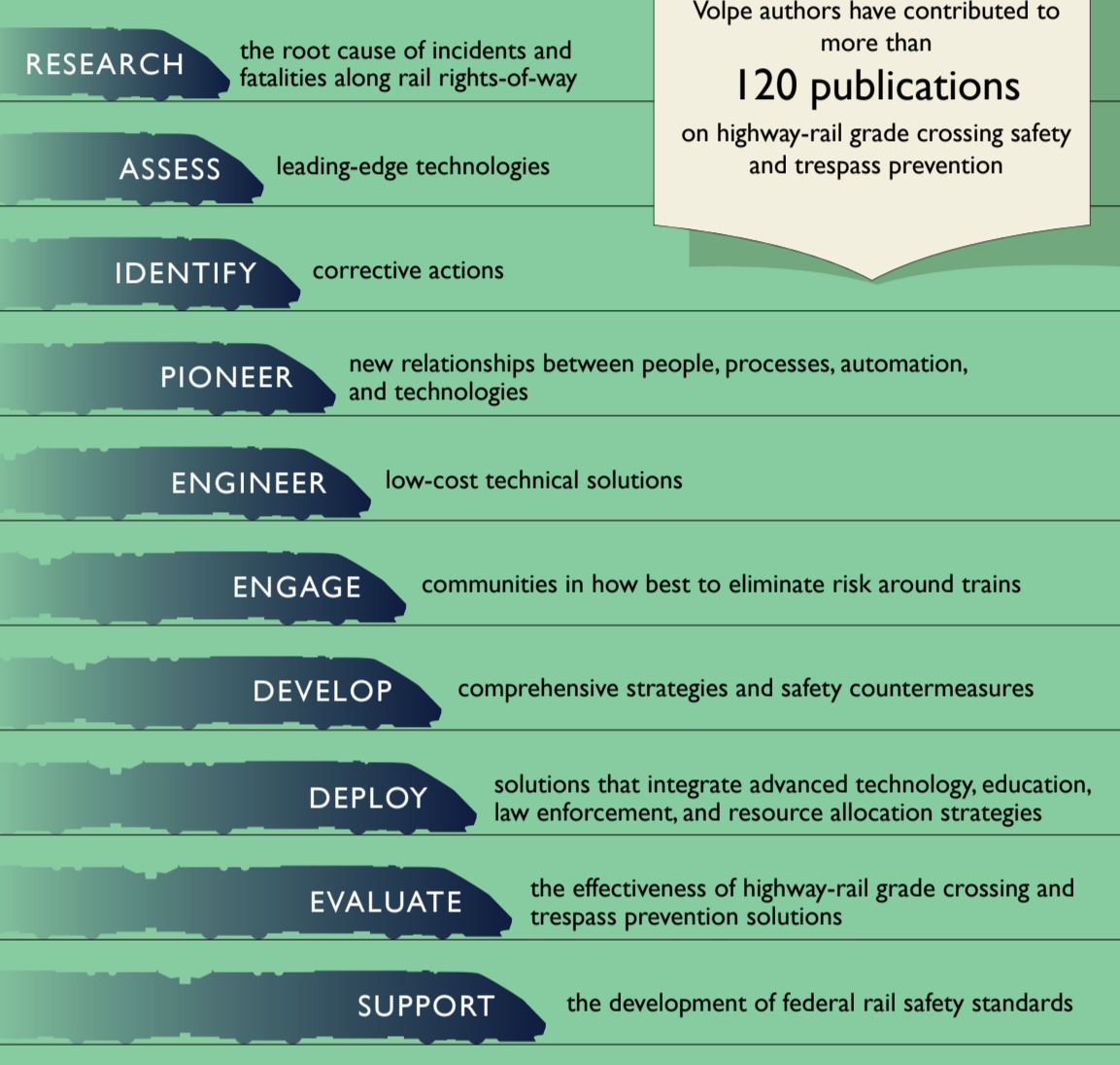


... AND INJURIES HAVE DROPPED 82%

THESE REDUCTIONS OCCURRED WHILE U.S. RAIL ACTIVITY HAS SIGNIFICANTLY INCREASED:



THE VOLPE ROLE IN SUPPORT OF FRA



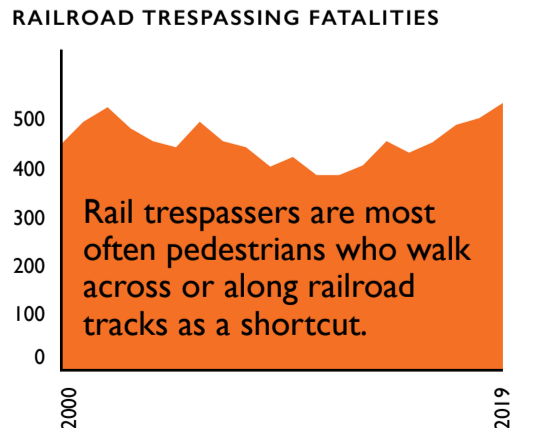
RECENT RESEARCH ACTIVITIES

- U.S. DOT Volpe Center researchers analyze crash causation and develop, implement, and evaluate safety countermeasures, programs, and guidance to reduce the number of casualties at grade crossings and along railroad rights-of-way (ROWs).**
- Volpe researchers evaluated the impacts of a program for law enforcement agencies to perform trespassing enforcement activities on railroad ROWs.
- The Volpe Center evaluated the effectiveness of light-emitting diode (LED)-equipped signs at rail crossings. Results showed that LED-enhanced signs produced a 41-percent reduction in frequency of vehicles stopping on tracks.
- Vehicles turning onto ROWs at grade crossings can have disastrous consequences. Volpe experts found that low-cost treatments like pavement markings and adding flexible delineators between tracks had a positive impact on reducing ROW incursions by motor vehicles.
- Photo enforcement at highway-rail grade crossings in Orlando, Florida led to a 15-percent drop in violations and risky driver behavior.
- Volpe engineers collaborated with FRA, New Jersey DOT, and Rutgers University to develop automated pedestrian detection capabilities using Artificial Intelligence and machine learning for available feeds from video cameras.

WORK IS UNDERWAY TO REDUCE TRESPASSING

As highway-rail grade crossing fatalities have declined, **trespassing on railroad property and along transit, commuter, and freight rail rights-of-way** has emerged as the leading cause of rail-related deaths in America.

Volpe is helping FRA develop a set of national recommendations or guidelines to address the trespassing problem.



EVERY 210 MINUTES, SOMEONE IN AMERICA IS HIT BY A TRAIN.

always expect a train

IN THE EARLY 1970s, IT WAS EVERY 40 MINUTES.

AVERAGE 24 HOURS