

# Success Stories

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Capitol Corridor Joint Powers Authority (CCJPA)  
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## Travel Time Savings on Capitol Corridor Route

Initiated in 2016 and completed three years later, the Capitol Corridor's Travel Times Savings Project made significant track improvements along the portion of the Capitol Corridor route between Benicia and San Jose, resulting in seven minutes of time savings for customers traveling between Sacramento and San Jose.

While originally expected to shave 10 minutes off the route's travel time, the project "lost" some of that due to the implementation of Positive Train Control (PTC) in 2018, as well as the 2017 opening of the Fairfield-Vacaville Hannigan station, which added some dwell time to the route.

The actual travel time savings from this infrastructure project went into effect in June 2019 with the implementation of a new Capitol Corridor schedule. The infrastructure improvements, along with the new schedule, not only resulted in faster travel time, but also improved overall route efficiency and reliability.

This \$13 million project was completed in partnership with Caltrans, the California State Transportation Agency (CalSTA), and Union Pacific Railroad (UPRR). It was funded by the California Proposition 1A Program and CalSTA's Transit and Intercity Rail Capital Program (TIRCP), which invests in transformative capital improvements that serve to modernize California's transit systems and that contribute to the reduction of greenhouse gases by decreasing congestion and vehicle miles traveled.

## New Fairfield-Vacaville Hannigan Station

Located in a bedroom community between the Sacramento metro region and the San Francisco Bay Area, the new Fairfield-Vacaville Station, which opened to service in November 2017, allowed the Capitol Corridor to tap into a key area of service growth. The \$50 million project is a public/private partnership between CCJPA, the City of Fairfield, the City of Vacaville, Union Pacific Railroad (UPRR), and Amtrak. The immediate area around the station is bursting with new home developments, and the station is not far from Travis Airforce Base, which has a robust workforce of almost 15,000 military members and civilian employees.

Besides serving a new customer market, the new station is state-of-the-art and represents a model for future stations as well as older stations undergoing restoration. Meeting all federal ADA requirements, the station includes an 800-foot train platform, sheltered passenger waiting areas accessible by a pedestrian/bicycle underpass, a parking lot, and a bus passenger transfer area.

Additionally, the project included the construction of an overpass that provides automobiles, bicycles, and pedestrians safe crossing over the railroad tracks, enhancing public safety and relieving traffic congestion.

## **Movement to Reduce Emissions – Chargers/Decommissioning, Wayside Power, Other**

The Capitol Corridor has taken a leading role in working to meet the State of California’s aggressive clean air goals. Three projects in particular have played integral parts in the Capitol Corridor’s efforts to incorporate new and green technologies into its operations and provide sustainable transportation to communities in Northern California.

### **Cleaner, Greener Locomotives**

In April 2017, the Capitol Corridor announced the addition of six new clean, diesel-electric Charger locomotives to its fleet. Built locally by Siemens in Sacramento and meeting the federal “100% Made in America” requirements, these were the first high-speed passenger locomotives to receive Tier IV emissions certification from the Federal Railroad Administration (FRA).

More recently, in May 2021, the Capitol Corridor retired two older F-59 locomotives to replace with two more Tier IV Charger locomotives, which went into service in June 2021. Caltrans Division of Rail and Mass Transit purchased these two new locomotives to be used specifically for the Capitol Corridor, and the project was funded by the Bay Area Air Quality Management District and co-funded by Sacramento Metropolitan Air Quality Management District and Placer County Air Pollution Control District through the Carl Moyer Grant Program.

Tier IV designation means the locomotives meet very stringent emission standards, providing 90% improvement on emissions compared to a Tier 0 engine. The engine of the Tier IV locomotives also provides 16% improvement in fuel efficiency over the non-Tier IV locomotives.

### **Renewable Diesel**

In 2016, the Capitol Corridor began to explore alternative fuel options that would burn cleaner than the petroleum diesel being used and also work with the Tier IV Charger locomotives joining the fleet. Renewable diesel, which is a fuel primarily composed of biomass waste and residue, was identified as a potentially viable option. Testing of the renewable diesel fuel began in 2017 on the Capitol Corridor’s F-59 locomotives, continued into 2019 and 2020 with the Tier IV locomotives, and was completed in 2021.

The project is now in its final phase of evaluation, during which the engine manufacturer will review data from the testing phase and determine if renewable diesel is a viable fuel option. After we receive Environmental Protection Agency certification, the goal is to transition the entire fleet of locomotives to the use of renewable diesel fuel by the end of 2022.

### **Wayside Power**

As part of the effort to reduce its environmental footprint, the Capitol Corridor installed electric power cabinets at its layover stations of San Jose and Auburn, which allows the locomotives to switch power source from diesel fuel to electric while they are laying over. Switching to electric power cabinets during layovers also extends the life of the locomotive engine and allows for an optimized maintenance schedule.

Completed in 2014, the San Jose project was funded by the California Office of Emergency Services (CalOES) Proposition 1B Safety and Security program. The Auburn project was funded Proposition 1B funding awarded by the California Department of Transportation (Caltrans) Division of Rail and Mass Transit (DRMT) and was completed in 2019.

## **Onboard Wi-Fi Upgrade for Northern California Fleet**

With tech-savvy customers who live and work in some of the United States' most vibrant and advanced technology hubs, the Capitol Corridor maintains a commitment to providing best-in-class Wi-Fi service onboard its trains. It is one of the Capitol Corridor's most appreciated customer amenities and is available to all passengers free of charge.

As a Wi-Fi leader, the Capitol Corridor implemented its first trial wireless internet service back in 2004, and seven years later, in 2011, launched Amtrak Connect Wi-Fi service on all trains. To keep up with technology changes and continue to meet customer demand for faster internet service, the Capitol Corridor embarked on a project starting in 2018 to upgrade the free onboard Wi-Fi service for its Northern California fleet.

Using California State Public Transportation Account (PTA) funds, the Capitol Corridor began rolling out its Next Generation Wi-Fi equipment upgrade in 2019 and completed the installation in 2020. The upgraded Wi-Fi nearly doubles the bandwidth and will be continuously upgraded with the latest improvements in Wi-Fi technology. The onboard Wi-Fi portal further improves the customer experience by providing an interactive real-time train tracking tool, station and weather information, and engaging content offerings.

Colorado – Southwest Chief & Front Range Passenger Rail Commission

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## **Creation of Front Range Passenger Rail District and Funding**

The Southwest Chief & Front Range Passenger Rail Commission, with support from the Colorado Department of Transportation and additional stakeholders, is continuing to proceed with the development of passenger rail service serving the Front Range and continued service of the Southwest Chief.

During this year's state legislative session, the Front Range Passenger Rail District was created to continue the work of the rail commission on Front Range Passenger Rail. This new district, an evolution of the rail commission, has additional powers necessary for the implementation of passenger rail. The Colorado state legislature also provided \$2.5m further funding to the new District. These funds will supplement the existing FRA grant funding for necessary work on a Service Development Plan. The 2020 CRISI Grant totals \$685,000, with \$548,000 being provided in federal funds.

## **Southwest Chief Improvements**

Amtrak is continuing its long-distance service through rural southeastern Colorado via the Southwest Chief with support of upgraded infrastructure improvements. Installation of PTC, continuous welded rail, and other rail improvements are bringing the Southwest Chief line to standard to continue the long-running service. Funding for these improvements comes from a combination of local community, private, and state matches for FRA TIGER and RAISE grants awarded funds. Additionally, the state legislature provided significant funding directly to the La Junta project.

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## **Building UP Capital Improvement Program - LOSSAN Northern Corridor**

This program of projects was started in 2018 with the award of state grant funding. The \$108 million program of projects is being designed and constructed in partnership with the Union Pacific Railroad, which owns the northern half of the LOSSAN rail corridor on which the Pacific Surfliner operates.

This program replaces two 125-year-old steel viaducts (\$44 million), upgrades nine sidings for easier passing of trains as part of the installation of Centralized Traffic Control on 108 miles of the railroad (\$29.2 million), upgrades the track infrastructure (\$24 million) and stabilizes several areas along the coast that are sensitive to coastal erosion (\$9.4 million). When the program is complete in 2024, it will support four additional train trips for the Pacific Surfliner north of Los Angeles and improve on-time performance and service reliability.

These initiatives are a success because of the partnership built between the LOSSAN Agency and the Union Pacific Railroad. This partnership has led to more frequent communication and sharing of information that, in the end, will make it easier to expand Pacific Surfliner service.

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## **Improvements along the Missouri “River Runner” Corridor**

Federal Funding, including ARRA and HSIPR, has enabled Missouri to complete several projects to improve the on-time performance of the River Runner. These funds allowed the construction of one passing siding, one universal crossover, a third main line in St. Louis, and improvements to the west approach to the Merchants Bridge over the Mississippi River. Funding was also secured for 15 highway/railroad crossings to install flashing lights and gates. The corridor now has active warning devices at all public road crossings except one.

One of the most critical construction projects was the construction of a second river bridge over the Osage River east of Jefferson City, MO. The River Runner corridor east of Jefferson City was double main except at the Osage River. It wasn't uncommon to see one of the River Runners waiting its turn to cross the bridge. The completion of the second river bridge eliminated this bottleneck.

These construction projects represent a \$47.2 million Federal investment along with \$4.8 million in state funding and \$19 million from the railroads.

Missouri was also able to complete preliminary engineering and NEPA approval for 18 miles of double main (90 mph), two passing sidings and two universal crossovers. It represents almost \$200 million in projects that could be implemented quickly.

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## **Brunswick Expansion Project**

Thanks to ARRA, NNEPRA was able to access the funding to rehabilitate 28 miles of track and extend the Amtrak Downeaster service from Portland to Brunswick, Maine. The extended service, which was initiated in 2012, has been very successful. Ridership has exceeded projections as Downeaster service became more accessible to rural Maine communities. The expansion also sparked economic development. The location of the train station, which was once a brownfield site, is now a bustling community center, home to restaurants, condos, an inn, professional and retail businesses, and the Town Hall.

The Brunswick Expansion Project was funded in 2010. Construction was completed and service began in 2012. ARRA funded the \$38M project. The Station development was funded by local municipalities and private developers.

North Carolina  
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NCDOT's passenger service program began in 1984 with a demonstration train between Charlotte, Raleigh, and New York City. This demonstration train evolved into the state-supported Carolinian service that started in 1990 and served approximately 214,218 riders along the route in 2019. In addition to the *Carolinian*, NCDOT sponsors the *Piedmont* that provides three round-trips between Charlotte and Raleigh. In 2019, the *Piedmont* carried 244,779 riders. Together, the *Carolinian* and *Piedmont* currently provide four roundtrips between Charlotte and Raleigh. The *Carolinian* consistently has had the best ridership recovery during the pandemic. Both the *Carolinian* and *Piedmont* have resumed their regular schedules.

The North Carolina Department of Transportation has successfully partnered with railroads, communities, and the Federal Railroad Administration to secure funding and deliver projects to enhance the passenger and freight rail system in North Carolina. Examples of success stories include the development and expansion of NC's passenger rail program, completion of the ARRA-funded Piedmont Improvement Program, Raleigh Union Station, and Charlotte Gateway Station. These examples and North Carolina's vision for its next steps are described below.

## **Piedmont Improvement Program**

The Piedmont Improvement Program was funded through a \$520 million American Recovery and Reinvestment Act (ARRA) Grant through the Federal Railroad Administration (FRA). NCDOT received and administered the grant with cooperation from FRA, North Carolina Railroad Company, Norfolk Southern, CSX, and Amtrak.

The infrastructure program included 32 miles of second track and passing sidings, thirteen new grade separations, twelve miles of new roadway, and the closure of 23 public at-grade highway-rail crossings. The grant also provided funding for additional equipment and station improvements. Agreements associated with the project enabled the third (*Piedmont*) round trip to begin and allow for a fourth future *Piedmont* round trip with no additional infrastructure requirements. This fourth *Piedmont* will begin once new equipment is acquired through a Federal State Partnership for State of Good Repair grant that was awarded to the Department. A fifth *Piedmont* round trip can start once additional improvements are completed between Greensboro and Raleigh.

Once the infrastructure projects were completed in late 2017, the third Piedmont round trip began in June 2018. The fourth *Piedmont* is anticipated to begin in 2024. In addition, in agreements associated with the project, a process was established to ensure any on-time performance issues are discussed and resolved by corridor stakeholders.

## **Raleigh Union Station**

Raleigh Union Station (RUS) replaced the old Amtrak Station on Cabarrus Street, whose size and location could not accommodate existing or projected ridership. The project reused an industrial building that had been vacant since 2005. The 26,000 square foot building provides 9,200 square feet of passenger areas, more than five times the space of the former station.

The passenger concourse between the station and the high-level boarding platform provides natural light throughout its length and a wonderful view of the Raleigh skyline. The artistic metal sheets adorning one wall of the concourse were salvaged from the original industrial building. The new 920-foot-long center island platform offers level boarding and is fully ADA compliant. This is the first high-level platform in North Carolina. The tracks built to serve the station are for passenger trains and remove all boarding and detraining activities from the mainline railroad so that freight trains may pass the station without delays.

The project also included an additional siding, signal work, and improvements to adjacent freight tracks. The project cost \$110.4 million and was funded through a combination of TIGER (\$31 million), ARRA (\$39.4 million), NCDOT (\$14.1 million), and City of Raleigh (\$25.9 million) funds. Construction started in 2016 and the station and associated track work was completed in 2018. The Federal Railroad Administration, City of Raleigh, NCDOT, North Carolina Railroad Company, Norfolk Southern, and CSX worked together to complete the project.

## **Charlotte Gateway Station**

Construction of the Charlotte Gateway Station is underway and is anticipated to be completed in 2024. The track improvements, stations tracks, platform, interim station building, and demolition of the old station was estimated to cost \$86.4 million. Those improvements are being funded through the combination of a \$40 million TIGER grant awarded in 2017, \$47.4 million in state transportation funds, and \$9 million in City of Charlotte funds. Gateway Partners, LLC is funding the construction of mixed-use development on 13 acres around the station. The Federal Railroad Administration, City of Charlotte, NCDOT, Gateway Partners, LLC, Norfolk Southern, and Amtrak are involved.

The new station will replace the current station that is located on North Tryon Street near Norfolk Southern's freight yard. The existing station is inadequate for existing and projected passenger rail ridership volumes and conflicts with freight operations. In addition, the station is not located in the City's center. The new Charlotte Gateway Station will be in Uptown Charlotte and will be able to take advantage of multi-modal connections to better access the City. The new station is the center of Gateway Partners' 13-acre station area development. Prior to receipt of the TIGER grant to help construct the station, a separate grant award was used for station area planning.

## **S-Line Connection and further NC improvements**

NCDOT has been working with DC, Virginia, Tennessee, Georgia, and Florida to establish the Southeast Corridor Commission in developing a vision for high performance passenger and freight rail in the Southeast. NCDOT considers the Raleigh to Richmond segment of the Southeast Corridor as a priority for developing a high capacity, high reliability Southeast rail system.

Following Virginia's recent acquisition, NCDOT was recently awarded a CRISI grant to acquire the remaining active CSX S-Line corridor north of Raleigh as for the corridor connecting Raleigh, Wake Forest, and Henderson, North Carolina, Petersburg and Richmond, Virginia, and DC. This new corridor represents the critical missing link in providing expanded high-performance passenger rail services connecting the Northeast to the Southeast through Virginia and North Carolina.

NCDOT will pursue subsequent Federal grant opportunities with its partners to advance corridor designs and incrementally implement the service contemplated in the Raleigh to Richmond Final Environmental Impact Statement and Record of Decision published in 2017. The full corridor is envisioned to be constructed in phases, depending upon the availability of funding, with initial construction and services connecting the suburban and rural communities north of Raleigh to the more urban communities served by the Piedmont Corridor. Ultimately, the new route will connect to Virginia's improvements in Petersburg with a higher-speed, modern connection capable of multiple train frequencies. Along with S-Line development, NCDOT is developing a program for a 6<sup>th</sup> Charlotte to Raleigh to Charlotte

(5<sup>th</sup> Piedmont) round-trip and expansion of its intrastate rail services into southeastern and western North Carolina.

Michigan

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## **West Detroit Connector Track**

Michigan received \$7.9 million from the HSIPR program to remove passenger and freight conflicts by establishing a direct connection at West Detroit between the Dearborn and Detroit New Center stations. Work included a new bridge, connector track, plus five new crossovers and signal improvements, and was completed in December 2015.

## **Station Development Grants**

In partnership with local communities, Michigan was a beneficiary of approximately \$40 million in HSIPR funds to construct new stations in Dearborn and Troy/Birmingham and conduct a significant renovation in Battle Creek. New stations from other federal, state, and local funding were also built in Grand Rapids and East Lansing. The funding for the Grand Rapids project was a Rail Line Relocation and Improvement federal grant. Along with the new station a spur track was reinstalled to serve the facility. While these projects included coordination with FRA and Amtrak, the partnership with local communities was vital in each station's success.

## **Kalamazoo-Dearborn Acquisition and Service Development Program**

In 2012, MDOT received approximately \$346 million from the HSIPR program to acquire and improve rail services along a 135-mile segment between Kalamazoo and Dearborn, MI. These funds allowed an upgrade of the deteriorated infrastructure, removal of slow orders, and implementation of speeds up to 110 mph. To date, MDOT is travelling up to 110 mph on certain sections of track between Kalamazoo and Albion, with projects in place to expand 110 mph territory easterly. This project involved coordination with Amtrak, FRA, freight railroads, and local communities to invest in critical infrastructure between Chicago and Detroit.

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## **Oregon ARRA Talgo Trainsets Purchase**

In 2010, the Oregon Department of Transportation (ODOT) procured two passenger Series 8 trainsets from Talgo, Inc. (Talgo). The trainsets were funded with a \$38.4 million federal American Recovery and Reinvestment Act (ARRA) stimulus grant administered through FTA. Oregon purchased this rolling stock because it was necessary to maintain and increase service on the Amtrak Cascades service between Vancouver, British Columbia and Eugene, Oregon. This new equipment would be fully integrated with the existing Cascades service and a Talgo Series 6 fleet.

This project included ODOT, Amtrak, FRA and FTA as stakeholder partners to procure, build, test and place the two trainsets into revenue service on schedule as committed. Additional equipment costs, increased oversight fees, and some unavoidable delays hindered efforts led to increased ODOT's financial participation in this grant funded project. However, the two Talgo Series 8 trainsets were placed in revenue service in late 2013 and continue in service today, contributing to improved intercity passenger rail in the Pacific Northwest.

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## **Extension of Ethan Allen Express to Burlington, VT**

This final phase of almost \$200 million in state and federal funding of rail infrastructure along Vermont's western corridor was funded primarily by an FRA TIGER VII grant award of \$10 million in 2015. The work is on schedule to be completed in 2022. In addition to FRA's \$10M investment, the state of Vermont covered most of the remaining \$16.4 million cost, with other significant funding coming from the Federal Highway Administration for the revitalization of the Ferrisburgh-Vergennes Station building.

The project upgraded approximately 12 miles of jointed rail to continuously welded rail, allowing freight to travel up to 40 mph and for Amtrak service up to 59 mph speed on the Ethan Allen Express. In addition, it constructed three passenger rail platforms (i.e., Middlebury, Vergennes, and Burlington), rehabilitated two bridges, and provided numerous public crossing improvements, sidings, the Rutland Wye, ties and other rail infrastructure necessary to deliver passenger rail services north from Rutland to Burlington. Among the gems of this work is the restoration of the abandoned and now beautiful 1850's Ferrisburgh Station, which was gingerly moved about 100 yards to its new home at the Ferrisburgh-Vergennes Station.

In addition to the improvements noted above, the principal project objective and benefit was to provide a rail connection to Vermont's largest city, Burlington. The interim stops added at Middlebury and Vergennes provide additional connections for those communities, including Middlebury College.



## Expansion of Virginia Passenger Rail Service

Since 2009 Virginia has partnered with CSX and Norfolk Southern on corridor improvements to incrementally grow state-supported passenger rail service by extending Northeast Corridor trains from Washington D.C. and the Northeast Corridor to communities across the Commonwealth of Virginia. From 2009 to 2019 Virginia invested approximately \$500M of state funds to construct necessary infrastructure and support operations.

### Service expansions included:

- 2009: Initiation of State-supported service between Lynchburg, VA and Washington, D.C.;
- 2010: Initiation of State-supported service between Richmond, VA and Washington, D.C.;
- 2011: Extension of State-supported service from Richmond to Norfolk, Virginia;
- 2012: Assumption of financial responsibility for two round trip Newport News - Washington, D.C. services;
- 2013: Assumption of financial responsibility for two round trip Richmond - Washington, D.C. services;
- 2017: Extension of State-supported service from Lynchburg to Roanoke, VA;
- 2019: Extension of a second State-supported train from Richmond to Norfolk, VA;
- 2021: Resumption of full service after pandemic cut-backs with extension of service to Downtown Richmond Main Street Station.

As service and ridership has grown, so too has the need to address railroad network capacity issues. Virginia's actions will allow for continued freight rail growth – benefiting the Port of Virginia – while meeting passenger rail service demands.

In 2019, Virginia and CSX announced an agreement to expand and improve passenger, commuter, and freight rail in Virginia and address capacity issues connecting the national rail network between the Northeast and Southeast corridors. Through strategic partnerships, investments, and capital improvements, what is now “Transforming Rail in Virginia” allows Virginia to nearly double Amtrak state-supported service and increase Virginia Railway Express service over the next 10 years. Virginia is also acquiring 384 miles of CSXT right-of-way and 223 miles of track in rail corridors paralleling Interstate 95, 64, and 85, which will be owned and maintained by the new Virginia Passenger Rail Authority – created by the Virginia General Assembly in 2020.

In 2021, Virginia announced an agreement with Norfolk Southern to acquire 28.5 miles of the NS owned right-of-way from Salem to Christiansburg, VA to further expand the western State-supported Amtrak route from Roanoke to the New River Valley (home of Virginia Tech) as well as increase the frequencies of service in the western part of the Commonwealth between New River Valley and Washington, D.C.

Virginia's successful passenger rail program continues to grow with bipartisan support. Through significant state commitments, Virginia has changed the way Virginians travel on the East Coast.

## **Landslide Mitigation along the Amtrak Cascades Corridor**

WSDOT sponsors the Amtrak Cascades service that operates between Vancouver, British Columbia, Canada; Seattle, Washington; Portland, Oregon; and Eugene, Oregon. Landslides along the coastal bluffs north of Seattle have long plagued the passenger and freight trains using the tracks that run below the hillsides. Increased development, improper drainage systems and insufficient building regulations increase the landslide risk.

This busy section of the rail corridor hosts 14 daily passenger trains and an average of 21 daily freight trains. A total of more than 740,000 passengers (including Amtrak Cascades, Amtrak Empire Builder and Sounder commuter train passengers) travel through this area every year. Each landslide that reaches the railroad tracks automatically triggers a 48-hour moratorium for passenger trains, forcing those passengers to use alternative transportation options and eliminating the revenue used to reduce the state subsidy.

In response, WSDOT created the Cascades Corridor Reliability - Landslide Mitigation Program. WSDOT worked with BNSF Railway, the track owner, to identify sites with a high incidence of service-disrupting slope failures and then identified the best mitigation measures for each location.

Phase I of the Program, which was completed in 2016, invested more than \$17 million in federal ARRA funds to reduce the risk of landslides at six landslide prone sites between Seattle and Everett, including:

- Catchment walls to stop debris from reaching tracks
- Slope stabilization and drainage improvements
- Slide warning fences

Phase II of the Program was completed in 2021 and invested more than \$10.9 million that includes a federal CRISI grant, BNSF funding and state funding for landslide mitigation measures at six additional sites.

In 2020, WSDOT was successful in winning a second CRISI grant to undertake Phase III of the Program at three additional locations. Federal funding of \$3.719 million, matched by state and BNSF funding, will speed the delivery of landslide mitigation measures in an area that has a history of slides leading to short and long-term closures of the rail line. Work is scheduled to begin in 2022.

Since completion of the landslide mitigation improvement projects, no landslides have reached the tracks in those upgraded areas to disrupt train service. The success of this program has led to significant improvement in the reliability and safety of the Cascades corridor.

## **Improvements along the Amtrak Cascades Corridor**

A total of 20 projects were funded through the ARRA program on railroad tracks owned by BNSF Railway and Sound Transit, as well as in the station owned by the City of Seattle. Those improvement projects included:

- New bypass and siding tracks to ease congestion
- Multiple upgrades to existing track
- Upgrades to advanced warning signal systems and safety-related projects
- Station upgrades and expansions and new stations in Tacoma and Tukwila
- Eight new locomotives

ARRA funding was awarded in 2010, with all projects completed by 2017. The agreed upon outcomes for these improvements included a 10-minute travel time reduction between Seattle and Portland, two additional daily round trips between Seattle and Portland, and an on-time performance of 88% through the corridor.

Achieving these service outcomes required upgrades throughout the corridor for advanced warning signals and technology related to PTC implementation. The development of a new inland Point Defiance Bypass route between Tacoma and Olympia for Amtrak passenger trains provided the primary impetus for the travel time savings and additional trips between Seattle and Portland. Most of the other projects were undertaken specifically to improve on-time performance. Among others, these included:

- Installing new rail yard bypass, a rail trench along the Columbia River, and new lead tracks in Vancouver
- Adding siding tracks to Kalama and Longview ports
- Building a new train bridge in Kelso
- Rerouting trains from the congested main line and single-track tunnels to new route in Tacoma
- Building the new Amtrak Cascades station in Tacoma
- Improving facility and multimodal options at new Tukwila station
- Reducing landslide delays between Seattle and Everett
- Adding tracks at Blaine customs facility
- Seismic retrofitting and improving tracks at historic King Street Station

Attaining the service outcome agreements thus far is hindered by the derailment of an Amtrak Cascades passenger train in December 2017 on its first revenue service trip on the new Point Defiance Bypass. This required trains to revert to the old route, thus undermining the ability to provide additional trips and reduce travel times between Seattle and Portland. Trains resumed on the Point Defiance Bypass in late 2021; however, additional trips may not be resumed until travel demand increases following the COVID-19 pandemic.

Wisconsin

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## **Twin Cities-Milwaukee-Chicago (TCMC) Intercity Passenger Rail Project**

The TCMC project adds a new, daily round-trip intercity passenger rail regional corridor service between Chicago, Milwaukee, La Crosse, WI, and St. Paul, MN on the Amtrak Empire Builder route. The project is a joint effort among WisDOT, MnDOT, Amtrak, La Crosse County, WI, and Ramsey County, MN.

The TCMC project responds to growing demand for regional passenger rail options along the corridor. The project doubles daily round-trips along the route, decreases travel time compared to existing service, improves reliability for eastbound travelers, facilitates intermodal connections at both rural and urban stations, and bolsters the local economies of 11 rural and urban train station communities in Wisconsin and Minnesota.

The TCMC is particularly successful due to strong community and business support, and stakeholder and public outreach by the project team. The TCMC project, which was selected for an FRA CRISI 2020 grant in September 2020, has already completed environmental clearance, the service development plan, preliminary design, and agreement with the host railroad on adding the trains once railroad improvements are constructed, thanks to successful collaboration with the host railroad by the project team. The grant agreement with FRA is underway, and final design will commence on schedule in late

2021. Final design will be completed in 2022, with construction in 2023 and 2024. Revenue service is expected to begin in late 2024.

The TCMC was also selected for an FRA Restoration and Enhancement Grant to help with operating funding support for the first three years of service. This grant was pivotal for gaining the support needed for the project at the state level.

Total project cost: \$53M

FRA CRISI grant: \$31.8M

Wisconsin match: \$6.2M

Minnesota match: \$10M

Amtrak match: \$5M

### **Hiawatha Improvements: Milwaukee Airport Rail Station 2nd Platform Project**

The project adds a new ADA-compliant platform to the rail station at Milwaukee Mitchell International Airport, with fully enclosed overhead access connecting the existing station with the new platform and two elevator towers. The project also constructs a new vestibule connecting and integrating the tower building with the existing station building. The new platform will feature shelters, lighting, and passenger information display systems.

The project is required to add additional Milwaukee-Chicago Amtrak Hiawatha Service daily roundtrips, and also has independent utility. The project increases railroad dispatching flexibility, which improves reliability and railroad capacity. The project also improves safety and avoids use of an emergency platform to load passengers during track maintenance. The project benefits nearly 200,000 Hiawatha trips annually at the Milwaukee Airport Rail station and will accommodate additional Amtrak Hiawatha Service roundtrips and the future Twin Cities Milwaukee-Chicago 2nd frequency.

The project received an FRA CRISI grant for final design and construction. Final design began in 2020 with construction planned for 2022 and 2023. The project gained full support from the host railroad, Canadian Pacific (CP) Rail. The project also overcame challenges associated with an expansion of the scope during the preliminary engineering process, through a strong commitment and partnership from Amtrak and WisDOT to cover additional funding needs.

Total project cost: \$15.1M

FRA CRISI grant: \$5.05M

Wisconsin match: \$8M

Amtrak match: \$2M from Amtrak

CP Rail match: \$50,000