



## POSITIVE TRAIN CONTROL

### What is Positive Train Control?

Positive Train Control (PTC) is a safety system designed to prevent several different types of accidents: over-speed derailments, train-to-train collisions, trains entering an established work zone, and train movements through switches left in the wrong position.

### Who is required to implement PTC?

The Rail Safety Improvement Act of 2008 (RSIA) mandated the implementation of PTC systems on Class I railroads' main lines over which five million or more gross tons of annual traffic and certain hazardous materials are transported, and on any main lines over which intercity or commuter rail passenger transportation is regularly provided.

### Has the congressional mandate been met?

Yes. On December 29, 2020, 57,536 miles of U.S. track had fully implemented PTC systems – 100 percent of the route miles that required implementation.

### Mileposts and achievements:

- Since 2008, DOT has disbursed roughly \$3.4 billion for PTC system implementation:
  - Of this, approximately \$135 million investment by the FRA Office of Research, Development, and Technology (RD&T).
  - FRA has provided more than \$716 million to passenger railroads.
  - FRA awarded \$25 million in competitive grant funding to railroads, suppliers, and state and local governments.
  - FRA extended \$199 million in grants to commuter railroads in fiscal year 2017 for PTC implementation.
- Thousands of hours devoted to PTC testing and validation.
- Forty host railroad's PTC safety plans have been reviewed and approved (in some cases with conditions), receiving PTC system certification by FRA.
- Construction of a PTC testbed at the Transportation Technology Center in Pueblo, Colorado to test and validate PTC technologies before deployment.
- Since achievement of the PTC statutory deadline, over 250 million train miles have been protected by PTC (as of Sept 2021), and reliability of PTC systems continue to improve to well over 99%.

### What's next?

- Next Generation PTC or PTC 2.0: Building on current PTC technologies to improve safety, enhance performance, and add more capabilities.
- Develop Next Generation Head-of-Train/End-of-Train (NGHE) technology for high-precision train locating and tracking capability.
- Develop alternative broken rail detection technologies.
- Improving the Adaptive Braking Enforcement Algorithm.
- Develop standards and specifications for the new Full Moving Block (FMB) train operation method.
- Develop standards and specification for Automated Train Operation (ATO).