

GAO Highlights

Highlights of [GAO-13-720](#), a report to the Chairman, Committee on Commerce, Science, and Transportation, U. S. Senate

Why GAO Did This Study

In the wake of a 2008 commuter train collision that resulted in 25 fatalities, RSIA was enacted. It requires major freight railroads, Amtrak, and commuter railroads to install PTC on many major routes by the end of 2015. PTC implementation, overseen by FRA, is a complex endeavor that touches almost every aspect of train operations on major lines. According to FRA, 37 railroads are required to implement PTC. GAO was asked to examine the status of PTC implementation. This report discusses, among other things, railroads' implementation of PTC to date and the challenges, if any, to meeting the 2015 deadline. GAO interviewed representatives from Amtrak, the four largest freight railroads, and seven commuter railroads, selected to represent a mix of locations, ridership levels, and PTC implementation status. GAO also interviewed PTC experts and suppliers, and reviewed FRA's PTC regulatory impact analyses.

What GAO Recommends

Given the implementation challenges railroads face in meeting the deadline, and to help FRA manage its limited resources, Congress should consider amending RSIA as FRA has requested. Specifically, Congress should consider granting FRA the authority to extend the deadline on certain rail lines on a case-by-case basis, grant provisional certification of PTC systems, and approve the use of alternative safety technologies in lieu of PTC to improve safety. DOT reviewed a draft of this report and provided technical comments, which were incorporated as appropriate.

View [GAO-13-720](#). For more information, contact Susan Fleming at (202) 512-2834 or flemings@gao.gov.

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POSITIVE TRAIN CONTROL

Additional Authorities Could Benefit Implementation

What GAO Found

To install positive train control (PTC)—a communications-based system designed to prevent certain types of train accidents caused by human factors—almost all railroads are overlaying their existing infrastructure with PTC components; nonetheless, most railroads report they will miss the December 31, 2015, implementation deadline. Both the Association of American Railroads (AAR) and the Federal Railroad Administration (FRA) have reported that most railroads will not have PTC fully implemented by the deadline. Of the four major freight railroads included in GAO's review, only one expects to meet the 2015 deadline. The other three freight railroads report that they expect to have PTC implemented by 2017 or later. Commuter railroads generally must wait until freight railroads and Amtrak equip the rail lines they operate on, and most of the seven commuter railroads included in this review reported that they do not expect to meet the 2015 deadline. To implement PTC systems that meet the requirements of the Rail Safety Improvement Act of 2008 (RSIA), railroads are developing more than 20 major components that are currently in various stages of development, integrating them, and installing them across the rail network. AAR recently reported that by the end of 2012, railroads had spent \$2.8 billion on PTC implementation. To implement PTC, AAR estimates that freight railroads will spend approximately \$8 billion in total while the American Public Transportation Association (APTA) estimates that commuter railroads will spend a minimum of \$2 billion. Much of the work to implement PTC remains to be done. For example, AAR reported that as of the end of 2012, about a third of wayside interface units, which are needed to communicate data, had been installed and that less than 1 percent of locomotives needing upgrades had been fully equipped.

Most railroads report they will not complete PTC implementation by the 2015 deadline due to a number of complex and interrelated challenges. Many PTC components continue to be in various stages of development, and in order to ensure successful integration of these components, railroads must conduct multiple phases of testing before components are installed across the network. Also, some railroads raised concerns regarding FRA's limited staff resources in two areas: verification of field tests and timely certification of PTC systems. Commuter railroads face additional challenges such as obtaining radio frequency spectrum, which is essential for PTC communications. By attempting to implement PTC by the 2015 deadline while key components are still in development, railroads could be introducing financial and operational risks. For example, officials from railroads and FRA said that without adequate testing, PTC systems might be more prone to reliability issues. To mitigate risks, provide flexibility in meeting the PTC deadline, and better manage limited resources, FRA has requested that Congress amend RSIA to provide additional authorities in implementing PTC. Specifically, FRA requested authority to extend the deadline on certain rail lines, grant provisional certification of PTC systems, and approve the use of alternative safety technologies in lieu of PTC. Flexibility in extending the deadline for certain railroads acknowledges differences in railroads' implementation schedules and may also help FRA better manage its limited resources by, for example, preventing a potential review backlog resulting from most of the railroads' submitting final safety plans at the same time—a concern raised by both freight railroads and FRA.