

PTC Systems Grants under the Consolidated Rail Infrastructure and Safety Improvements Program

FY 2018 Awards

The list of awards for the \$250 million in grant funding is below. FRA awarded grants in the approximate amounts below to the following projects and entities:

[Projects Selected under the May 18, 2018 NOFO](#)

AK – Vital Functions for PTC to Improve Safety and Velocity (Up to \$10,376,704)

Alaska Railroad Corporation (ARRC)

This project will involve the development, testing, system certification, and implementation of the Interoperable-Electronic Train Management System (I-ETMS) PTC system with an Independent Vital Server (IVS) for full ARRC PTC vital-overlay implementation in ARRC's Kenai, Central, and Mountain Subdivisions. Additionally, ARRC's PTC Safety Plan will be developed, and tests will be conducted to prove that the system has been implemented correctly and defects are eliminated.

CA – Coast Subdivision PTC Implementation (Up to \$11,340,000)

California Department of Transportation (Caltrans)

Caltrans' rural project will design and install Interoperable Electronic Train Management System (I-ETMS) PTC wayside signal systems at 30 existing control points and 111 intermediate signal locations along the Coast Subdivision from Oakland to North San Luis Obispo, CA.

CA – PTC Infrastructure Implementation and Safety Certification Grant Application (Up to \$18,693,386)

Peninsula Corridor Joint Powers Board (Caltrain)

This project will build upon Caltrain’s efforts to test and validate certain technical PTC components of its Interoperable Electronic Train Management System (I-ETMS) PTC system. The project includes track database and field validation and verification, Caltrain PTC communication subsystem infrastructure implementation, Caltrain PTC training, Revenue Service Demonstration (RSD) and system safety certification, and project management and administration. The Caltrain PTC system is a vital overlay of its existing wayside block signal and centralized traffic control systems on a 52-mile corridor between San Francisco and Southern San Jose, CA.

CA – SMART Windsor Extension PTC Implementation (Up to \$5,000,000)

Sonoma-Marin Area Rail Transit District (SMART)

This project will install Enhanced Automatic Train Control (E-ATC) PTC on the 3.3-mile passenger rail extension between the Sonoma County Airport job center and the Town of Windsor, CA. The project will also integrate with the locally funded 45-mile Sonoma-Marin Area Rail Transit District (SMART) passenger and freight rail E-ATC system and facilitate a federally compliant PTC connection between the urban parts of the Bay Area and rural Northern Sonoma County.

CA – Upscaling Key PTC Onboard and Wayside Components (Up to \$9,944,000)

Southern California Regional Rail Authority (SCRRRA or Metrolink)

This project will upgrade Metrolink’s PTC Train Management Computer (TMC) to improve processor power, as well as upgrade the wayside system hardware to support the deployment of nearside crossing inhibits and wireless activations in the Southern California region.

FL – Central Florida Rail Corridor PTC Completion Project (Up to \$14,914,238)

Florida Department of Transportation (FDOT)

This project will complete the installation of Interoperable Electronic Train Management System (I-ETMS) PTC with testing and documentation to support certification on the 61.3-mile Central Florida Rail Corridor (CFRC) from DeLand to Poinciana, FL. PTC will also facilitate the future use of Motor Vehicle Presence Detection Systems, which will detect motor vehicles that have stopped on the railroad crossing.

IA – Iowa Interstate PTC Upgrade (Up to \$1,767,665)

Iowa Interstate Railroad (IAIS)

This project will install on-board PTC systems and radios on 23 IAIS locomotives, as well as procure a back office service messaging systems license to allow for interoperable PTC operations on Metra’s Rock Island District commuter line. IAIS’ intermodal trains originate in Blue Island, IL and travel over Metra’s Rock Island subdivision before continuing on CSX trackage rights to IAIS-owned track in Bureau, IL.

IA – PTC Deployment for Iowa Northern Railway Company (Up to \$1,983,082)

Iowa Northern Railway Company (IANR)

This project includes the installation of the Interoperable-Electronic Train Management System (I-ETMS) PTC onboard 20 locomotives, along with software, a back office system, component testing, interoperability testing, and training for IANR to provide freight rail transportation between Cedar Falls and Waterloo, IA on the Canadian National (CN) Waterloo Subdivision. IANR will also acquire a locomotive simulator, which will be used for training.

IL – PTC Deployment and Interoperability Testing Project (Up to \$8,600,000)

Belt Railway Company of Chicago (BRC)

This project will complete the final phase of BRC’s Interoperable Electronic Train Management System (I-ETMS) PTC systems engineering, integration, testing, and training on its entire mainline network in Cook County, IL.

IL – Northern Illinois PTC Project (Up to \$1,640,925)

Chicago Rail Link (CRL)

This project will include on-board computer equipment and communication systems, locomotive radio licenses, messaging licenses, and a back office service messaging systems management license, along with PTC system testing and training to allow five CRL and Illinois Railway (IR) locomotives to continue operating on the Metra commuter rail system in and around Chicago as Metra and BNSF Railway activate the installation of Interoperable Electronic Train Management System (I-ETMS) PTC systems.

IL – Fiber Optic PTC Communication Systems on Metra's Rock Island and South West Service (Up to \$22,983,308)

Commuter Rail Division of the Regional Transportation Authority (Metra)

This project will construct the fiber optic backbone to provide redundancy and resiliency for Interoperable Electronic Train Management System (I-ETMS) PTC operations on two Metra-operated commuter rail routes, the Rock Island (RI) and South West Service (SWS) lines.

IN – Chicago South Shore & South Bend Railroad PTC Implementation Project (Up to \$720,000)

Chicago South Shore & South Bend Railroad (CSS)

This project includes PTC Interoperable Electronic Train Management System (I-ETMS) installation, testing, and training, as well as interoperability between CSS and the host railroad, Northern Indiana Commuter Transportation District (NICTD), along a route from Chicago, IL to South Bend, IN. Static tests will involve test procedures for locomotive systems, brake systems, and a host integration test.

IN – Northern Indiana Commuter Transportation District PTC Implementation (Up to \$8,081,222)

Northern Indiana Commuter Transportation District (NICTD)

This project will complete the design, implementation, training, and support of NICTD's Interoperable Electronic Train Management System (I-ETMS) PTC system for the wayside, onboard, locomotive, back office, and communications segments. The NICTD provides commuter rail passenger transportation with 43 passenger trains operating daily on the 90-mile route between South Bend, IN and Chicago, IL on the South Shore Line and on the Metra Electric District.

MA – Massachusetts Bay Transportation Authority PTC (Up to \$20,000,000)

Massachusetts Bay Transportation Authority (MBTA)

This project will support the completion of MBTA's ongoing Advanced Civil Speed Enforcement System (ACSES II) PTC implementation with system acceptance testing of 12 non-pilot lines in the Greater Boston metropolitan area, where installation of equipment is on-going: 1. Eastern Route Main Line (Newburyport Line), 2. Gloucester Branch (Rockport Line), 3. Western Route (Haverhill Line), 4. Fitchburg Main Line, 5. Wildcat Branch and non-pilot portions of the New Hampshire Main Line (NHML), 6. Worcester Line, 7. Needham Branch, 8. Franklin Branch, 9.

Dorchester Branch (Fairmount Line), 10. Middleboro Main Line, 11. Plymouth Line and Kingston Branch, 12. Greenbush Line.

MA – Implementation of a PTC System on High-Traffic Corridor (Up to \$2,991,825)

Springfield Terminal Railway Company (ST)/Pan Am Railways

This project will include PTC installation, testing, and training for ST to equip its locomotives with Advanced Civil Speed Enforcement (ACSES II) and Automatic Train Control (ATC) systems. ST is a Class II railroad with rail territory throughout New England. As a result, for this project, ST will equip six locomotives with ACSES II and ATC onboard systems for joint-use tenant operations with Amtrak and Metro North from Derby to Waterbury, CT and from Cedar Hill, CT to Springfield, MA. For tenant operation on Massachusetts Bay Transportation Authority's (MBTA) lines extending from the Boston, MA area to the north in Massachusetts, ST will install ACSES II onboard systems without ATC on 39 locomotives.

MD - MARC Locomotive PTC Installation (Up to \$2,080,000)

Maryland Transit Administration (MTA)

This project will upgrade, test, and commission nine Maryland Area Regional Commuter (MARC) locomotives with Interoperable Electronic Train Management System (I-ETMS) PTC, as well as provide training for service on the CSX Transportation and Amtrak Northeast Corridor territories along MARC's three lines from Washington, DC to Martinsburg, WV, Brunswick, MD, and Frederick, MD.

NE – Nebraska Central Railroad Company PTC Compliance (Up to \$527,596)

Nebraska Central Railroad Company (NCRC)

This rural project will deploy the PTC back office system, onboard hardware equipment for three locomotives, software, component testing, and training for the NCRC to operate along 62 miles of Union Pacific (UP) Class I track between Grand Island and Columbus, NE.

NM – NMRX PTC Implementation Project (Up to \$29,359,208)

Rio Metro Regional Transit District (Rio Metro)

This rural project will result in the full implementation of New Mexico Rail Runner Express' (NMRX) Interoperable Electronic Train Management System (I-ETMS) PTC system that includes the procurement, installation, testing and certification of the back office, locomotive onboard, wayside, and communications segments. For this project, the PTC system will be installed on 96



miles of the NMRX system between Belen, NM and Santa Fe, NM, including approximately 74 miles of the Albuquerque Subdivision and 22 miles of the Santa Fe Subdivision.

NY – PTC Project for Middletown and New Jersey Railroad L.L.C. (Up to \$1,200,000)

Middletown and New Jersey Railroad

This rural project will deploy interoperable Advanced Civil Speed Enforcement (ACSES II) PTC back office systems, communications, onboard hardware equipment, and software, as well as testing and training to ensure that Middletown and New Jersey Railroad locomotives can operate on New Jersey Transit dispatched territory in Orange County, NY.

NY – New York & Atlantic Railway PTC Implementation Project (Up to \$1,011,118)

New York & Atlantic Railway Company (NYA)

This project will include installing PTC on-board equipment on 10 NYA locomotives, as well as training and testing to continue operations on freight lines owned by the Long Island Rail Road (LIRR) in Long Island, NY. After the PTC hardware is installed, the software will be developed and tested to ensure compatibility, accuracy, and predictability. NYA's training program will educate employees on PTC systems to enable them to provide product support and install on-board PTC equipment along the NYA system in Nassau and Suffolk Counties as well as Brooklyn and Queens, NY.

PA – Upgrading 14 Locomotives with Two Safety-Related Technology Upgrades (PTC) (Up to \$1,830,926)

Allegheny Valley Railroad Company (AVR)

This project will upgrade AVR's ten locomotives with PTC and Cab Signal Systems for operations utilizing AVR's trackage rights over Norfolk Southern (NS) rail lines and upgrade four other locomotives solely with PTC, as well as include testing and training.

PA – Improving Safety and Interoperability in Pittsburgh, PA – PTC System (Up to \$302,444)

Allegheny Valley Railroad Company (AVR)

This project will include installing a PTC back office, system engineering, testing, and training for AVR operating on 77 miles of track in the greater Pittsburgh area.



PA – Installation of PTC Equipment on Locomotives as well as Secure Messaging Licenses and Back Office Hosting (Up to \$4,416,000)

North Shore Railroad Company

North Shore Railroad's proposed rural project will deploy Interoperable Electronic Train Management System (I-ETMS) back office systems; communications and onboard hardware equipment; software; equipment installation; testing and training for the implementation of PTC systems; and interoperability testing for six short line railroads operating in Central Pennsylvania on tracks owned by Norfolk Southern (NS).

TX – Capital Metro PTC Interoperability and Testing Project (Up to \$5,650,000)

Capital Metropolitan Transportation Authority (Capital Metro)

This project includes PTC components remaining in Capital Metro's installation of Enhanced Automatic Train Control (E-ATC) on its Red Line in the cities of Austin, Cedar Park, Leander, and the surrounding Texas communities. The work includes integration testing of PTC components, preparation of the PTC safety plan, contract engineering and oversight, systems testing, and training.

TX – DART/Trinity Metro Regional PTC Deployment Project (Up to \$9,516,358)

Dallas Area Rapid Transit (DART)

This project will support the shared operations and technology of the Interoperable Electronic Train Management System (I-ETMS) PTC system in the Dallas-Fort Worth urban area through the implementation of a PTC back office system (BOS), systems integration and testing with multiple freight and passenger railroads, interoperability testing, and training for the Trinity Railway Express and TEXRail commuter railroads. Additionally, it will include the installation and testing of an I-ETMS PTC onboard system for a Grapevine Vintage Railroad locomotive.

TX – PTC Enhancements - Denton County Transportation Authority A-train Commuter Rail (Up to \$4,000,000)

Denton County Transportation Authority (DCTA)

This project will implement five cut sections to include PTC programming changes, insulated joints, track monitoring equipment, testing and communications, deploy dispatch software/hardware integration with the Enhanced Automatic Train Control (EATC) temporary speed restrictions server—and conduct testing and training along a 21-mile long commuter rail line in Denton County, TX.

UT – Utah Transit Authority PTC FrontRunner South Segment (Up to \$2,781,775)

Utah Transit Authority (UTA)

This project will include the software redesign to advance Enhanced Automatic Train Control (E-ATC) PTC on the FrontRunner South Segment from Salt Lake City to Provo, UT over a distance of 44.26 miles.

WA – Short Line PTC Project (Up to \$1,986,518)

Puget Sound and Pacific Railroad (PSAP)

This project will include the installation of on-board PTC systems on 18 locomotives across five Class III railroads, testing of crew initialization back office server system (CI-BOS) across all eight railroads, and the establishment of a PTC Help Desk/Lab to support all eight railroads in Arkansas, California, Ohio, Oregon, Minnesota, Missouri, and Washington.

Projects Selected under the September 12, 2018 NOFO

AK – GPS Precision Upgrade for PTC (Up to \$2,530,618)

Alaska Railroad Corporation (ARRC)

This rural project will support ARRC following the Federal Communications Commission (FCC) waiver process to use other countries' satellites and the procurement of the global positioning system (GPS) GoLINC EP or AP system with software to improve the accuracy and functionality of GPS in ARRC's locomotives and on-track equipment (OTE) to implement the vital functions for its Interoperable Electronic Train Management System (I-ETMS) PTC. For this project, ARRC will partner with BSNF and the Navy to test the GPS system against jamming and spoofing; install the system at 40 base stations and in all of ARRC's locomotives and OTEs; and complete testing, system certification, and implementation in ARRC's Kenai, Central, and Mountain Subdivisions.

CA – PTC Configuration Management and Office Segment Failover (Up to \$3,976,560)

Peninsula Corridor Joint Powers Board (Caltrain)

This project includes the following activities which will be necessary steps in implementing Caltrain's Interoperable Electronic Train Management System (I-ETMS) PTC system:

- Completion of a Caltrain PTC Configuration Management (CM) Plan and PTC Data Management Procedure.



- Development of a CM tool that generates an audit trail for changes to configuration data and CM training on the configuration control and CM process.
- Completion of the backup central control facility (BCCF) and Central Control Facility (CCF) Failover Design and Test Plan so that if a primary server fails, the backup server becomes the new primary and the first standby server becomes the new backup.
- Completion of the preliminary design, test result, and as-built for an Emergency Operation Center (EOC) at the existing BCCF in Menlo Park, CA.

CA – Leveraging PTC to Increase Capacity and Reduce Headways and Alternative Vendor Analysis (Up to \$3,150,000)

Southern California Regional Rail Authority (SCRRA or Metrolink)

This project will include a study for leveraging PTC to increase capacity and reduce headways, as well as software development or component upgrades and corridor infrastructure upgrades to support the future implementation of Higher Reliability and Capacity Train Control (HRCTC) along Metrolink’s congested Orange County Line from Los Angeles Union Station to Oceanside, CA.

CO – PTC Installation for the Amtrak Southwest Chief on BNSF through Colorado and Kansas (Up to \$9,157,600)

Colorado Department of Transportation (CDOT)

This rural project from the Colorado Department of Transportation (CDOT), in collaboration with the Kansas Department of Transportation (KDOT) and the BNSF Railway, includes the design, installation, and testing of Interoperable Electronic Train Management System (I-ETMS) PTC wayside technology on approximately 179 miles of a predominantly single-track route between Dodge City, KS, and Las Animas, CO.

IL – PTC Kits and Spare Parts for 24 Additional Locomotives at Metra (Up to \$2,058,163)

Commuter Rail Division of the Regional Transportation Authority (Metra)

This project includes the purchase and installation of onboard Interoperable Electronic Train Management System (I-ETMS) PTC equipment on Metra’s 24 recently purchased locomotives.

MA – MBTA Positive Train Control Implementation (Up to \$7,548,335)

Massachusetts Bay Transportation Authority (MBTA)

This project includes the following eligible Massachusetts Bay Transportation Authority (MBTA) work on the Needham Branch, Franklin Branch, and Worcester Line:

(1) "Ready for Line (Level 3.2) Testing of Automatic Train Control (ATC)" where the previously installed PTC/ATC equipment on each line is already wired, software loaded, connected to the signal system, and activated. Testing will be performed to confirm that the equipment functions as designed and is ready for testing with a test train.

(2) "Completion of Commissioning for the ATC Lines" where final acceptance testing is performed, including interoperability and ATC system testing prior to placing the lines into revenue service.

NC – NCDOT Rolling Stock PTC Commissioning (Up to \$584,080)

North Carolina Department of Transportation (NCDOT)

This project includes the installation, testing, commissioning, certification, and documentation of Interoperable Electronic Train Management System (I-ETMS) PTC onboard technology on three NCDOT locomotives for operation in the Piedmont intercity passenger rail service which operates between Raleigh and Charlotte, NC.

NJ – PTC Installation on Multilevel Cab Cars (Up to \$6,542,353)

New Jersey Transit Corporation (NJT)

This project includes the installation and testing of Advanced Speed Enforcement System II (ASES II) PTC onboard equipment on 33 NJT multilevel cab cars for deployment along the Northeast Corridor (NEC), Montclair-Boonton, and Morris & Essex Lines in NJ. NJT is purchasing the cab cars to replace aged ARROW III Electric Multiple Unit (EMU) vehicles, which are more than 40 years old and at the end of their useful life.

NM – New Mexico Rail Runner Express (NMRX) PTC/Wi-Fi Integration Project (Up to \$2,496,842)

Rio Metro Regional Transit District (Rio Metro)

This rural project from Rio Metro Regional Transit District (Rio Metro) will restore the New Mexico Rail Runner Express (NMRX) system's Wi-Fi network from an end-of-life, proprietary WiMAX system to a cross-compatible Long-Term Evolution (LTE) system while also providing a redundant path of communication for its Interoperable Electronic Train Management System (I-



ETMS) PTC system. The project is comprised of 26 towers along the 96 miles of the NMRX system between Belen, NM and Santa Fe, NM, including approximately 74 miles of the Albuquerque Subdivision and 22 miles of the Santa Fe Subdivision, as well as 9 NMRX cab cars, 13 coach cars, and 15 NMRX stations to be equipped with the Wi-Fi technology.

NY – MTA Metro-North Railroad PTC Communications Testing (Up to \$2,300,000)

NY Metropolitan Transportation Authority (MTA)

This project will involve third-party PTC system testing to measure communications system performance to predict, identify, and replicate communications issues affecting MTA's Metro North Railroad's (MNR) operations, as well as develop and validate mitigation approaches to address communications challenges along the Northeast Corridor (NEC). Testing will include communications across various hardware configurations, railroad boundaries, message content and volume, and train types and speeds.

TX – Capital Metro E-ATC PTC Wayside Installation Project (Up to \$5,957,151)

Capital Metropolitan Transportation Authority (Capital Metro)

This project includes the design, installation, and verification of the Enhanced Automatic Train Control (E-ATC) PTC wayside system on the new tracks along Capital Metro's Red Line in the cities of Austin, Cedar Park, Leander, and the surrounding Texas communities. The project spans a 21-mile section along the Red Line, as a final piece of PTC installation where it is required on Capital Metro's railroad corridor.