

# The Need for Reasonable Implementation of the Positive Train Control Mandate

ASSOCIATION OF AMERICAN RAILROADS

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## WHAT SHOULD BE DONE?

Implement **common-sense regulations** regarding the federal statutory mandate that freight railroads install positive train control (PTC) systems by year-end 2015 on tracks that carry passengers or toxic-by-inhalation (TIH) materials.

## WHY?

Even at its most basic level, the PTC mandate will cost freight railroads (and ultimately their customers) more than **\$5 billion** in initial start-up costs and **hundreds of millions more in annual maintenance costs**, according to FRA estimates of the most likely railroad cost scenarios. The FRA admits that railroads' actual PTC-related costs could end up being much higher, and that the safety benefits of PTC will be only a small fraction of those costs. The FRA's proposed regulations regarding PTC implementation include several provisions over and above the statutory mandate that would add hundreds of millions of dollars to railroads' costs but **would not improve safety** in any meaningful way. The greater the unnecessary costs imposed on railroads, the less they will be able to provide the safe, cost-effective, and environmentally-friendly freight transportation service that America needs now and in the future.

## What is Positive Train Control?

- “Positive train control” (PTC) describes technologies designed to **automatically stop or slow a train** before certain accidents occur. In particular, PTC is designed to prevent train-to-train collisions, derailments caused by excessive speed, unauthorized incursions by trains onto sections of track where repairs are being made, and movement of a train through a track switch left in the wrong position.
- A fully-functional PTC system should be able to precisely determine the location and speed of trains; warn train operators of potential problems; and take action if the operator does not respond to a warning. For example, if a train operator fails to stop a train at a stop signal, the PTC system would apply the brakes automatically.
- Railroads have spent hundreds of millions of dollars developing PTC, but it's still an **emerging technology**. To ensure the technology is fully functional and completely safe, much more development and testing are needed. Most critical is developing sophisticated, reliable software that can take into account the complexities of rail operations. The length and weight of a train, train braking system performance, track curvature, the grade (slope) of the tracks, track conditions, the location of other trains — all of these and more must be taken into account by a properly-functioning PTC system.

- The Rail Safety Improvement Act of 2008 (RSIA), which became law in October 2008, requires Class I freight railroads to install PTC systems on their tracks that carry passengers or toxic-by-inhalation (TIH) materials.<sup>1</sup> Railroad PTC systems must be in place and fully functional **by the end of 2015**.

### **PTC Will Provide Safety Benefits Equal To Only a Small Fraction of its Costs**

- According to the Federal Railroad Administration (FRA), Class I freight railroads will have to spend more than **\$5 billion** to install PTC systems, plus **hundreds of millions of dollars more each year** thereafter to maintain them. The FRA estimates that total costs of PTC to railroads over 20 years will be **\$10 billion to \$14 billion**.
- The \$5 billion that Class I freight railroads will have to spend just to install PTC by 2015 is roughly equal to a **full year's worth** of their infrastructure-related **rail capital spending**.<sup>2</sup> Because railroads have limited funds to devote to infrastructure projects, **expenditures on PTC will necessarily mean reduced expenditures on other projects** that would increase rail capacity, improve service, provide environmental benefits, and enhance safety.
- PTC will be tremendously expensive, but will provide benefits significantly lower than its costs. The FRA estimates that, under the most likely scenario, the aggregate value of PTC-related rail safety benefits over 20 years will be \$600 million to \$900 million. In other words, railroads will incur at least **\$15 in PTC costs for each \$1 of PTC benefits**. Nor will PTC make rail operations faster or more reliable. Based on experience to date and the need for railroads to rush PTC implementation in the face of the 2015 deadline, it is more likely that PTC will make rail operations **less efficient and reliable**, not more so.
- Why is the PTC cost-benefit analysis so one-sided? The types of accidents that PTC systems are designed to prevent are rare. In 2008, for example, of the approximately 2,400 total train accidents (most of which were minor), just 27 — or about **1 percent** — would likely have been prevented had PTC systems been in place.

### **Regulatory Flexibility is Needed**

- When a law is passed, a regulatory agency — in PTC's case, the FRA — typically writes regulations implementing the law. America's freight railroads will comply with the PTC mandate, but they need **common-sense implementing regulations** that do not impose unnecessary costs over and above the statutory mandate.
- For example, the FRA has proposed that if a rail main line carried TIH materials in 2008, PTC must be installed on it. But Congress mandated that PTC be installed on rail lines carrying TIH traffic by **December 31, 2015, not 2008**. Some rail lines that carry TIH materials today won't carry them in 2015, and some lines that don't carry this traffic today might in 2015. Thus, it is unreasonable to use 2008 as the baseline year for a mandate that doesn't become effective for seven years, when traffic patterns could be very

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<sup>1</sup> TIH materials are liquids, such as chlorine and anhydrous ammonia, that are especially hazardous if released. Under the RSIA, all freight rail tracks that carry passengers must be PTC-equipped, and all Class I freight rail tracks over which 5 million or more gross tons of rail traffic is transported and carry TIH must be PTC-equipped.

<sup>2</sup> From 1999-2008, Class I railroads spent an average of \$5.5 billion each year on infrastructure capital spending.

different. Basing PTC implementation on 2008 traffic patterns could force railroads to spend hundreds of millions of dollars to install PTC on routes that will not be used to carry TIIH materials once the mandate becomes effective. This makes no sense.

- Likewise, regulatory flexibility is appropriate in cases where only very small amounts of TIIH traffic are carried. Approximately 9,500 miles of Class I rail main line average just one or two TIIH cars per week. The already relatively small benefits of PTC installation would be even smaller for these lines. Not having to install PTC on them would avoid some **\$475 million** in PTC installation costs and **tens of millions of dollars more** in annual maintenance costs. In return for this “de minimus” exemption, railroads would pledge to adopt operational or other measures that would provide the same or greater safety benefit as PTC implementation on these lines but in a more cost-effective manner.
- Finally, regulatory flexibility is needed regarding how PTC information is displayed in a locomotive. The FRA has proposed that locomotives have two separate display screens, ostensibly so that both an engineer and a conductor (if both are present) have their own. However, because a conductor cannot (under FRA regulations) participate fully in operating a train and has no PTC-related responsibilities, a second display would serve no useful purpose. There is no operating experience using two PTC displays, and there have been no studies to support a two-display requirement. In contrast, on Amtrak’s very busy, PTC-required Northeast Corridor, only one cab display is provided, and on thousands of freight trains on which early versions of PTC have been tested, only one display has been provided — with no negative safety effects. At \$8,000 per extra display, an unnecessary two-display requirement would cost railroads more than \$200 million.

### **Assisting With the Extraordinary Costs of the PTC Mandate**

- America’s demand for freight and passenger transportation will surge in the years ahead. Railroads are the most **affordable** and **environmentally-responsible** way to meet this demand. They’ve been re-investing record amounts back into their networks, creating the world’s best freight transportation system.
- However, the PTC mandate threatens railroads’ unparalleled potential to lower shipping costs, make our economy more efficient, take trucks off the highway, save fuel, and reduce harmful emissions. The reality is, money railroads spend on PTC can’t be spent on other safety measures or capacity, environmental, or service improvements.
- Given the rail industry’s limited investment capital and the tremendous demands the PTC mandate imposes on railroads’ investment capabilities, Congress should consider various funding mechanisms to offset PTC’s huge costs. Options include:
  - ✓ Enact a 25 percent infrastructure tax incentive to help offset the initial start-up costs of PTC installation;
  - ✓ Fully fund and expand the RSIA’s Rail Safety Technology Grant program.
- Funding assistance would help the railroads continue to expand needed capacity to meet both freight and passenger demands while still complying with the PTC mandate. The benefits to our economy and environment are real, measurable, and well worth it.