

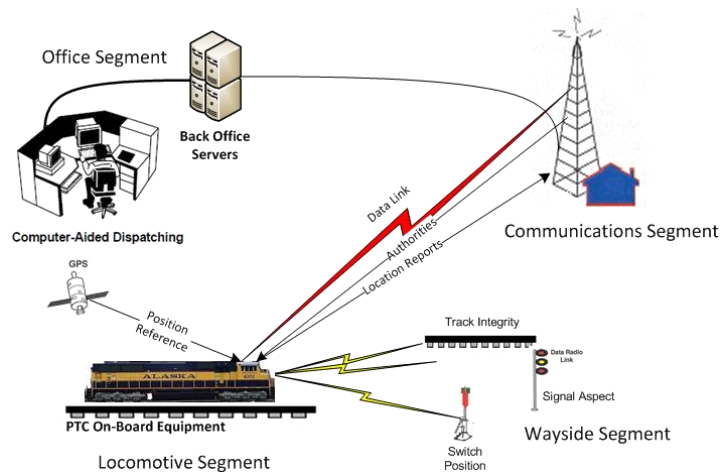
# Alaska Railroad Positive Train Control

## PTC Project Overview

Congress mandated Positive Train Control (PTC) in 2008 for passenger and the seven largest U.S. railroads, but the Alaska Railroad (ARRC) has been working since 1997 to develop a PTC system. The deadline to complete PTC installation set by the federal mandate is December 31, 2015; however, ARRC and most railroads in the lower 48 will not make this deadline.

ARRC will be able to continue passenger operations as long as we make good faith effort towards implementation and our current project completion goal is 2018. If ARRC does not make a good faith effort

towards our implementation plan, the Federal Railroad Administration (FRA) can implement fines of up to \$100,000 per day. PTC is a system of functional requirements for monitoring and controlling train movements to provide increased safety by eliminating human error. PTC is comprised of the integration of four major segments: Office, Locomotive, Wayside, and Communications.



## PTC Benefits

PTC is a safety system that reduces human factor errors and must reliably and functionally prevent:

1. Train-to-train collisions by enforcing authority limits;
2. Overspeed derailments;
3. Trains entering maintenance of way work zone limits; and
4. Train movement through a main line switch in the improper position.

The NTSB has once again listed PTC as one of its top ten safety initiatives. The NTSB reinforced the 2015 deadline due to a number of serious train accidents.



*In 2008, a Metrolink passenger train in Los Angeles, CA passed a red signal while the engineer was texting, colliding head-on into a freight train resulting in 25 fatalities and 130+ injuries.*



*In 2013, a Metro North passenger train in Bronx, NY derailed when the engineer fell asleep going 82 MPH in a 30 MPH curve resulting in 4 fatalities and 63 injuries.*

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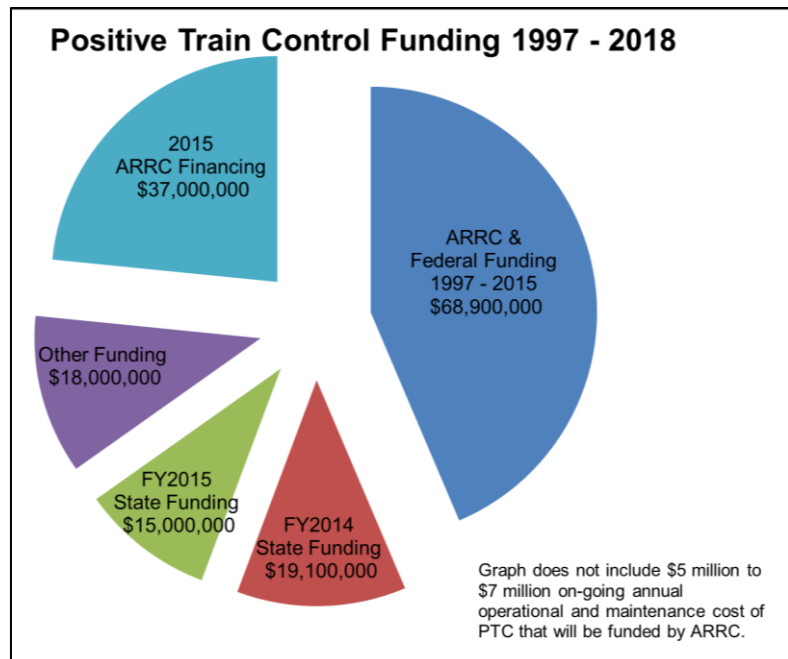
## Project Progress

ARRC began voluntary implementation of PTC in 1997, and has seen numerous benefits through the development process:

- Elimination of human-factor errors by implementing Track Warrant Control (TWC) and a Computer Aided Dispatch system.
- Changed the method of operation for track equipment to TWC to replace the less safe “track car lineup” that is no longer permitted by the FRA.
- Installation of Data Radio Network and GPS on locomotives increased situational awareness of train movements in relation to the authority issued. ARRC had a near miss in 1995 when a northbound freight and a southbound coal train nearly collided near Montana Creek due to a human-factor error while reporting train location.
- Replacement of functionally obsolete analog microwave radio system and voice radios to an updated digital system to reduce radio communication read-repeat errors.
- Improved train performance and reduced human-factor errors with implementation of Centralized Traffic Control (CTC). CTC bases train movement on signals and switches remotely called by a dispatcher. ARRC has now implemented CTC in Whittier Tunnel area, from Potter siding (south of Anchorage) to Kashwitna (north of Willow), and in the Hurricane area.

### PTC Project Funding

ARRC has used a combination of corporate revenues, federal funding and state funding to develop PTC since 1997. ARRC has been heavily reliant on state funding since FY2014 due to dramatic declines in key lines of business and significant cuts to federal funding. If funding continues as currently defined in our project schedule and budget, ARRC will complete PTC by 2018 (three years past the congressional deadline). If funding is delayed, ARRC will need FRA approval for an extended completion date (to avoid fines) and will see project costs escalate an



estimated \$5-10 million per year above current project estimates. Once PTC is installed, ARRC plans to fund the \$5-7 million annual operating and maintenance costs through its internal budget.

Budget Overview	
Total Spent to Date:	\$91,988,000
Total Funded (through end of FY 2015):	\$103,000,000
Funding Still Needed to Complete by Dec. 31 2018:	\$54,950,000
Total Project Costs	\$157,950,000