

High-Speed Intercity Passenger Rail

SPEEDLINES

March 2020
ISSUE #28



An international comparison...
GERMANY AND USA

.....
Today, transit use in the United States is much, much higher in cities than it is in rural areas. In Germany the disparity isn't nearly as great.



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One of the largest, most ambitious public transportation programs in U.S. history

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What's happening in your vicinity?
State commentary and coverage

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SPEEDLINES MAGAZINE



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On the front cover:

IN EU COUNTRIES, A SINGLE STATE-RUN ORGANIZATION IS RESPONSIBLE FOR THE ENTIRE RAILWAY INFRASTRUCTURE IN EACH MEMBER STATE-- THERE'S NETWORK RAIL IN THE UK AND DB NETZ AG IN GERMANY. THIS ALSO MEANS THAT RAIL INFRASTRUCTURE, AND ITS FUNDING, IS A NATIONAL ISSUE, WITH SOME FUNDING FROM THE EU AVAILABLE FOR INFRASTRUCTURE IMPROVEMENTS. IN THE US, AT LEAST EIGHT DIFFERENT PRIVATE COMPANIES OWNING TRACKS AND SIGNALING SYSTEMS, MAKING UP THE COUNTRY'S RAILWAY NETWORK.

ABOVE: HS1 has driven growth in international rail journeys between the UK and the rest of Europe by enabling high-speed services between the Channel Tunnel and St Pancras International and delivering faster journey times as a result. "More and more people are switching to rail as the most environmentally friendly way of travelling between the UK and a growing list of destinations in mainland Europe," said Dyan Crowther, CEO of HS1 Ltd.

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HS&IPR *Committee & Friends*

As we begin a new decade, we are nearing the end of the Fixing America's Surface Transportation (FAST) Act, which expires in September. When we look back and reflect on what has been accomplished since enactment of the FAST Act and the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), we may become frustrated with U.S. progress when compared to what has happened globally, especially in China. But significant progress has been made and there is reason to be optimistic that things will only get better.

Since the enactment of PRIIA, and the subsequent appropriation of upwards of \$10 billion for passenger rail improvements in the American Recovery and Reinvestment Act of 2009 (ARRA), significant progress has been made to update and expand the capacity of the nation's passenger rail service. In corridor after corridor track upgrades are occurring, new track capacity is being built, new rolling stock is being delivered, and new passenger rail service is coming to life.

In the Northeast Corridor plans are being drawn to eliminate critical bottlenecks, straighten alignments, and acquire state-of-the-art high-speed trainsets that will facilitate improved service between Boston and Washington. Along the corridor, New England states have upgraded the quality and frequency of service like the Hartford Line, providing travelers new mobility options.

To the south of Washington, Virginia and the Carolina's are adding new service and capacity that will someday allow electrified passenger trains to operate from Boston to Raleigh and beyond. Entrepreneurs in Florida have opened brand new passenger rail service from Miami north. Similar progress is being made in the Midwest, in Texas, in the Rocky Mountain States, in the Northwest, and in California. We thank Ken Sislak and his team for once again preparing the annual state-by-state progress report of passenger rail projects which has become a standard reference for many.

To continue the momentum, the legislative subcommittee under the leadership of Karen Hedlund has been busy working with the APTA Legislative Committee to formulate the legislative proposal for the FAST Act reauthorization. Key goals are that the rail title in the FAST Act is renewed and that Congress establish a permanent funding mechanism that will assure on-going support for intercity and high-speed passenger rail including Amtrak, in much the same way that other transportation modes have been funded for decades. The overall funding request for five years is a modest \$32 billion when compared to other developed countries. Now it is our challenge to participate in Hill visits and other initiatives to make the sale.

In order to provide tools for building the case for public investment in high-speed rail, and subsequent to the release of Phase I of the APTA Return on Investment (ROI) study in October 2017, the committee is now planning Phase II which will develop a comprehensive and prescriptive methodology for determining ROI for HS&IPR projects. The study will also quantify the economic benefits of linking mega-regions. Both the American Association of State Highway and Transportation Officials (AASHTO) Rail Council and the States for Passenger Rail Coalition (SFPR) have recognized the value of this project, especially given the current emphasis on regions and corridors. As soon as we have raised sufficient funding through additional sponsorships, the study will commence.

Our committee continues to develop informative content for both our committee meetings and sessions at major APTA conferences. At the APTA Rail Conference in San Francisco June 14 -17, 2020 the California project will be profiled and sessions will include content on both domestic and international high-speed rail developments.

In 2021, the committee will take a major leap, hosting a two-day conference in Philadelphia on April 7th thru the 9th, at the Philadelphia Marriott. The conference will feature leading passenger rail advocates from throughout the U.S. and the world, myriad workshops and panel presentations on diverse subjects running the gamut from technology to economics. Co-chairs Jeff Wharton and Chris Brady are leading a steering committee comprising various industry and association partners to produce a blockbuster event. 2021 will mark the 50th anniversary of Amtrak, and it is hoped that Amtrak's new Acela consist will be available for conference delegate inspection.

I look forward to your active involvement in committee activity and hope to see you at our next committee meeting. Let me also take this opportunity to thank the SPEEDLINES production team for creating another fine issue.

APTA 2021 HIGH-SPEED RAIL CONFERENCE

CONNECTING THE INDUSTRY IN PHILADELPHIA, PA

Through the insightful and energizing APTA High-Speed Rail Policy Forum events, we are embarking on a 2-1/2 day conference to allow greater participation and program content focused on the High-Speed Rail industry. **SAVE the DATE--** April 7-9, 2021, Philadelphia Marriott.

You may ask, why another conference in what has become conference overload to many industry professionals? For those that can remember the High-Speed Ground Transportation Association (HSGTA) and its 17th Annual Conference that was held in Philadelphia in May 2000, this brought together an internationally renowned conference and expo on high-speed rail. In 2012, the 8th World Congress on High-Speed Rail was also held in Philadelphia that placed a spotlight on the US and its need for high-speed rail. Since then, our committee has scaled back to a one-day policy forum and has included limited high-speed rail educational tracts in the annual APTA Rail Conference.

Each of the earlier high-speed rail focused events were highly successful and generated a lot of local, national and international attention on high-speed rail. The time is right again, and the interest is growing for expansion of higher performance intercity passenger rail.

The race is on to finish a new US high-speed rail system and garner political and public support for expanding this safe, reliable and convenient mode of public transportation.

Our 2021 conference will attract international attention and enable collaboration amongst our Federal Government, State DOTs, local municipalities, private operators,

investors, contractors, suppliers, engineering and consultant firms as well as environmentalist and end users. Program elements include New Mobility Paradigm, Economic Impacts, Grant Programs, Alternative Delivery Methods, Policies, Projects, Technologies, Innovation, Operations, Workforce Development, Shared ROWs, International Case Studies, Safety, Service, the HSR Vision for the US and much more. We anticipate displays and opportunities to learn from experienced professionals in order to gain a new perspective and understanding of the benefits of high-speed rail in the US.

A Conference Steering Committee is being developed and a kick-off meeting is being planned as part of the APTA Legislative Conference on Monday afternoon. We look forward to your input to make this the sought after 2021 conference that provides meaningful content and extraordinary opportunity for high-speed rail.



Around the world and in the United States, passenger rail networks lay a foundation for economic growth.

In the News:



Amtrak
Names
William
Flynn as
President
and CEO



WASHINGTON – Amtrak announced that it has named William J. Flynn as its next Chief Executive Officer and President. Flynn, a seasoned business leader with four decades of transportation and logistics experience, will begin his role on April 15, 2020. Flynn succeeds Richard Anderson, who joined Amtrak as CEO in July 2017. Anderson, who fulfills his three-year commitment to the company this year, will remain with Amtrak through the end of the year as a senior advisor to Flynn.

Flynn, 66, has been a successful leader across multiple modes of transportation, including rail, maritime and aviation. Most recently, he served 13 years with Atlas Air Worldwide Holdings, Inc., which serves the global air freight, military charter and passenger charter markets, as President and CEO and Board Chairman. He also held senior roles with CSX Transportation, Sea-Land Services, Inc., and GeoLogistics Corp.

“Bill is the right executive to lead us into the future,” said Amtrak Board Chairman Tony Coscia. “We’ve never been stronger as a company than we are today. We are modernizing the customer experience and delivering our service to more people. Bill has a consistent track record of grow-

ing and improving complex transportation businesses. We are confident he will build upon the strong foundation of record-setting growth and improvement set by the Board, Richard and the entire Amtrak team.”

In fiscal year 2019, Amtrak set new records in ridership, revenue and earnings. In 2020, Amtrak is on pace to achieve operational breakeven for the first time in the company’s 49-year history. Additionally, Amtrak is investing billions in capital assets and is undertaking the largest fleet renewal in company history, with new high-speed Acela trains entering service on the Northeast Corridor next year.

“Amtrak’s future is incredibly bright and I’m excited to join the team,” said Flynn. “Amtrak service is vital to millions of Americans across the nation and by improving the customer experience, driving safety, and strengthening our partnership with states and other stakeholders, we can do much more for the American people. Tony, Richard and Amtrak’s dedicated employees have done an amazing job modernizing the company for the 21st Century. It’s a privilege to join them in continuing this work and advancing something as important as Amtrak’s mission.”

“I congratulate the Board on selecting Bill to lead Amtrak into its 50th year and beyond,” said Anderson. “Bill brings deep expertise across all aspects of transportation and a true passion for the customer. As the company reflects our equipment, expands our services and advances key infrastructure projects like the Gateway Program, it will require the steady leadership and relentless drive for improvement that I know Bill can provide.”

CALIFORNIA

■ SPURRING ECONOMIC GROWTH AND CREATING JOBS ■

The Central Valley Wye serves as the backbone of the high-speed rail system connecting the San Francisco Bay Area to Southern California. The Merced to Fresno project section, where the Central Valley Wye is located, generally parallels State Route 99 through the northern stretch of the San Joaquin Valley from the city of Merced to the city of Fresno.



The California high-speed rail project is under construction in the Central Valley and continues to advance despite disputes with the Trump Administration over federal funding and with local jurisdictions wishing

to reallocate state funding to regional rail projects in other parts of the state.

It has taken 27 years to get to this point. It all started in 1993 when the California state legislature created the California High Speed Rail Commission to study the feasibility of a high-speed rail (HSR) system connecting the southern part of the state with the Bay Area and Sacramento, with emphasis on connecting Los Angeles with San Francisco. The objective of the study was to determine the preliminary feasibility of HSR to relieve automobile and air traffic congestion by serving as a viable alternative to both. Parsons Brinckerhoff (now WSP) managed the study effort. The study concluded with cautious optimism that HSR could work in California. But to be successful, the system would require travel times and fares that were competitive with air travel between the Bay Area and Los Angeles.

The Commission sunset with the submittal

of its feasibility study findings. It had no powers to implement HSR. The feasibility study also recommended the creation of the California High-Speed Rail Authority (CHSRA) to deliver and operate the HSR system. SB 1420 created the CHSRA, which was signed into law by Gov. Wilson in 1996. Since then, the CHSRA has been actively planning, designing and constructing the HSR system.

The planning effort included environmental clearance of the right-of-way and preliminary engineering in anticipation of design/build project delivery. This included the completion of the Tier 1 Statewide Program EIR/EIS jointly sponsored by the CHSRA and FRA between 2001-2005. The Tier 1 EIR/EIS examined corridor-wide issues such as cumulative impacts and fatal flaws. FRA issued its Record of Decision on November 18, 2005. The Tier 2 project level EIR/EIS for Merced – Fresno was initiated in 2007 with alternatives analysis and pre-scoping studies and completed when FRA issued the Record of Decision on September 19, 2012. The Fresno – Bakersfield Tier 2 EIR/EIS was completed when the FRA issued the Record of Decision on June 27, 2014.

Construction between Merced and Bakersfield in the Central Valley began in 2016 and is advancing. Currently, there are 36 active or completed construction sites in the Central Valley, which is an increase of 17 over the past year. The HSR system is being built by three design-build contractors in the Central Valley.



There are 30 active construction sites spanning 119 miles across five counties: Madera, Fresno, Kings, Tulare and Kern.



California High-Speed Rail San Joaquin River Viaduct under construction in 2020.

An update of current activities is highlighted below:

- Construction Package 1 (CP 1) is the first significant construction contract executed on the Initial Operating Section of the high-speed rail program. The CP 1 construction area is a 32-mile stretch between Avenue 19 in Madera County to East American Avenue in Fresno County. The package includes 12 grade separations, two viaducts, one tunnel, and a major river crossing over the San Joaquin River. The iconic double arch bridge structure spanning the San Joaquin River will serve as the gateway into Northern Fresno and is nearly complete. The arches were initially poured in late fall with the center spans being poured over the last few weeks. The contractor for CP 1 is a joint venture of Tudor Perini, Zachry and Parsons.

- Construction Package 2-3 (CP 2-3) is the second significant construction contract executed on the Initial Operating Section of the high-speed rail program. The CP 2-3 construction area extends approximately 60 miles from the terminus of Construction Package 1 at East American Avenue in Fresno to one mile north of the Tulare-Kern County line. CP 2-3 will include approximately 36 grade separations in the counties of Fresno, Tulare and Kings, including viaducts, underpasses and overpasses. CP2-3 contractor is Dragados/Flatiron (DF), a Joint Venture, and is comprised of Dragados USA, Inc. and Flatiron West Inc. Construction crews are currently driving concrete production piles at the northern portion of the Hanford Viaduct near Grangeville Boulevard. Nearly 7,000 production piles will be needed to provide foundation support for the Hanford Viaduct, which will take high-speed trains over Grangeville Boulevard, the San Joaquin Valley Railroad, and State Route 198.

- Construction Package 4 (CP-4) is the third significant construction contract executed on the Initial Operating Section of the high-speed rail program. The CP 4 construction area is a 22-mile stretch bounded by a point approximately one mile north of the Tulare/Kern County Line at the terminus of Construction Package 2-3 and Poplar Avenue to the south. CP 4 will include construction of at-grade, retained fill and aerial sections of the high-speed rail alignment and the relocation of four miles of existing Burlington Northern Santa Fe (BNSF) tracks. CP-4 contractor is a special-purpose entity of Ferrovial Agroman US Corp that brings together the expertise of Ferrovial Agroman with the high-speed rail design experts Euroestudios. In the center of town at the Wasco Viaduct, crews have poured a total of 32 columns to the west and 11 columns to the east side of the pergola structure. Now, crews are

working on the falsework for the edge girders that connects all the columns together. The Wasco Viaduct will be nearly a mile long when complete.

The CHSRA recently issued a Draft 2020 Business Plan, which affirms the policy recommendation to the Authority Board to develop a clean, electrified Merced-Fresno-Bakersfield high-speed rail interim service line in California's Central Valley with the funding currently available. The plan also outlines major program progress in all three regions of the state – Northern California, Central Valley and Southern California.

Notably, the Draft Business Plan estimates costs consistent with estimates contained within the 2018 Business Plan and 2019 Project Update Report. The 2020 Business plan outlines the following priorities:

- Complete the 119-mile Central Valley construction segment and lay track pursuant to our federal funding grant agreements with the Federal Railroad Administration;

- Expand the 119-mile Central Valley segment to 171 miles of operable electrified high-speed rail connecting Merced-Fresno-Bakersfield, three of the fastest growing areas in California;

- Commence testing of electrified high-speed trains by 2025 and put those trains in service by 2028-29;

- Environmentally clear all segments of the Phase 1 system between San Francisco and Los Angeles/Anaheim in the next 18-24 months;

- Complete the "bookend" projects we have committed funding to in Los Angeles and the Bay Area—projects valued at more than \$3 billion;

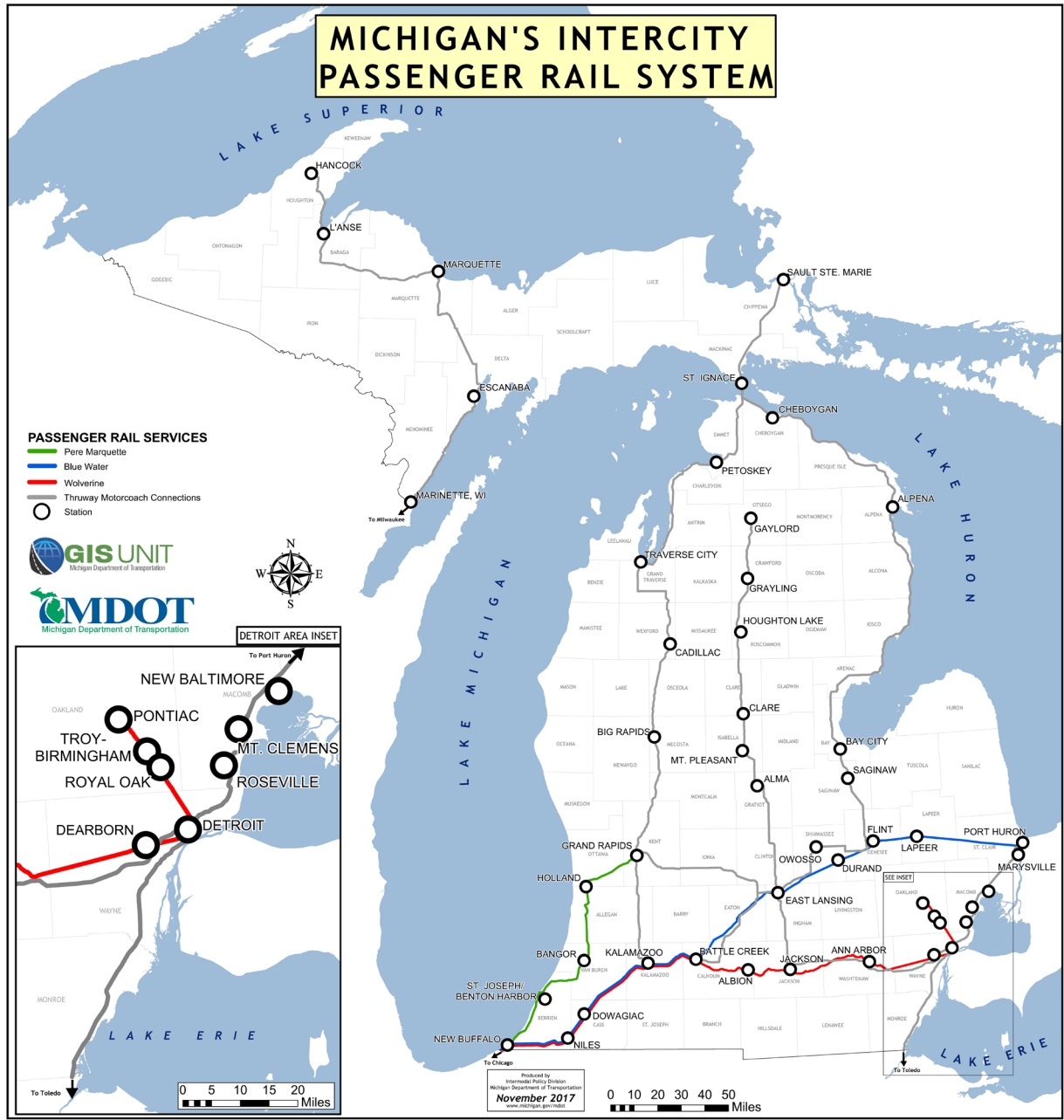
- Pursue additional funding opportunities to prospectively "close the gaps" and expand electrified high-speed rail service to the Bay Area and Los Angeles/Anaheim.

The Authority is proposing to use the funds available through 2030, projected to range from \$20.6 billion to \$23.3 billion, to:

- Deliver the Merced-Fresno-Bakersfield line,

- Environmentally clear the full 520-mile Phase 1 system

- Complete the bookend investments in Northern and Southern California with its regional partners.



Currently, Michigan supports three Amtrak routes: the Chicago-to-Detroit/Pontiac Wolverine Service, the Chicago-to-Port Huron Blue Water Service, and the Chicago-to-Grand Rapids Pere Marquette.

MICHIGAN

RAIL SERVICES

In a state famous for automobiles, the Michigan Department of Transportation (MDOT) has made significant progress in improving its passenger rail infrastructure thanks to a commitment by government officials, partnerships with Amtrak and contractors, and dedicated funding. With more than 200 miles of passenger-friendly track that connects the major Midwest markets of Chicago and Detroit, the Michigan Line corridor is poised to grow thanks to key investments in a solid physical plant and new rolling stock.



The groundwork for the Chicago-to-Detroit/Pontiac corridor began in the 1970s when Amtrak purchased approximately 100 miles of railroad from Porter, Indiana, to Kalamazoo, Michigan. This action established the first intercity, passenger-friendly railroad outside of the Amtrak-owned Boston-to-Washington, D.C., Northeast Corridor and provided a test bed for innovation. Amtrak and MDOT partnered to make improvements to this line with track improvements, signal installation, and an incremental train control system (ITCS), which is a form of positive train control (PTC). ITCS is an advanced communication-based train control system that meets PTC requirements and allows for speeds greater than 90 mph. It provides cab signals, positive stops using GPS, and communication-based technology. This important work culminated in 2013 with the first 110 mph track outside the Northeast Corridor.

Despite being partially owned by Amtrak, the Michigan Line was not a uniform corridor and passenger train reliability suffered. The Amtrak-owned infrastructure west of Kalamazoo was in great shape, but things were not so bright east of Kalamazoo. Due to declining freight needs, Norfolk Southern Railroad (NS) reduced its investment in their railway from Kalamazoo to Dearborn. As expected, track conditions were deteriorating, resulting in slow orders, reliability issues, and delays for the Amtrak trains that operated between Chicago and Detroit/Pontiac, and Chicago and Port Huron. As NS began

dropping train speeds down to 25 mph, MDOT had to step in to save intercity passenger rail service in Michigan.

MDOT started its Accelerated Rail Program to cover several key components: track structure (including bridges), train control, grade crossings, communications, and stations. It should be noted that accelerated rail has a maximum speed of 110 mph. It is worth noting this is not high-speed rail like the bullet trains in Japan or the TGV in France.

MDOT had a vision for the Michigan Line: a safe and reliable passenger rail service that offered frequent, daily round trips at speeds up to 110 mph between Chicago and Detroit/Pontiac. To get there with the help of the Federal Railroad Administration's (FRA) Corridor Acquisition and Improvements grant, MDOT purchased the 135-mile Kalamazoo-to-Dearborn segment from NS for \$140 million in 2012. This action preserved more track in passenger-friendly hands.

After the contracts were signed, MDOT worked with NS to complete a \$9 million rail-and-tie and maintenance project on the Kalamazoo-to-Dearborn portion to preserve the infrastructure and remove the slow orders.

Using funding from the American Recovery and Reinvestment Act of 2009 (ARRA), MDOT began improving the entire corridor and adding PTC with a goal of reducing travel time and improving reliability. To be more effective with the limited funding, MDOT chose to make targeted investments in the corridor. In 2014, Amtrak completed curve modifications and rebuilt grade crossings in the western section of the corridor between Kalamazoo and Battle Creek.

In 2015, MDOT oversaw a private contractor to build approximately 9 miles of new track and made a 20-mile double-track segment near Dearborn to accommodate freight traffic from a major auto manufacturing facility served by NS. The double-track also provided improved traffic coordination, reliability of schedules, and increased speeds for passenger trains.

On the communications and signaling side, MDOT received ARRA funding to replace 250 track-side signal equipment sheds, remove 35 of the 70 private grade crossings, close six public grade crossings, and reconstruct 79 of the 120 public grade crossings. The shed replacement significantly improved reliability because every time it rained the signals would go dark, creating delays for trains. Much of the ARRA funding was used to replace the wayside signals and to add PTC to the corridor.

In 2016, MDOT was awarded a Transportation Investment Generating Economic Recovery (TIGER) grant for the segment between Battle Creek and Jackson. This funding was used to make additional improvements, including track upgrades, tie replacement, resurfacing, grade crossing reconstruction, and curve modification for higher speeds.

East of the MDOT-owned track, a new track connection opened in 2017 for the Dearborn-to-Pontiac segment, known as the West Detroit connection. It connected the Conrail Shared Assets and Canadian National Railroad tracks, resulting in a time savings of five to 10 minutes for all six Amtrak trains on the Wolverine Service. The work involved constructing a new rail bridge over a local street and the associated track connections on each end.

The major PTC work on this corridor has involved successfully extending ITCS on MDOT-owned track, which was completed in spring 2019. Amtrak and ITCS contractor Alstom are in the final testing phase of the interoperable electronic train management system (I-ETMS), which is the PTC system for freight trains on the Michigan Line.

With much of the initial infrastructure work completed, dispatching of the corridor was transferred from NS to Amtrak in May 2017. Speeds were increased up to 79 mph in certain areas based on the improved track conditions. Once approved by the FRA, MDOT will be increasing speeds up to 110 mph in certain sections between Kalamazoo and Dearborn. These noticeable increases in speed will be a significant milestone for MDOT, as it will reduce travel time for passenger train service on the Michigan Line. The goal is to reduce train travel time, making it highly competitive to the neighboring, congested I-94. Additionally, the completed work has greatly increased the reliability of the service with the replacement of the signals and the related bungalows.



With much of the major work complete, MDOT is now focusing on maintenance and select infrastructure improvements. In conjunction with CSX Transportation and Amtrak, an important and busy junction in Wayne was replaced in 2018. Last October, MDOT replaced two railroad bridges over Augusta Creek in Kalamazoo County. These projects were highlighted on the MDOT YouTube channel in these time-lapse videos: Wayne Diamond Replacement and Augusta Railroad Bridge Replacement.

Today, with stabilized track conditions, MDOT is settling into a cyclical capital program for the corridor. MDOT continues to manage the structures along the corridor and address legacy encroachments and other real estate issues. Initially contracted with Amtrak for

capital and maintenance on the corridor, moving forward MDOT will utilize a mix of Amtrak and private contractors to do capital work. Amtrak will continue to handle all maintenance, dispatching and inspections.



New Siemens Charger locomotive picture in Holland, Michigan, on Pere Marquette.

One of the most visible improvements to passengers will be new equipment. MDOT is working to improve the train set equipment, allowing passengers to fully enjoy a modern railroad travel experience. In 2018, new Siemens Charger locomotives replaced the 1990s diesel-electric locomotives in the Midwest, including Michigan. These high-tech, fuel-efficient locomotives were purchased through a joint procurement with the Illinois Department of Transportation and California Department of Transportation. The existing passenger cars date back to the 1970s and 1980s and are beyond their useful life. Starting next year,

Midwest states will be deploying new coaches and café cars also built by Siemens and procured by the same agencies. Additionally, a public-private partnership plan is in the works to create a new multi-modal passenger rail/bus station in Detroit, replacing the "temporary" Amtrak station.

MDOT's well-planned and incremental investment strategy for accelerated rail is making the Chicago-to-Detroit/Pontiac service a viable transportation corridor for the future. For less than \$500 million in funding from federal and state governments, MDOT is showing that targeted, cost-effective improvements can make a huge impact on intercity passenger speeds and reliability, changing for the positive how the public, government officials and business communities view passenger rail.

TRB ANNUAL MEETING HIGHLIGHTS

ADVANCEMENTS & DEVELOPMENTS

By: Eric Peterson

THE TRANSPORTATION RESEARCH BOARD (TRB) 99TH ANNUAL MEETING WAS HELD JANUARY 12–16, 2020, AT THE WALTER E. WASHINGTON CONVENTION CENTER, IN WASHINGTON, D.C.

This year's Transportation Research Board annual meeting featured 38 sessions, including four half-day workshops, as well as 22 committee and sub-committee meetings, and a handful of poster sessions addressing a wide array of freight and passenger rail issues.

The first day of the annual meeting, January 12th, featured a two-party workshop, "Can this Train Go Any Faster?: Achieving High(er) Speed Rail Service Through Improvements to Existing Infrastructure," with presentations from numerous state rail directors, project leaders from throughout the U.S. and internationally. As well as rail policy experts and critics.

Among the U.S. presentations were the Connecticut Hartford Line, Michigan's recent passenger rail advancements (See related article on page 9), and the Minnesota's Northern Lights Express. Other presentations address train speed improvements between Chicago and Detroit, elevating freight and high-speed trains, optimizing track components on shared corridors, and geotechnical analysis of old roadbeds. Other presentations addressed construction and maintenance issues including Amtrak's Track 1 Speed improvements, future track

maintenance strategies, the role of the Federal Railroad Administration's (FRA) DOTX 218 Inspection vehicle in the Downeaster-Portland North enhancement project, and future challenges for high-speed rail maintenance.

The Intercity Passenger Rail Committee (AR010), chaired by Dominic Spaethling, presented a half-day workshop titled, "Unlocking Rail Performance Through the Use of Big Data, Analytics and Digital Technologies." Led by Maite Pena-Alcaez of McKinsey and Company, D.J. Mitchel of BNSF, Ulrich Leister of DB, and Mike Klabunde from Witronix, and Coral Torres from the Surface Transportation Board, the workshop offered an opportunity for attendees to learn how data is used or could be used by rail service providers to better manage their systems and networks. Workshop attendees were asked to put themselves in the position of rail executives to identify what data would impact immediate, near-term, and long-term decisions. Among the issues attendees were asked to consider were:

- Changing seasons and their impact on operations;
- Slow orders from track and signal maintenance work;
- Recovery time as a percent of the total running time and distribution;
- Delay reporting;
- Railroad capacity modeling; and,
- Clear goals, objectives and directions.

The workshop, non-traditional in terms of the format generally used for TRB workshops, provided an opportunity for attendees to interact with presenters and to be challenged to decide for themselves the priorities

they would set if they were leading a passenger rail service.

The workshop concluded with an active discussion on on-time performance issues important to attendees and the workshop presenters.

INTERCITY PASSENGER RAIL COMMITTEE MEETINGS

The TRB Intercity Passenger Rail Committee and its three subcommittees each featured robust agendas that addressed current and emerging issues that are shaping the future of passenger rail service in the United States.

The committee's research subcommittee is now headed by Dr. Karen Philbrick, the executive director of the Mineta Transportation Institute at San Jose State University. Dr. Philbrick, also a member of the American Public Transportation Association's (APTA) High-Speed and Intercity Passenger Rail Committee (HS&IPR) brings a heightened level of energy and insights into avenues for funding research that could advance the renaissance of high-speed and intercity passenger rail in the U.S.

Among the agenda items on the research subcommittee's agenda were presentations by TRB's Committee Research Coordinators Council, Sue Sillick, presentations on a new project to be sponsored by Caltrans that examines best practices in state rail plan development, and requests for new problem statements that may be considered for future rail research projects.

The committee's Intermodal Interface Subcommittee received three diverse presentations including an update on the Heathrow Airport's new rail link by Matt Coogan, a presentation Michael McLaughlin on Virginia's quest to upgrade and improve the rail link between Washington, D.C. and Richmond, Virginia, and a paper authored by Professor Anthony Perl on the urbanization impacts of high-speed rail in China.

The committee's Socio-Economic and Finance subcommittee, chaired by Maite Pena-Alcaez, held a general discussion regarding future research addressing the economic impact of passenger rail

service on communities, states and regions.

The full Intercity Passenger Rail Committee met for a half-day and addressed a broad array of research and rail development issues including project updates on California, the Northeast, Michigan Colorado, Las Vegas, Texas, and Connecticut. Research updates were received on the economic benefits of grade separations in California and the status efforts to produce the national rail plan required under the Passenger Rail Infrastructure Improvement Act (PRIIA) of 2008. The committee also discussed plans for its 2020 mid-year meeting, which will be held in Milwaukee, Wisconsin in October in collaboration with APTA, AASHTO, States for Passenger Rail, and other rail-related organizations.

Like APTA, TRB is placing heavy emphasis on collaboration between its dozens of committees and with other organizations. The Intercity Passenger Rail committee has been collaborating with other organizations for several years, and has reached out to other TRB public transportation and rail committees for at least as long. The Shared Rail Corridors committee (AP065) and the Standing Committee on Freight Rail Transportation are just two of many TRB committees with which the Intercity Passenger Rail committee collaborated this year.

A new angle on collaboration emerged at this year's TRB annual meeting in the form of a Chairs Networking Session; a gathering more than 50 standing committee representatives who, in a speed-dating format, participated in six brief conversations with randomly selected representatives of other committees to explore and identify opportunities where committees could work together to identify issues of common interest and ways to organize research initiatives that cut across the priorities of both committees. In the case of the Intercity Passenger Rail committee, committee representatives met with representatives of the Committee on Equity in Transportation, the Committee on Economic Development, the Committee on Native American Transportation Issues, the Committee on Data for Decisions, the Committee on Ports and Channels, and the Committee on Risk Management. In each encounter areas of common interest and the invitation for future collaboration were made...should make for some very interesting workshops and joint presentations at future TRB annual meetings.

OHIO

LOOKING TO GET BACK INTO RAIL

By: Ken Prendergast & Stu Nicholson / All Aboard Ohio

Entering 2020, it's clear the 2010s were a wasted decade for Ohio and passenger rail service. Yes, we didn't lose any service. But with only five passenger trains a day, we didn't have much to lose to begin with.

Any hopes for change were dashed in 2010 by (then) Governor John Kasich when he returned \$400 million in federal grant dollars earmarked for reviving passenger rail in Ohio's densest corridor (Cleveland-Columbus-Dayton-Cincinnati) with eventual 110-MPH service with multiple daily trains.

Ohio – the nation's most densely populated state without a saltwater port – deserves better. To achieve better, it will take leadership and a plan.

Are Gov. Mike DeWine, Ohio Department of Transportation (ODOT) Director Jack Marchbanks, and Ohio Rail Development Commission (ORDC) Executive Director Matt Dietrich the right leadership? Is Ohio's State Rail Plan and the Federal Railroad Administration's Midwest Regional Rail Plan the right blueprint for moving forward?

Those questions remain unanswered, but there are encouraging signs. Not the least of which is that ODOT reached out to All Aboard Ohio in mid-2019 about renewed interest in passenger rail development.

For the first time since 2010, ODOT and other state officials and Amtrak officials are now meeting and talking about next steps, says ORDC's Dietrich. Those remarks came at All Aboard Ohio's 2019 Fall Meeting at the Mid-Ohio Regional Planning Commission's offices in Columbus.

It appears ODOT wants to bundle a series of emerging/pending passenger rail projects throughout Ohio into a single grant application to the Federal Railroad Administration (FRA). Congress in December increased the FRA's Consolidate Rail Infrastructure & Safety grant program from \$255 million in 2019 to \$325 million in 2020 but halved the Federal State Partnership for the State of Good Repair grant program from \$400 million to \$200 million.

While the size of a potential grant request isn't known, it is unlikely to be a huge amount – probably something in the range of about \$10 million to \$20 million. It could include shovel-ready projects or those that could have their federally compliant planning completed relatively quickly because the project is modest and confined to within an active railroad right of way.

Projects included in a federal grant request would likely include some of those in the State Rail Plan that ORDC finalized late last year with the blessing of the FRA. Examples of those "low-hanging fruit" projects are:

- Replacement of the Bryan station
- Widened platform and second station track at Cincinnati
- Capacity enhancements at Cincinnati's Queensgate Yard
- Widened station platform and second station track at Cleveland
- Completion of the Elyria station project
- A new Oxford Amtrak station to host a new stop for Amtrak's "Cardinal"
- Full-length station platform at Sandusky and possibly others.

Any grant request is unlikely to include all of these.

SOME GOOD SIGNALS AHEAD?

Interestingly, however, Amtrak may be willing to contribute some funding to Ohio's aggregated grant request. In November, Amtrak officials noted their company's improved financial performance, showing that it could achieve an operating profit in 2020 – although that includes purchase of service contracts by states and doesn't include significant capital investment needs.

In 2020, most of Amtrak's \$2 billion appropriation from the federal government (\$1.3 billion for the National Network, \$700 million for the Northeast Corridor) will go to capital improvements like new railcars, locomotives, stations, maintenance facilities and other infrastructure.

This is important....If Ohio seeks station and infrastructure improvements, ODOT officials said they would want Amtrak service at more convenient times and frequencies in return. Amtrak officials also said they want to serve Ohio at better times and with more service, too, but they cannot easily reschedule its existing Chicago-East Coast trains without breaking connections with other trains, primarily Chicago.

This has led to a discussion about starting up some new service. Unlike Ohio's last foray into expanding passenger rail service, ODOT discussions have focused mainly on expanding service on an existing route where the state doesn't have to make hundreds of millions of dollars in track and signal investments, establish maintenance facilities or provide totally new stations. Those, unfortunately, would be required for any attempts to establish services to places where Ohio has zero passenger rail service.

So, one option is to increase service on the Chicago-Cincinnati-Washington DC-New York Cardinal route from thrice-weekly to at least five times per week. To expand service to daily would require more railcars and locomotives, which Amtrak is adding and will add more of in the coming years. Ohio, perhaps in partnership with other states like Indiana, West Virginia and Virginia could request a federal Restoration & Enhancement grant to fund operating costs for up to three years.

Another option is a completely new train on an existing, or mostly existing route. Amtrak and Ohio have discussed a new Cleveland-Toledo-South Bend-Chicago round trip to serve the 340-mile corridor's 11 million people. This would require one set of equipment, such as a locomotive and several rail cars, and a location for that train to layover in Cleveland overnight – assuming the desired schedule is a dawn departure to Chicago and afternoon return to Cleveland.

There are several locations in/near downtown where a train could be kept overnight. While Norfolk Southern may pop a surprise request on Ohio and Amtrak, there are no other obvious improvements needed to run a single daily round trip between Cleveland and Chicago. But Cleveland-Chicago sees a lot of air travel competition with dozens of daily flights and low fares. The other towns and cities along the route do not have such choices, however.

Another possibility suggested to Amtrak by All Aboard Ohio is to run a single- or double-daily round trip service between Detroit (Pontiac) and Pittsburgh via Toledo, Cleveland, Akron/Hudson/Ravenna and Alliance or Youngstown. This was suggested because this travel market has virtually no airline

competition and poor bus service. While there are night-time passenger trains on portions of the route, none link the entirety of this 300-mile corridor which has 12 million people.

The corridor could benefit from having existing stations that are served by the nightly trains and from servicing facilities for trains traveling west of Detroit and east Pittsburgh. Trains could layover each night at Pontiac and/or Pittsburgh's station.

If one daily round trip was operated, requiring one set of equipment, it could depart Pittsburgh in the morning, connect with a Wolverine Corridor train to Chicago, and return in the evening. If a second-daily round trip was operated, requiring a second trainset, it could depart Detroit/Pontiac in the morning, connect with a midday Keystone Corridor train at Pittsburgh, and return to Detroit/Pontiac in the evening. Having Amtrak connections at both ends of a new route would be ideal.

The other benefit of a Detroit-Pittsburgh service is that Michigan and Pennsylvania have active passenger rail programs with whom Ohio could partner. With their experience and assistance, the three states could request a federal Restoration & Enhancement grant to fund operating costs for up to three years and sustained by cost-sharing thereafter.

MORE GOOD SIGNS

The Columbus-based Mid-Ohio Regional Planning Commission (MORPC) is advancing a two-track planning process to create a fast transportation corridor between Pittsburgh, Columbus, Lima-Fort Wayne and Chicago. Though one "track" involves exploring so-called "Hyperloop" technology, the other (and more advanced "track" calls for using existing rail corridors for a system of 10 to 12, 110-mph trains per day in a mix of local and express service. All Aboard Ohio has had input on this plan and favors further development of this option.

Regardless of whatever path Ohio and Amtrak choose, All Aboard Ohio continues to make the citizens' voice heard. This is essential to bolster support among rail-friendly advocacy organizations, in online communities and in the Ohio General Assembly to create and sustain a political constituency for passenger rail improvements. With your continued support, we can finally get Ohio back on board the passenger train.

IN THE SPOTLIGHT

YOU SHOULD GET TO KNOW US



ROB LIPPERT
CHIEF, OFFICE OF RAIL

"MDOT's carefully planned and incremental investment strategy for accelerated rail is ensuring the future viability of the Chicago to Detroit/Pontiac corridor. For much less investment than comparable corridors, MDOT has proven that targeted, cost-effective improvements can make a huge impact on intercity passenger speeds and reliability, favorably changing how the public, government officials, and business communities view passenger rail.."

MICHIGAN
DEPARTMENT OF
TRANSPORTATION
(MDOT)



PAIGE MALOTT
CHAIR

"High-speed rail will bring \$355 billion in economic growth to the Pacific Northwest by creating one hour connections between Seattle, Portland, and Vancouver, British Columbia. As high speed rail is eight times more energy efficient than air travel, we can reduce carbon emissions by making it easy and convenient for people to choose the train instead of flying or driving."

CASCADIA RAIL



NICOLE BUCICH
DIRECTOR, PLANNING

"Northeast Corridor (NEC) infrastructure is aging and the state-of-good repair (SOGR) backlog is over \$40 billion. Without significant and sustained investment, the frequency and severity of service disruptions will grow. USDOT, Amtrak, and the states are working together to develop a NEC Strategic Development Plan to address this SOGR backlog."

NORTHEAST
CORRIDOR
COMMISSION

LEGISLATIVE OUTLOOK

LONG, MEDIUM AND SHORT-TERM MEASURES

By: Peter Peyser

As the United States enters its presidential election year and public transit agencies from coast to coast continue plans for expanding passenger-rail services in 2020, agency leaders remain hopeful that investment in the nation's infrastructure will stand out as a top priority.

Official Washington started this critical election year in the midst of only the third presidential impeachment and trial in the nation's history. When the Senate trial ended in the President's acquittal on February 5, many observers in Washington hoped that Congress would get back to work on important legislation. Both before and after the impeachment process, congressional leaders on both sides of the Capitol indicated that infrastructure legislation – including rail investments -- was included on the list of possible action items for this year.

Senate Republicans had already started the ball rolling on infrastructure last year when the Committee on Environment and Public Works passed a five-year \$287 billion reauthorization of federal highway programs and the TIFIA program. That was the Senate's first step toward a reauthorization of federal programs for all surface transportation modes – highway, transit and rail. Work in the Senate stalled in the fall when it became clear there was no path forward on the critical issue of raising the revenues to pay for even the highway bill, much less the transit and rail portions.

The House picked up the mantle of advancing infrastructure legislation on January 29, when House Democrats announced a "framework" for a five-year \$760 billion infrastructure plan. The proposal would provide funding and financing for highways, bridges, transit, rail, airports, ports, inland waterways, wastewater, drinking water, brownfields and broadband. Surface transportation programs make up \$434 billion – or 57% -- of the total package.

Rail advocates should be pleased that the largest percentage funding increase proposed by House Democrats for a surface transportation mode is for rail. The fourfold increase in funding contemplated by this program would "continue Amtrak's legacy"

“Remember that happiness is a way of travel – not a destination.”

- Roy M. Goodman

and also provide funding for expanded passenger rail service on existing and new corridors. There is specific reference to supporting development of “higher speed” corridors.

The roll-out of this framework served the purposes of the House Majority in an election year – it laid out a bold plan for investment while laying the predicate for blaming the Administration if nothing moves.

The House Committee on Transportation and Infrastructure will take additional steps to advance this framework. Further details of the policy proposals behind the numbers in the plan will emerge and it is likely the House Committee on Transportation and Infrastructure will take action on legislation to authorize surface transportation programs this Spring.

President Trump has not been sitting on the sidelines as the discussion over infrastructure has advanced in the House and the Senate. In his budget proposal released on February 10, the president included a 10-year, \$1 trillion infrastructure program. The bulk of that proposal is an \$810 billion 10-year reauthorization of the surface transportation programs.

Comparing the House’s five-year program with the president’s 10-year program is difficult -- as we don’t know how the House might propose to grow the programs if they had five more years of authorization. In order to get the closest we can to an apples-to-apples comparison, here is a chart showing how the plans compare to one another over a five-year span from FY 2021 – 2025 and how they both stack up against the existing five-year FAST Act, which expires this year:

**Comparison of Modal Authorization Levels Proposed by House Democrats and President Trump
for FY 2021-25 vs FAST Act Levels for FY 2016-20
(\$ in millions)**

	FAST Act 5-year Total FY 2016-20	House Dems 5-Year Total FY 2021-25	President Trump 5-year Total FY 2021-25
Highways	\$ 225,190	\$ 319,000	\$ 273,333
Transit	61,113	105,000	70,474
Rail	10,355	55,000	8,370

This chart makes it clear that while the House Democrats and the president have a difference in degree in their perception of need for increasing funding for highways and transit, the difference between the two on rail goes to more fundamental policy disagreements.

As noted above, the House proposal envisions significant new investments in the development of rail corridors – including higher speed corridors – and increased funding for Amtrak. The Administration’s plan calls for significant cuts to grants for Amtrak, the elimination of the Federal -State Partnership for State of Good Repair program,

and only small incremental increases to the CRISI program and phasing out support for the long-distance train network.

In addition to the proposals on rail contained in the Administration and House Democratic leadership plans, other proposals regarding rail investment are circulating on Capitol Hill. Among the most notable is a bill introduced on February 7 by Rep. Jim Costa (D-CA) of California's Central Valley. The Costa Bill (H.R. 5805) is titled the "High Speed Rail Corridor Development Act of 2020." The bill would authorize \$8 billion per year for five years for the already authorized High Speed Rail Corridor Development program. That program was the conduit for the high-speed rail funding made available by the "ARRA" recovery act in 2009 and the fiscal year 2010 appropriations bill. The program has not been funded since then. Under the Costa bill, funding would be made available to projects on corridors that have DOT designation as high-speed corridors and would result in service operating at speeds of 110 mph or higher. The Costa measure had nine Democratic cosponsors upon its introduction, coming from California, Texas, Florida, Massachusetts and New York.

Rep. Costa is hoping to advance his bill as part of the House Committee on Transportation and Infrastructure's consideration of a surface transportation authorization this Spring.

While all this discussion over increased investment for rail and other surface transportation modes is laudatory, there is one major obstacle to advancing legislation through the process in 2020. That is the lack of agreement on how to pay for these initiatives. None of the key players who are suggesting infrastructure investment have put forward any "pay-fors" to cover the cost of the new investment. With the federal budget deficit now exceeding \$1 trillion, there is no reasonable chance that any infrastructure legislation will move in the absence of a significant package of revenue raisers or spending cuts elsewhere to offset the new spending. Up to now Congressional and Administration leaders have been engaged in an "Alphonse and Gaston" act – each hoping the other will be the first to move forward. Prospects for an ultimate deal on revenue increases are not good in an election year such as this.

Given this potential roadblock to final action, should rail advocates sit on their hands and wait for better times? The answer is a definitive "NO." As noted above, the House Committee on Transportation and Infrastructure's leadership has made it clear they intend to advance a surface transportation bill through their committee this Spring. Even if that is the last action that occurs this year on this legislation, it will serve as the starting point for action that will take place in 2021. This makes the committee action this year a very important step in setting the policies and funding levels that will govern rail investment over the next five or more years. Therefore, it behooves rail advocates to amplify their message to Capitol Hill about the importance in investing in new passenger rail service and improving the condition of existing service. This means 2020 should be a busy year for those seeking to advance the rail agenda in Washington.



"The failure to invest in our public transportation and public life, I think, is a scandal and a shame, and it should be a national embarrassment."

-Mark Shields

RAIL INVESTING

AN INTERNATIONAL COMPARISON- USA / GERMANY

By: Ken Sislak



Germany has signed an agreement with Deutsche Bahn to invest \$86 billion euros over the next 10 years to upgrade its rail network, in what is being described as the country's "biggest-ever modernisation project."

The plan represents a step up in efforts to reduce Germany's carbon footprint in the fight against climate change. As part of its recently-unveiled climate package, the federal republic has pledged to reduce its emissions to 55 percent below 1990 levels by 2030.

How many times have people traveled to Europe and marveled at the efficiency, convenience and comfort of the integrated high-speed and intercity passenger rail network serving the people living in the "Old World." High-speed trains in Europe operate at speeds of up to 186 mph (300 km/h) on their own purpose-built exclusive right-of-way. The Amtrak Acela covers the 225 miles (362 km) between New York City and Washington, D.C., in under 3 hours at an average speed of 75 mph (120 km/h), and the 229 miles (369 km) between New York and Boston in 3.5 to almost 4 hours at an average speed of 61 mph (98 km/h) on rights-of-way and infrastructure constructed over a century ago. This is the only "high-speed rail" line in America and it doesn't compare to the maximum and commercial speeds of its European cousins.

Returning American tourists often wonder aloud, "Why can't we have a passenger rail system like they have in France and Germany?" It probably comes down to two primary issues: political will and money.

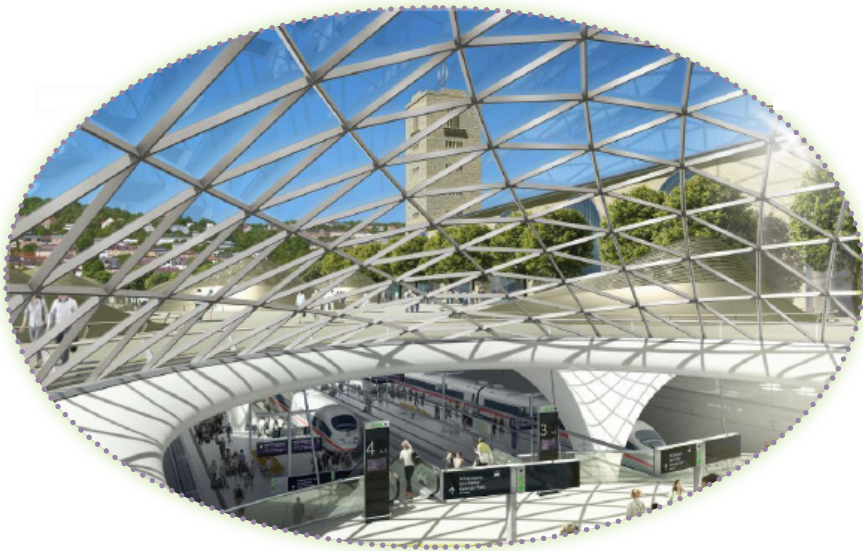
US RAIL INVESTMENT

As noted in another section of this issue of SPEEDLINES, House Democrats recently unveiled a \$760 billion infrastructure plan. Of the \$434 billion in the plan that pertains to surface transportation, the proposal calls for \$105 billion to be invested in public transit and \$55 billion in passenger rail for both the expansion of the country's intercity passenger rail network and improvement of Amtrak stations and services. The framework outlines investment over the next five years and provides a foundation for legislation that is

currently being drafted or debated in House committees. Given the current state of partisan political gamesmanship in Washington, it is unlikely this aspirational program of rail passenger investments will be signed into law.

Recently President Trump asked Congress to "rebuild America's infrastructure" by passing the Senate's surface transportation bill, a \$287 billion reauthorization of the expiring FAST Act. The current bill before Congress takes a step back in several areas, with \$586 million in cuts to funding for key rail and transit programs below FY2019 levels—equivalent to a 3.6 percent drop in funding. Amtrak funding was boosted however with appropriators budgeting \$2 billion for the national passenger railroad, an increase of \$58 million over last year. Rail grant programs supporting new and improved service suffered significant cuts. While the Consolidated Rail Infrastructure & Safety (CRISI) grant program was funded, the Federal State of Good Repair program was cut in half compared to FY2019 levels. The FTA Capital Investment Grant program was also cut by over \$500 million in the Senate Bill.

On a parallel front, the Trump Administration FY2021 Budget calls for cutting Amtrak funding by more than 50 percent compared with 2020 levels. The President's proposed budget would cut funding to the Northeast Corridor from \$700 million to \$325 million, as well as cut funding for long-distance train routes from \$1.3 billion to \$611 million. Eventually, the Trump Administration would like to phase out all federal subsidies for Amtrak's long-distance trains. There is definite a disconnect between what Congress and the Trump Administration want in terms of passenger rail investment and funding support.



LEFT: The German project “Stuttgart 21” includes various building developments in the city of Stuttgart. This includes new construction of an underground train station with 8 tracks, as well as a re-furbishment of the subway station “Staatsgalerie”, the partial demolition of the amendments to the old station, new design of plazas and accesses around the station as well as the re-development of the historical Bonatz Building.

GERMAN RAIL INVESTMENT

In comparison to the partisan politics involving public investment in passenger rail infrastructure and the reliance on private investment in freight rail infrastructure in the US, the German federal government and Deutsche Bahn (DB) have developed a service and financing agreement for investing in rail infrastructure. In German it is called Leistungs- und Finanzierungsvereinbarung abbreviated as LuFV. The LuFV agreement regulates replacement investments and maintenance expenses. This is different from the financing of new construction and expansion measures, which are funded through the Federal Railways Extension Act and the Municipal Transport Financing Act. There have been three LuFV agreements providing funding for the renewal of the German railway network, which is approximately 22,000 miles (36,000 km) in length.

The first LuFV agreement was signed on November 11, 2008 and provided for replacement investments by the German federal government amounting to €2.5 billion (\$2.7 billion) annually. DB committed itself to raise at least €500 million (\$540 million) of its own funds for the rail network and €1 to €1.25 billion (\$1.08 - \$1.35 billion) of other funds annually. The first LuFV agreement was in effect from 2009 to 2013.

The Budget Committee of the German Bundestag approved LuFV II on December 17, 2014. LuFV II provided for German federal participation in replacement investments between 2015 and 2019 with amounts between €3.1 and €3.5 billion (\$3.35 and \$3.78 billion) annually. Dividends paid by DB to the German federal government, in an expected amount of up to €650 million per year, were to be made available for replacement investments. Nearly €28 billion (\$30.25 billion) in public funding was made available to DB for infrastructure renewal during the LuFV II period.

Meanwhile, the privately-owned freight rail industry is investing in the renewal and expansion of its rail infrastructure and networks. The \$60 billion industry consists of 140,000 miles of rail operated by seven Class I railroads, 21 regional railroads, and 510 local railroads. Among the US based Class I railroads, BNSF announced its capital expenditure plan for 2020. The budgetary blueprint calls for \$3.4 billion in spending. The largest component of the plan—\$2.55 billion—will be for replacing and upgrading rail, rail ties and ballast, and maintaining rolling stock. The BNSF maintenance program will include approximately 11,000 miles of track surfacing and/or undercutting work and the replacement of about 489 miles of rail and nearly 2.7 million rail ties. CSX estimates capital expenditures will range between \$1.6 billion and \$1.7 billion, essentially the same as 2019. Union Pacific capital expenditures were \$3.4 billion in 2019 and is likely to remain about the same in 2020. Norfolk Southern expects capital expenditures to be 16-18 percent of revenue in 2020, or about \$1.7 billion. Kansas City Southern plans for capital expenditures to be around 17 percent of revenue through 2022. This would amount to about \$493 million on revenue of approximately \$2.9 billion. The Class I railroads in the US are planning to invest about \$10.7 billion in their infrastructure and equipment collectively on an annual basis. On average, this would amount to \$53.5 billion over five years. This investment supports a system of over 140,000 miles and serves over 331 million people.

So, adding the House Democrats aspirational plan for passenger rail investment of \$55 billion to the freight rail industry CAPEX over five years of \$53.5 billion, the US could invest up to \$108.5 billion in its rail infrastructure over the next five years. Let’s compare this to Germany with a population about 25 percent of the US population. The current population of Germany is over 83.6 million people.

LuFV III provides €86 billion (\$92.9 billion) in public funding for rail infrastructure renewal for the 2020-2029 time frame, which represents a 54 percent increase over the previous LuFV II plan. The German federal government will contribute €62 billion (\$66.9 billion) to the plan while DB will fund the remaining €24 billion (\$25.9 billion). This means DB will be able to spend an average of €8.6 billion (\$9.3 billion) per year on maintaining and modernizing the national rail network compared with €5.6 billion (\$6 billion) annually in the previous LuFV II program. In addition, the dividend payments from DB infrastructure companies will be fully reinvested in the network. Under LuFV III, DB will renew around 2,000 km of track and 2,000 switches each year. In addition, 2,000 railway bridges will be renovated this decade and about €7 billion (\$7.6 billion) will be spent on renewing interlockings. The 10-year program should provide more planning security for DB and allow long-term agreements to be made with suppliers. The German federal government hopes this will act as an incentive to increase capacity and innovation in the railway construction industry.

Since 2000, the European Union (EU) has provided €23.7 billion (\$25.6 billion) of co-funding to support high-speed rail infrastructure investments in Member States. This is in addition to the funding made available by each country. Almost half of the EU funding made available for high-speed rail investments was allocated to investments in Spain. In all, €21.8 billion (\$23.5 billion) – 92 percent of the total – was allocated to seven Member States. Germany was allocated 11.4 percent of the EU co-funding. On average, EU co-funding only represents about 11 percent of the total investment in high-speed rail in Europe.

Germany has 1,887 miles (3,038 km) of purpose-built high-speed rail lines. In addition, high-speed trains in Germany operate over a total network length of approximately 3,100 miles (5,000 km), which includes

line segments that are limited to speeds of approximately 90 mph (150 km/h), which is still faster than conventional Amtrak speeds of 79 mph (127 km/h) and faster than the average speeds on the Amtrak “high-speed” Northeast Corridor. This means over €215 billion (\$232.4 billion) has been invested in high-speed rail in Europe, compared to about \$11 billion in the US. And the \$11 billion in the US was spent on many projects that either simply improved conventional passenger rail services or allowed speeds to be increased to 110 mph (177 km/h) on tracks shared with freight trains.

In comparison, Germany constructed the 387-mile (623 km) Berlin – Munich high-speed rail line at a cost of about €10 billion (\$11.8 billion). The line traverses the Thuringian Forest and required the construction of 66 miles (107 km) of new right-of-way, 22 tunnels and 29 bridges. The line serves the cities of Berlin, Nuremberg, Erfurt, Leipzig and Munich. Construction on the line began in 1996. The line was first planned in 1991 as part of the “Travel Project for German Unity” – a scheme of linking up east and west German travel infrastructure after reunification. The line was opened on December 10, 2017. The new line reduced travel time by train between Berlin and Munich from 6 hours to 3 hours and 55 minutes. The average speed on the line, including station stops is nearly 97 mph (155 km/h). Ridership on the line currently exceeds 4 million passengers per year.

COMPARISONS

The LuFV III public investment in rail infrastructure renewal in Germany represents €205 (\$221) per capita per year in Germany. If the United States committed to this level of per capita investment, it would generate over \$73.1 billion per year or \$365.5 billion over a five-year funding period. That would fix a lot of bad rail infrastructure and build out most of the viable high-speed rail projects in planning and development in the US. Imagine a ten-year program with funding at this level. Wow...

	United States	Germany
Population	331,002,651	83,681,309
Railway Network (miles)	140,000	22,000
High-speed rail (miles)	454	1,887
Annual CAPEX renewal	\$22 billion	\$18.6 billion
CAPEX per capita	\$66.46	\$221.00
CAPEX per mile	\$157,143	\$845,455

PACIFIC NORTHWEST

ULTRA HIGH-SPEED SYSTEM

By: Washington State DOT



Many Pacific Northwest community leaders envision strengthened connections between the three largest cities in the Cascadia megaregion — Seattle, Portland, and Vancouver, BC. One of the key components of that vision is an ultra-high-speed transportation system that might reduce travel between the three cities from more than eight hours to less than two hours. They believe such a transportation alignment could help create an international hub for innovative partnerships, significant job creation, more affordable housing and enhanced entertainment activities.

In the most recent step in the analysis, Washington, Oregon, British Columbia and Microsoft contributed funding for a 2019 business case study that looked at various scenarios with 21 to 30 daily roundtrips. Trains might leave every half hour and travel at speeds up to 220 mph (354 kph), with some express trips stopping at only a few locations, interspersed with others that stop at more locations. The study also focused on interfaces with multi-modal connections to existing trains and transit. This system is expected to operate on a new right-of-way route separate from the freight corridors currently used by passenger trains.

The study examined possible routes, station stops, ridership and revenue projections, construction costs, technologies, governance structures, and funding and financing options. The 2019 study confirms the projected construction costs of between \$24 and \$42 billion, as determined in the 2017-2018 feasibility study. The anticipated \$160 and \$250 million in annual ticket revenue would be used to offset the operating and maintenance costs.

The 2019 business case analysis estimates that between 12% and 20% of total current intercity trips would shift to the ultra-high-speed system. The biggest shift would come from those who currently drive in private vehicles, with an estimated 12% of those trips instead being made on Ultra-High-Speed Ground Transportation (UHSGT). In addition, nearly all inter-regional airline trips also are expected to shift to the ground transportation system as travelers opt for faster and more convenient travel between the three cities.

The high-speed link is projected to support the growth of existing and future employers by significantly expanding the effective labor market. By providing more people/areas with access to fast, reliable transportation, the ultra-high-speed system would make the region more attractive to large companies. The construction of the system is estimated to produce 38,000 construction jobs and 3,000 operating jobs and unlock between 116,000 and 160,000 additional jobs annually. The total economic growth potential is estimated to be in excess of \$355 billion.

An ultra-high-speed system also could lead to a transformation of the environmental footprint for the megaregion. Over the first 40 years of operations, it would potentially avoid release of an estimated 6 million metric tons (tonnes) of CO₂, due to 27 million avoided flight miles and 6.1 billion avoided vehicle miles in the Cascadia region. Moreover, there is a potential to achieve zero emission levels should the system rely solely on clean power sources, such as hydro, wind and solar energy.

Funding and financing for the project is expected to include investments from both the public and private sectors. The ideal combination of investments requires further analysis to identify both short-term and long-term strategies, including funding for upfront capital costs and ongoing operating costs not covered by ticket sales.

The next phase of the analysis — funded equally by Washington, Oregon, British Columbia and Microsoft — will look at a governance framework; long-term funding and financing strategies; and strategies for engaging stakeholders. These topics are challenging across state lines and made even more so with an international connection. Differing laws governing partnerships and financing; divergent environmental processes; competing regulatory authorities; and significant geographic distances are among the hurdles that must be addressed. A report on this phase of the analysis is due to the state legislature by December 1, 2020.

Find out more at the link below:

<http://bit.ly/ultra-high-speed-study>



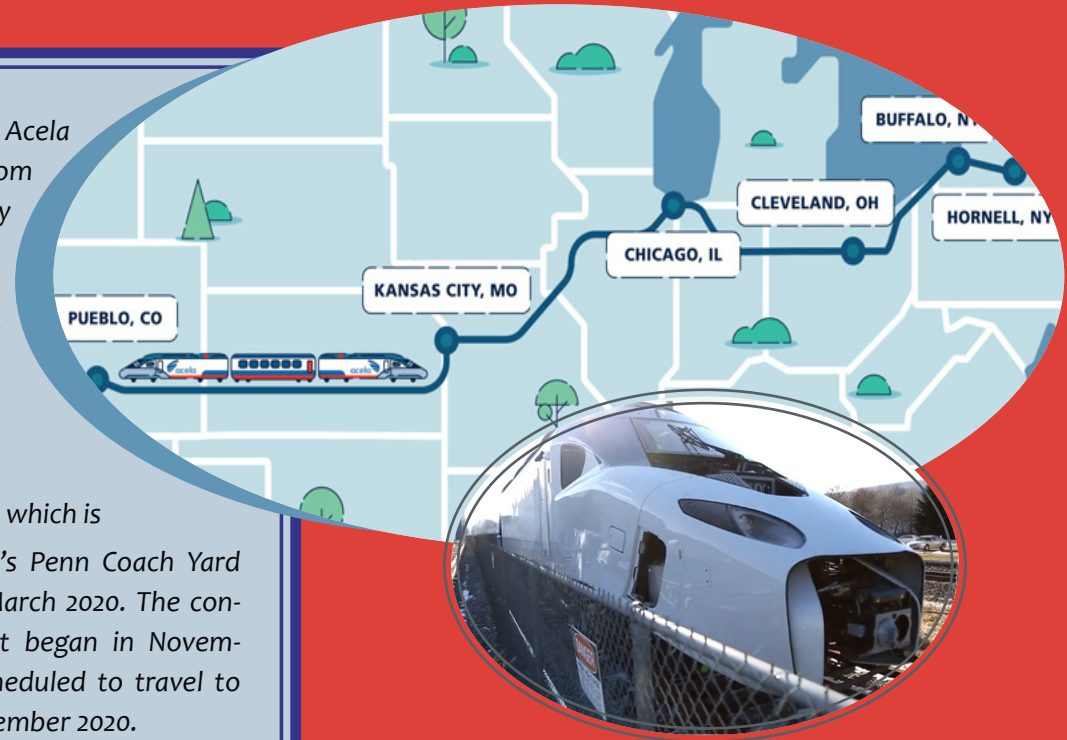
Avelia Liberty

Redefining the Customer Experience on the NEC



The first of Amtrak's new Acela trainsets leaves the Alstom facility in Hornell, N.Y., February 17, 2020 - set to arrive in Pueblo, Colorado, beginning testing at the Transportation Technology Center.

Alstom has also completed the assembly of its second trainset, which is expected to travel to Amtrak's Penn Coach Yard in Philadelphia for testing in March 2020. The construction of the third trainset began in November 2019 and is tentatively scheduled to travel to Philadelphia for testing in September 2020.



AMTRAK®

STATES ROUNDUP OF PASSENGER RAIL

PROJECT PROGRESS 2020

By: Ken Sislak, AECOM

As a new decade begins, interest in high-speed and improved intercity passenger rail in the US continues to excite a growing number of people across the entire political spectrum and a variety of age cohorts. The most notable service development of 2019 was the continued growth in Amtrak ridership and the continuing success of the Brightline service in south Florida between Fort Lauderdale and West Palm Beach, now branded Virgin Trains USA. Electrification of the Caltrain commuter line between San Jose and San Francisco is underway and construction on the high-speed rail system in California continues. New locomotives and rolling stock have been introduced in California, the Pacific Northwest and in the Midwest. The environmental planning for a high-speed rail line between Houston and Dallas by Texas Central Railway is nearing completion.

Ridership on the national Amtrak system was up again in 2019. Amtrak carried a record 32.5 million passengers in FY 2019 with record growth on the Northeast Corridor and state-supported lines. The latest ridership report from Amtrak reflects a year-over-year increase of 800,000 passengers—the highest in the system’s history—and the ninth consecutive year Amtrak has carried more than 30 million passengers. The breakout of ridership included:

- Northeast Corridor (NEC): 12.5 million riders – increased 402,000 passengers (3.3 percent) representing yet another NEC record for ridership. The Acela service carried 3.6 million riders, a 2.6 percent increase from FY 2018. Northeast Regional service was up 3.4 percent at 8.6 million riders. NEC trains operated on-time 83.1 percent of the time.

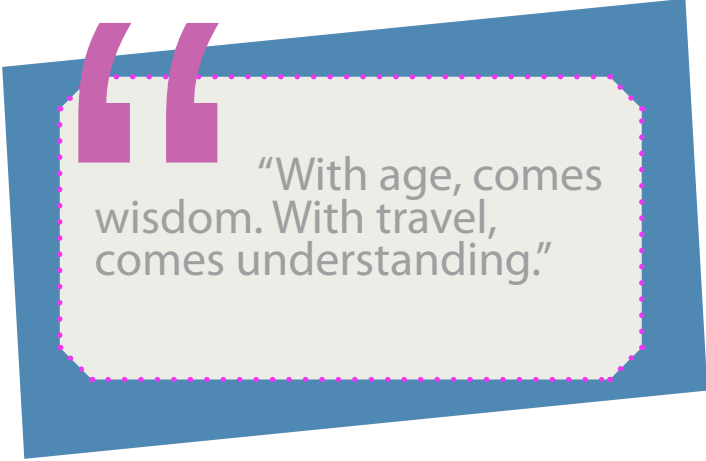
- State-Supported Services: 15.4 million riders – an increase of 2.4 percent. The state-supported corridor trains operated on-time an average of 75 percent of the time. The Michigan trains had the best on-time performance and achieved an OTP of 90 percent. The worst on-time performance was the California San Joaquin, which had an OTP of 26 percent.

- Long-distance trains: 4.5 million riders – a slight increase of 0.9 percent from 2018. Overall, extreme weather, floods, western forest fires and freight traffic congestion helped to temper the growth in long-distance ridership. Long-distance trains are on-time less than 50 percent of the time on average. The worst train was the Coast Starlight at 19.8 percent on-time. The Cardinal, which operates only three times a week, was on-time 69.8 percent of the time.

The growth of passenger rail service outside of the existing Amtrak national network is astounding.

PRESIDENT TRUMP’S BUDGET PROPOSAL

The Trump Administration issued its Budget proposal to Congress. The Budget proposes \$16.6 billion for rail infrastructure over the 10-year period (FY 2021 – FY 2030). But once again, the Trump Administration calls for the elimination of long-distance trains, wiping out funding for almost all Amtrak trains except on the East and West Coasts. If enacted, 220 cities and towns and roughly 140 million people will completely lose all access to passenger trains. The Administration proposes that federal operating support for Amtrak’s long-distance



“With age, comes wisdom. With travel, comes understanding.”

routes would be phased out entirely and “low population areas along the routes will be better served by other modes of transportation, like intercity buses.”

REGULATORY REFORM

FRA is proposing to revise its regulations governing the minimum safety requirements for railroad track. The proposed changes include allowing inspection of rail using continuous rail testing; allowing the use of flange-bearing frogs in crossing diamonds; relaxing the guard check gage limits on heavy-point frogs used in Class 5 track; removing an inspection-method exception for high-density commuter lines; and other miscellaneous revisions.

FRA is proposing a new rule in response to a Congressional mandate contained in the Fixing America’s Surface Transportation (FAST) Act to issue a rule requiring 40 States and the District of Columbia to develop and implement highway-rail grade crossing action plans. This proposed rule would also require the ten States previously required to develop highway-rail grade crossing action plans by the Rail Safety Improvement Act of 2008 and FRA’s implementing regulation to update their plans and to submit reports to FRA describing actions they have taken to implement them.

The Architectural and Transportation Barriers Compliance Board (Access Board), issued an Advance Notice of Proposed Rulemaking (ANPRM) to begin the process of updating the existing accessibility guidelines for rail vehicles covered by the Americans with Disabilities Act (ADA). By this ANPRM, the Access Board invited public comment on the substance of recommendations contained in the report issued by its Rail Vehicles Access Advisory Committee (RVAAC) and poses related questions. The Access Board will consider comments received in response to the ANPRM, along with the recommendations in the RVACC report, to develop

proposed updates to the rail vehicle accessibility guidelines in a future rulemaking.

GULF COAST PASSENGER RAIL RESTORATION

The Southern Rail Commission was established in 1982 to foster the development and enhancement of passenger rail services in Alabama, Mississippi and Louisiana. Over the years the Commission has led numerous initiatives focused on passenger rail service in the three-state region. One of the Commission’s recent initiatives is the restoration of Gulf Coast passenger rail service which was lost after Hurricane Katrina in 2005. This route was previously served by the Sunset Limited which operated between Los Angeles, New Orleans and Orlando. Following the hurricane, service was terminated at New Orleans. The SRC and Amtrak have studied the potential restoration of the service, which remains unrealized. Progress towards restoring the service, which had gained optimism and momentum in 2017, was slowed in 2018 when a key federal funding deadline was missed. However, in 2019 Gulf Coast passenger rail is closer than ever to returning. The Gulf Coast states pledged funding and secured a \$33 million federal grant to make capital investments required to bring new and drastically improved passenger rail service back between New Orleans and Mobile, AL. The grant will be matched with commitments from the state of Mississippi, the Mississippi Department of Transportation, Amtrak, and private partners, and is paired with priority investments from the state of Louisiana. In August 2019 Secretary of Transportation Elaine Chao announced a \$4.36 million grant to fund operating expenses for the first year of passenger rail service along the new line, leveraging \$1.4 million already committed by the states of Louisiana and Mississippi. And in February 2020, the Mobile City Council committed around \$3 million starting in the year 2023 so that passenger trains can run between Mobile and New Orleans. But advocates for restoring the rail service along the Gulf Coast stressed that more work is needed – close to \$2.2 million must be committed to improve infrastructure, and a train station will have to be built in Mobile. But service restoration between New Orleans and Mobile is getting closer to becoming a reality.

SOUTHWEST CHIEF

The long-distance Southwest Chief route operates from Chicago to Los Angeles along a route made

famous by the Atchison, Top"ka & Santa Fe Super Chief. There was much discussion and speculation about severing the route between Dodge City, Kan., and Albuquerque and replacing train service with a bus bridge. Senator Tom Udall announced that Amtrak had agreed to continue rail service through the end of FY2019. The FY 2020 budget bill increased the Amtrak budget for long distance trains and included report language prohibiting Amtrak from eliminating, reducing service or substantially altering service on the Southwest Chief route. Over \$100 million has been spent to date improving the Colorado, Kansas and New Mexico portions of the route. Amtrak, BNSF and matching state and local support add to the funding support for these track and signal improvements.

STATE UPDATES

What follows are brief discussions of how states and local communities from around the country are getting involved in planning and implementing the investments needed to build, restore and improve high-speed and intercity passenger rail services.

ALABAMA – The Alabama Department of Economic and Community Affairs (ADECA) completed a feasibility of the Montgomery – Mobile segment of the Birmingham – Montgomery – Mobile route in November 2019. AECOM assisted ADECA in completing this study. This new service is dependent on restoring the Gulf Coast service that would run between New Orleans and Mobile, AL. The study corridor extends from downtown Montgomery to downtown Mobile. Alternatives 1 and 2 follow the current CSX freight corridor, which carried Amtrak's Gulf Breeze train until that service was terminated in 1994. Alternative 3 follows the I-65 corridor for most of its length, providing dedicated right-of-way and allowing for higher operational speeds. The existing CSX railroad corridor between Montgomery and Mobile stretches approximately 181 miles between the two cities and connects the smaller communities of Greenville, Georgiana, Evergreen, Brewton, Flomaton, Atmore, and Bay Minette. Both ridership and revenue projections increased with train speed and service frequency. Alternative 1 has the lowest ridership, as the low speed characteristics make the trip uncompetitive with driving within the same travel corridor. Alternative 2 has higher ridership due to its increased speed. Alternative 3, with an average speed of 101 miles per hour, is projected to have the highest

ridership and is most noticeably competitive with driving. But it also has the highest cost to build and operate. The feasibility study represented an initial step in the planning process. Should the project move forward, additional planning and coordination activities would be required before moving forward with implementation, including co-ordination with CSX.

ARIZONA – As reported in past year updates, the Tucson to Phoenix Tier 1 Final EIS was completed by the Arizona Department of Transportation (ADOT), in coordination with the FRA on December 19, 2016. There still has been no construction schedule established for the project and no funding plan has been put in place. All Aboard Arizona has asked Virgin Trains to examine the feasibility of operating the service. The project remains alive as an aspiration. Amtrak's Chicago-Los Angeles Southwest Chief and Los Angeles-New Orleans Sunset Limited continue to serve the state along with connecting Thruway buses.

ARKANSAS – The Arkansas Department of Transportation (ArDOT) completed a feasibility study of new passenger rail service between Texarkana, Little Rock and Memphis, which is part of FRA's designated South Central High-Speed Rail Corridor (SCHSRC) across the state. The study proposed two additional daily trips in the shared Amtrak Texas Eagle corridor across the state, with an extension of regional service to Memphis. The study did not examine the ridership of a future extension of the service to Dallas / Fort Worth, thus creating a continuous Memphis-Fort Worth corridor serving Little Rock and Arkansas cities. The proposed corridor improvements would enable initial service at 79 MPH maximum authorized speed (MAS) while also reducing travel times and improving reliability for Texas Eagle operations. The capital costs, ranging from \$171 million to \$402 million, far outweigh the benefits according to the study by global infrastructure firm AECOM. The study found that even at a top speed of 110 mph, high-speed passenger rail along the route between Texarkana and Little Rock and a proposed extension to Memphis would attract no more than 130,000 passengers per year, or about 356 people per day, by 2040. Although that is almost four times as many as ride on Amtrak's Texas Eagle now, ridership represents just 1 percent of traffic on Interstate 30 between Texarkana and Little Rock and Memphis. Estimated ticket revenue also would cover no more than 17 percent of the high-speed rail service operating costs, estimated to be as much as \$37 million annually. Without a dedicated funding source, creating a high-speed passenger rail service from Texarkana through Little Rock to Memphis is cost prohibitive at this

time, according to the study findings.

CALIFORNIA – Plans for a passenger rail service between Southern California and Las Vegas is gaining speed. As reported in SPEEDLINES Issue #27, the California Infrastructure and Economic Development Bank (IBank) approved a \$3.25 billion bond request to be pledged toward the \$4.8 billion project. The funds will be used to fund constructing 135 miles of double track electrified passenger rail lines in California as well as a passenger and maintenance facility in the Victor Valley region as part of the project. The entire project would run 170 miles, including 35 miles in Southern Nevada, with a train station proposed to be located on Las Vegas Boulevard between Warm Springs and Blue Diamond roads in Las Vegas. The Las Vegas to Victorville line would be the initial portion of Virgin's plan to link Southern Nevada to downtown Los Angeles by sharing tracks with the California high-speed train.

The Caltrain electrification project is continuing to move forward and the new EMU trainsets are currently in production at the Stadler plant in Salt Lake City. Some of Caltrain's EMU trains now in production have passed several structural tests. The truck underwent structural and fatigue endurance tests with successful results. The rail car shell also underwent a squeeze test, which verifies the strength of the rail cars under various stressors, including twisting, bending and external pressure, Caltrain officials said in a project newsletter. Meanwhile, Caltrain crews are advancing electrification construction across the corridor. Crews started installation of overhead contact systems inside four rail tunnels in San Francisco.

The three California state-supported corridor services – the Capitol Corridor, the San Joaquin, and the Pacific Surfliner – continue under regional managements. And have seen some growth in ridership. See the article on California rail service on page 6.

COLORADO - Amtrak restarted a Colorado tradition in 2016 – the Ski Train, aka the Winter Park Express, between Denver and Winter Park. Amtrak resumed Winter Park Express ski train service from Denver's Union Station on January 4th. Service was expanded to include all Fridays as well as Saturdays and Sundays. Service last year included only two Fridays a month, along with all Saturdays and Sundays. This year, the train will run Friday through Sunday every weekend from Jan. 10 through March 29.

Amtrak's Chicago-Emeryville California Zephyr and the Chicago-Los Angeles Southwest Chief (see Southwest Chief Route update) continue to serve the state, along with connecting Thruway buses.

The state is continuing its effort to consider Front Range rail by extending the Southwest Chief line. The Colorado Department of Transportation (CDOT) and the Southwest Chief & Front Range Passenger Rail Commission issued a request for proposals (RFP) to study the feasibility of a passenger-rail system and other multimodal options linking Pueblo, Colorado Springs and Fort Collins to Denver. HDR was selected to conduct the study. The study would explore how a passenger-rail system for the 173-mile corridor, which contains 85 percent of Colorado's population, could support the state's future growth and economy, as well as identify other multimodal options,

CONNECTICUT - Since opening on June 16, 2018, the CTrail Hartford Line has seen tremendous ridership growth. Hartford Line ridership has exceeded expectations, from 580,000 annual trips in 2018 to 630,000 in 2019. Ridership is expected to grow to more than 750,000 trips in 2020.

FLORIDA – The privately-operated intercity passenger rail service between West Palm Beach to Miami, formerly called Brightline, was rebranded to Virgin Trains USA, following an investment in Brightline by the Virgin Group. The passenger rail service, which launched in January 2018, continues to see ridership increases. One million passengers, new stations in Florida helped end 2019 on a high note. Total ridership nearly doubled from its first year in service and surpassed the million-passenger mark, allowing the company to stay on pace with its goal of serving 3 million riders by the end of 2021 - which would be their third year in service. Company officials announced that they had crossed the 100,000 mark for a single month for the very first time in November - which was a big reason they were able to celebrate this achievement for FY2019.

Ridership should take an even bigger jump after an announcement of new stations being built in Boca Raton, Aventura, and Port Miami. The station in Port Miami, which could be open by the end of 2020, would be the first time an intercity rail system has connected an international airport directly to



a cruise port. This would give them six stations in South Florida as the company makes its way north. Advanced talks have been confirmed by both Virgin Trains and Disney on a station in or near the Walt Disney World Resort theme park in Orlando. Virgin Trains already has plans for a station at the Orlando International Airport and estimates that passengers could make the trip from Miami to Orlando in 3 hours. The second station would be part of a further expansion plan for an 80-mile connection between Disney and Tampa.

Amtrak's Silver Meteor and Silver Star service continue to serve the state, running from New York City to Miami daily. The Auto Train continues its daily trek from Lorton, VA to Sanford, FL.

GEORGIA – High-speed rail has continued to make progress in Georgia. The route from Atlanta to Charlotte, NC completed the Tier 1 DEIS, which the Georgia Department of Transportation (GDOT) presented to the public for review and comment in late 2019. Public comment period was closed in November 2019. This segment has attracted the attention of Virgin Trains USA (formerly known as Brightline), which announced in their IPO that they are considering the Atlanta to Charlotte corridor as part of their expansion plan. The Atlanta to Chattanooga, TN high-speed ground transportation project completed a Tier 1 EIS in late 2017 and is seeking funding to complete a Tier 2 EIS.

ILLINOIS – Capital funding and new service are coming down the tracks for riders of Illinois' passenger trains in the state's new six-year, \$45 billion capital budget "Rebuild Illinois" program. That budget, signed by Gov. JB Pritzker in June 2019, allocates \$33 billion

to transportation, including funding to improve existing passenger rail routes and restore passenger service between Chicago and the Quad Cities and Chicago - Rockford. State-supported Amtrak projects funded in the Illinois infrastructure program include two new passenger rail lines. \$225 million was included to complete the passenger service from Chicago to Quad Cities. The Quad Cities line has been in the works for many years. When completed, this line will offer twice-daily round trips between Chicago and Moline. The line would include stops in Princeton, Mendota, Plano, Naperville, LaGrange, and Chicago Union Station.

Also in the "Rebuild Illinois" infrastructure bill, \$275 million was appropriated to restore passenger rail service from Chicago to Rockford. The restoration of service has been in the planning stage for years, but was put on hold in 2015. This appropriation will advance this passenger rail project.

The infrastructure program also included \$100 million for track improvements on the Illini/Saluki Line which runs from Chicago to Champaign to Carbondale and \$122 million for the Lincoln Service Springfield Rail Improvement Project. The Lincoln Service runs four times a day from Chicago to St. Louis and 2019 saw record ridership on the line.

INDIANA – Indiana ended its state support of the Hoosier State, an Amtrak passenger train that provided service on a 196-mile route between Chicago and Indianapolis. The train ran on the four days each week that the long-distance Cardinal does not run – departing Indianapolis Sunday, Tuesday, Wednesday, and Friday mornings and departing Chicago on

Sunday, Monday, Wednesday, and Friday afternoons – giving the Chicago–Indianapolis market daily rail service. After funding for the train was not written into Indiana’s 2019 state budget, the Hoosier State was suspended indefinitely after June 30, 2019. The Cardinal continues to provide service between Chicago and Indianapolis three days a week.

IOWA – Iowa is served by two Amtrak long distance trains – The California Zephyr and the Southwest Chief. No action has been taken to advance the Chicago to Omaha Regional Passenger Rail Project. A feasibility study of potential passenger rail service on the 7-mile CRANDIC line between Iowa City and North Liberty was completed by HDR. There has been no action taken to implement this new service.

LOUISIANA - The state is a part of the Southern Rail Commission, which was formed to develop passenger rail services in Alabama, Mississippi and Louisiana. Over the years the Commission has led numerous planning initiatives focused on passenger rail service in the three-state region. Their current priorities in Louisiana are the re-establishment of the New Orleans to Mobile segment of the Sunset Limited (curtailed following Hurricane Katrina), Baton Rouge to New Orleans service, and the Northern Louisiana Rail Corridor (I-20) connecting Dallas-Fort Worth – Shreveport and Vicksburg. The extension of the Sunset Limited from New Orleans to Mobile is very promising and was discussed in greater detail earlier.

The long-envisioned passenger rail line linking Baton Rouge to New Orleans over the route of the former Southern Belle is still in the early stages of planning but has gained recent momentum, including support from the public along the proposed route and the backing of newly elected Gov. John Bel Edwards. Funding the train has always been a major problem. Former Gov. Bobby Jindal rejected federal funding set aside by the Obama Administration for building a high-speed train in the corridor. Louisiana would need to put up more than

\$100 million to attract federal grants for the project, which is estimated to cost \$260 million for building the needed infrastructure. But Gov. Edwards affirmed his support of the project during his political campaign last fall telling regional and business leaders “Louisiana will not be left at the station when it comes to passenger rail in this country.”

The Northern Louisiana rail corridor has been studied by the Northern Louisiana Council of Governments (NLCOG) and the East Texas Corridor Council. These studies have been picked-up by Amtrak and the corridor is now being considered as part of a potential long-distance train connecting Dallas to Atlanta if Amtrak is permitted to grow the long-distance network, which is not likely. By elevating this project to a long-distance corridor, an increase in estimated ridership should generate more revenue to offset the operating subsidy. The Shreveport to Vicksburg route would only carry about 86,000 riders annually. Extending this route to Dallas doubles that estimate to over 170,000 annual riders. There has been no evaluation of the long-distance route extending to Atlanta.

Amtrak currently provides intercity passenger rail services in Mississippi operating two daily trains in Mississippi - The City of New Orleans between Chicago and New Orleans and the Crescent, between New York and New Orleans - and the tri-weekly Sunset Limited between Los Angeles and New Orleans.

MAINE – Maine resumed operations of the Downeaster between Portland - Boston in 2001. This state-supported Amtrak service now carries more than 574,000 passengers each year. A recent increase to five daily round trips to Brunswick and Freeport helped boost the train’s ridership, as did better reliability and more repeat passengers. This train provides \$6.2 million in wages to directly employ 100 local workers and supports 155 Maine businesses



“Safe, reliable and efficient rail transportation is a vital part of our nation’s infrastructure,” says U.S. Department of Transportation Secretary Elaine L. Chao. “And expediting the project delivery process is key to delivering needed infrastructure more quickly.”

-U.S. Department of Transportation Secretary Elaine L. Chao

through the purchase of \$5 million in local goods and services. Amtrak's Downeaster transports 100,000 annual visitors to Maine, who bring in approximately \$29 million in tourism revenue.

A study of a proposed passenger rail service to connect Lewiston – Auburn to Portland continues. The authority has been exploring two new services within Maine, including Lewiston-to-Portland and Portland-to-Westbrook. It's



also looking at adding a Downeaster stop in West Falmouth. The Lewiston to Portland study completed by VHB evaluated different corridors between the two regions using a variety of performance metrics, including travel time, capital cost, and anticipated O&M costs. The proposed rail service connecting Lewiston and Auburn to Portland could cost up to \$300 million in

capital costs and between \$15 and \$20 million in annual operating costs. The study estimated between 700 and 1,900 riders a day would use the service.

MARYLAND – Baltimore's Penn Station is the eight busiest station on the Amtrak network. In late December 2017 Amtrak selected Penn Station Partners, which includes Beatty Development, Armada Hoffer Properties, WSP USA, Cross Street Partners and Gensler, to lead the preparation of a master plan for the redevelopment of the station and nearby Amtrak properties. In 2019 the Penn Station Partners announced that the proposed development would encompass a transit-oriented hub of apartments, shops, offices, a hotel, and redevelopment of nearby property owned by Amtrak. Penn Station Partners presented its tentative plans to the public on August 13, 2019. They stated they will seek city and state funding to help pay the total \$400–600 million project cost. Included would be a new concourse and other station enhancements to accommodate the expected increase in passenger volume. Amtrak has earmarked \$90 million in federal funding for related improvements to the station and its tracks.

The Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) celebrated the completion of a 14 month, \$4.7M improvement project at the BWI Thurgood Marshall Airport Rail Station. The design

of the renovated BWI Marshall Rail Station provides more natural sunlight and includes an expanded seating area with electric charging stations for phones and computers. New customer-friendly ticketing facilities, options for refreshments and snacks and state-of-the-art restrooms complete the new passenger waiting area. In addition to MARC and Amtrak service, the new facility also serves riders of LocalLink bus route #75, as well as travelers connecting to MDOT MTA Light RailLink at the airport terminal.

MASSACHUSETTS – The Massachusetts Department of Transportation (MassDOT) started a pilot passenger rail service between Springfield and Greenfield. The newly launched state supported passenger train, called the Valley Flyer, travels along the Connecticut River in a region referred to as the Knowledge Corridor. Trains make station stops in Springfield, Holyoke, Northampton and Greenfield. The trains will also connect at New Haven to Metro-North trains to continue to New York, Shoreline East trains to New London or Amtrak Northeast Corridor services. This new service will allow passengers to leave Greenfield in the morning, travel to New York and return the same day.

MassDOT is conducting a study to examine the costs, benefits, and investments necessary to implement passenger rail service from Boston to Springfield, with the speed, frequency, and reliability necessary to be a competitive option for travel along this corridor. The study is evaluating up to six alternatives, which will feature a range of approaches including high speed rail and potential infill stations. Initial findings published by MassDOT suggest much higher cost estimates and lower ridership projections than was reported in a 2016 study of the same corridor.

MassDOT asserts that modest upgrades to enable up to six daily round-trip passenger trains between Boston and Springfield would cost \$2.1 billion and attract only 158 daily riders between the state's two largest cities. A more ambitious "alternative 4," which would build new track within the existing freight railroad's right-of-way to allow for passenger train speeds up to 110 mph, was estimated to cost \$4.1 billion and generate only 387 daily boardings.

The 2016 "Northern New England Intercity Rail Initiative" (NNEIRI) study, recommended similar double-tracking and signal upgrades to the rail line from Springfield and Worcester to enable eight daily

round trips between Boston, Springfield, and New Haven. Though the total route was longer, the NNEIRI project was estimated to cost between \$589 and \$702 million in inflation-adjusted 2020 dollars – less than half as much as the current study's estimated costs for Springfield-to-Boston service.

MassDOT is asking its consultant team to reconcile the differences in cost estimates and review ridership projections and modeling assumptions.



MICHIGAN – Amtrak continues to operate three routes in Michigan that serve 22 communities. These trains include the Wolverine service, between Chicago and Detroit/

Pontiac; the Blue Water service, between Chicago and Port Huron; and the Pere Marquette service, between Chicago and Grand Rapids. See the feature article on Michigan on page 8.

MINNESOTA – The Northern Lights Express (NLX) is taking another step toward implementation. The proposed higher speed passenger rail project would connect Minneapolis and Duluth. Local communities supporting the NLX project are requesting \$40 million during this year's legislative session. The funding would be used to add a third main track between Duluth and St. Paul, and fix the draw bridge between Duluth and Superior.

After the state Legislature blocked MnDOT funding to continue studying a higher speed rail corridor (up to 90 mph) along the Empire Builder route between Minneapolis/St. Paul and Chicago, advocates for improved passenger rail service in this corridor amended their approach. A new study is examining adding a second daily round trip along the portion of the Empire Builder corridor between St. Paul Union Station and Chicago at conventional train speeds up to 79 mph. MnDOT selected HNTB with HDR to conduct the study. The current study is expected to be completed later this year. Amtrak completed a feasibility study in 2015 for the added second train and estimated that the annual ridership on this segment of the line would be about 155,000 riders. Current Empire Builder service carries approximately 120,000 passengers annually between the Twin Cities and Chicago.

MISSISSIPPI – Amtrak currently provides intercity passenger rail services in Mississippi operating two daily trains in Mississippi: The City of New Orleans between Chicago and New Orleans; and the Crescent, between New York and New Orleans. As discussed in the Gulf Coast Rail update, a third train, the Sunset Limited, between Los Angeles, New Orleans and Orlando, served Mississippi until Hurricane Katrina in 2005, and has since been suspended.

The state is a part of the Southern Rail Commission. Over the years the Commission has led numerous initiatives focused on passenger rail service in the three-state region. Their current priorities in Mississippi are the re-establishment of the New Orleans to Mobile segment of the Sunset Limited and the I-20 Corridor in the northern part of the state to connect Dallas-Fort Worth and Vicksburg and Meridian Mississippi, which was discussed in the Louisiana update.

MISSOURI - Amtrak service is provided in Missouri on two long distance routes – the Southwest Chief and Texas Eagle (Chicago-San Antonio, Texas) - and two state-



supported routes - the Missouri River Runner (Kansas City – St. Louis) and Lincoln Service (Chicago-St. Louis). The state provides about \$8 million annually to operate the Missouri River Runner. Missouri is participating in the

Midwest NextGen equipment procurement for new locomotives and passenger rail equipment assigned to the Missouri River Runner service.

NEVADA – Virgin Trains USA LLC secured Xpress West's rights to the development of high-speed rail service between Los Angeles and Las Vegas. Virgin Trains officially unveiled their plans for the \$4.8 billion 170-mile high speed rail line connecting Las Vegas and Southern California.

Virgin Trains is seeking \$950 million in total private activity bonds from Nevada. It's seeking \$200 million in bonds from the state's debt limit allocation — which would allow Virgin to market \$800 million in bonds — and \$150 million through the USDOT's bond program. Like California, the debt allocation bonds in Nevada

would be requested in \$100 million amounts each of the next two years.

In total, Virgin Trains would have \$4.2 billion tied to the project if all bond measures in California and Nevada are approved. Maybe the biggest news of the year, Virgin Trains plans to break ground on their service between Victorville, CA and Las Vegas later this year if all bond requests are finalized. Virgin plans a 2023 start to operations between Victorville and Las Vegas.

NEW YORK – The New York State Department of Transportation (NYSDOT) has been planning higher speed passenger rail service within the 463-mile rail corridor between New York City and Buffalo/Niagara Falls (Empire Corridor) for decades. FRA and NYSDOT completed a tier I draft environmental impact statement (DEIS) in January 2014. The DEIS found increasing the average speed to 77 mph, with maximum authorized speed (MAS) of 125 mph, would cost \$15 billion. Getting from Niagara Falls to New York City would take 6 hours on an express train and 8 hours, 40 minutes on a regional train. Two slower “high-speed” alternatives would average speeds of 61 and 63 mph, respectively, with MAS of 90 and 110 mph respectively, were projected to cost \$5.6 and \$6.3 billion. The DEIS rejected as too expensive the fastest high-speed rail options — trains that travel around Europe and China at about 190 mph and the magnetic levitation, or “maglev,” trains in China and Japan that travel at speeds over 225 mph. The DEIS estimated those options would cost nearly \$45 billion. So, the higher speed Empire Corridor project stalled because it was too expensive when compared to travel time savings. However, Gov. Cuomo announced during his State of the State address that a panel of engineers will “re-examine past high-speed rail plans, question and rethink every assumption and method, and recommend a new plan for how to build a faster, greener, more reliable high-speed rail in New York.”

Planning for the Gateway Program continued in 2019. This program is being led by the Gateway Development Program Corporation (GDC) a not for profit NJ entity with support from local, state and federal partners. The GDC is overseeing a comprehensive program of strategic rail infrastructure improvements designed to improve current services and create new capacity that will allow the doubling of passenger trains running under the Hudson River. The program includes the Hudson Tunnel Project (HTP) (a new two track tunnel into Penn Station

and a new bridge over the Hackensack River), a series of bridge projects in northern NJ, and expansion of Penn Station. The Gateway Program partners continue to advance engineering and design of the HTP with dozens of “geotechnical borings” to be undertaken along the proposed alignment of the new tunnel. The exploration, which began in October 2019 and is expected to run through early 2020, will include 36 geotechnical borings covering both river- and land-based locations and extending to depths ranging from 55 feet to 280 feet, four seismic Cone Penetration Tests, a bathymetric survey in the Hudson River, and a surface-based geophysical survey along the Hudson Bergen Light Rail (HBLR) tracks in New Jersey. The work is endorsed by GDC and is being implemented by Amtrak, consistent with Amtrak’s prior and ongoing support it has provided for Preliminary Engineering of the project. The information gathered will help engineers better understand geotechnical characteristics of the Hudson River, New Jersey Palisades and the west side of Manhattan, reduce unknown subsurface conditions, and reduce project risk. The Trump administration continues to rate the Hudson River rail tunnel rehabilitation project a “medium-low” priority, a designation that serves to delay the project’s eligibility for federal funding under the Capital Investment Grant program. The project was rated “low” for local financial commitment but “medium-high” for project justification. To be eligible for Capital Investment Grant funding, a project must be rated “medium” for local financial commitment.

Another major New York project continued to progress in 2019. The work to convert the historic James A. Farley Post Office into a world-class transportation hub continued on a fast track. In late 2018, Skanska, the contractor in the Related/Vornado/Skanska joint venture, reported that significant progress is being made on the major rehabilitation and conversion project. Construction on the new train hall is expected to be completed by December 2020. Other improvements associated with the LIRR Eastside Access Project will be completed by 2022. The public is already experiencing some benefits of the project with the 2018 opening of the new West End concourse in late 2017. Plans are in the works to add a new 33rd Street entrance and pedestrian plaza. Gov. Andrew Cuomo unveiled a plan in January 2020 to expand rail capacity at Penn Station City by as much as 40 percent through the addition of a new bay of passenger rail concourses

just south of the existing station. More specifically, the so-called Empire Station Complex plan would bring four new train concourses (and eight lengths of track) to an adjacent site currently packed with existing buildings, lending the chronically under-sized Penn Station complex an opportunity to grow and absorb an anticipated jump in rail traffic set to take shape over the next few decades. The plan would take over the entirety of the block situated between 30th and 31st streets and between 7th and 8th avenues immediately south of the station, enabling capacity at the station to grow by an estimated 175,000 passengers per day when fully completed. The station currently accommodates over 650,000 train riders per day.

The Metropolitan Transportation Authority (MTA) revealed three joint ventures have been selected to submit design-build proposals to bring MTA Metro-North Railroad service to New York Penn Station by 2024. Qualified design-build entities are: Halmar International LLC/RailWorks Corp. joint venture with Ove Arup & Partners P.C. as the lead designer; the Skanska ECCO III Penn Station Connectors JV led by designer AECOM USA Inc.; and the Tutor Perini/O&G JV with Parsons Transportation Group of New York Inc. as the lead designer. The project will create a second route for Metro-North to reach Manhattan and provide direct service to the west side of Manhattan for riders in Connecticut, Westchester and the Bronx. The project also includes the construction of four Metro-North stations in the east Bronx. The bidders were evaluated and selected by officials from MTA, MTA Long Island Rail Road, Metro-North and Amtrak based on project experience, past project performance, commitment to minimizing construction impacts, financial strength and diversity practices.

NORTH CAROLINA – The state is served by 16 daily Amtrak trains. The Carolinian operates as a daily roundtrip between New York City and Charlotte via Raleigh and the Piedmont Corridor. Three daily Piedmont service roundtrips operate between Raleigh and Charlotte. Amtrak also serves North Carolina with four long distance trains – the Crescent, the Palmetto, the Silver Meteor and the Silver Star. Ridership between Raleigh and Charlotte has increased by 96 percent over the period 2009-2019, with a total of 268,274 riders on the Piedmont in FY 2019.

Charlotte Gateway Station is a future intermodal transit

station in Uptown Charlotte. The new station facility will include an Amtrak passenger rail station, LYNX light rail transit, local and intercity bus, parking facilities, mixed-use development and an elevated greenway. It is estimated to cost over \$800.1 million for full implementation of all public and private components. The project is being built in three phases, with all construction planned to be completed by 2024. When the station is completed, it will be the southern terminus for Amtrak's Carolinian and Piedmont trains, as well as a stop on the Crescent. It is also intended to be a major stop on the future Southeast High-Speed Rail Corridor. The \$91.3 million first phase of the program is fully funded and is currently under construction. The first phase of the program consists of constructing track, structures, and signals to support two new station tracks; constructing retaining wall/earthwork and constructing a temporary intercity bus facility. This part of the program was completed in August 2019. The second part of this first phase of the station program is to construct rail platforms and a canopy for passenger loading/unloading. It is anticipated construction of this first phase will be completed in 2021.

OHIO – The Columbus-based Mid-Ohio Regional Planning Commission (MORPC) commenced two studies considering passenger and freight movement in the Chicago-Fort Wayne-Columbus and Pittsburgh corridor in late 2018. These studies are on-going. The Hyperloop Feasibility Study evaluated two potential route alignments. One option follows the rail corridor featured in the Virgin Hyperloop One Global Challenge Midwest Connect corridor proposal; the other is an alternative that emerged as part of the study work. The potential routes include the following cities: Chicago, Fort Wayne, Lima, Marysville, Dublin, Columbus and Pittsburgh. Some of the study highlights include:

- The corridor is feasible, and the route alignment as defined in the study is a combination of some new right-of-way and existing rail right-of-way
- The route will be a mixture of tunneling, at-grade and above-grade structures
- The route proposed is feasible for optimal average speeds of 500 miles per hour
- The overall economic benefits are estimated at \$300 billion over a span of 30 years, with \$19 billion in the form of direct transportation economic benefits

- Nearly \$126 million of economic benefits is in the form of emissions reduction

MORPC also prepared the initial components of a Tier I EIS that catches up to the work completed by the Northeast Indiana Passenger Rail Association (NIPRA). The NIPRA study examined the corridor from Chicago to Lima and evaluated conventional and higher speed rail service. The MORPC environmental study collects and analyzes information for the corridor between Lima and Pittsburgh, and merges both the NIPRA and MORPC studies into one seamless deliverable, including Hyperloop and conventional rail as technology alternatives.

The Northeast Ohio Areawide Coordinating Agency (NOACA), the MPO for Greater Cleveland completed the Great Lakes Hyperloop Feasibility Study. The study was conducted by Hyperloop Transportation Technologies (HTT) and Transportation Economics & Management Systems, Inc. (TEMS). The study evaluated the feasibility of an ultra-high-speed Hyperloop passenger and freight transport system initially linking Cleveland and Chicago with an extension to Pittsburgh. The study suggested that a hyperloop route linking Cleveland to Chicago and Pittsburgh could start construction as soon as 2023 and be finished by 2028. The intercity Cleveland-Chicago-Pittsburgh travel market is estimated to grow from 40 million trips to 50 million trips by 2050 or by 25 percent. It is calculated that Hyperloop market share will be 12 million in 2020 rising to 17 million by 2050. According to the study, this means Hyperloop will be able to absorb all the intercity traffic growth in the corridor between 2020 and 2050 taking pressure off the interstate highway system. The main sources of Hyperloop traffic are 48 percent diverted from automobile, 6.8 percent natural growth, and 30 percent induced traffic.

In other news from Ohio, please refer to the feature article prepared by All Aboard Ohio on page 14.

OKLAHOMA – Oklahoma Department of Transportation (ODOT) continues its support of one round trip daily between Fort Worth and Oklahoma City as part of the Heartland Flyer. The 206-mile route is funded jointly by the states of Oklahoma and Texas. If the Heartland Flyer were extended to Newton, Kansas it would connect with the Southwest Chief operating from Chicago to Los Angeles, including a section from Garden City to Lawrence. Currently, there is an Amtrak Thruway bus making this connection. BNSF is currently studying the infrastructure costs to extend the Heartland Flyer and is

expected to publish its findings soon.

In 2014 when the Stillwater Central Railroad bought the Sooner Sub from the Oklahoma DOT, there was a promise of passenger rail service between Oklahoma City and Tulsa. The agreement with the railroad required the railroad to implement a pilot project by August 2019. Stillwater Central Railroad failed to meet the August deadline for establishing a six-month pilot program to provide daily passenger rail service between Del City and Sapulpa. Stillwater Central Railroad will be required to pay the state \$2.8 million in liquidated damages. Discussions are in progress regarding how the payments will be made.

OREGON – The Oregon Department of Transportation (ODOT) manages the Amtrak Cascades intercity passenger rail service along the Pacific Northwest Rail Corridor in partnership with Washington State's Department of Transportation. The states pay Amtrak to operate the Amtrak Cascades service from Eugene to Vancouver, B.C.

ODOT and the FRA continue to examine alternatives for enhancing passenger rail service on the 125-mile Portland-Springfield-Eugene corridor. ODOT identified two build alternatives as part of a Draft EIS: one which generally follows the existing Amtrak Cascades alignment but features various track, signal, and communication improvements; and one which is primarily a new route between Springfield and Oregon City (generally following Interstate 5 and 205) before merging back with the existing Amtrak alignment north of Oregon City. ODOT identified the first alternative as its preferred alternative. The Draft EIS was released for public comment in October 19, 2018, with the public comment period closed on December 18, 2018. A summary of public comments was prepared in 2019, which showed a preference for the first alternative using the existing Cascades route. ODOT and FRA are reviewing all comments and will select a final preferred alternative in its Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) to be published sometime in 2020.

PENNSYLVANIA – Passenger rail service between Altoona and Pittsburgh was studied at the request of Governor Tom Wolf who directed PennDOT to re-examine the feasibility of service in this corridor. The study examined the rail infrastructure needed for service improvements and looked at the potential ridership and operating costs of up to three potential trains per day. PennDOT coordinated

the study with Amtrak and Norfolk Southern the owner of the rail corridor. The study, which was completed in June 2019, estimated the minimum cost of providing three daily round trips at \$1.2 billion for track and station improvements. If the project included adding a third track, the cost would increase to \$3.7 billion. Again, those estimates don't include any changes Norfolk Southern might need. Norfolk Southern is examining the study and determining what other infrastructure improvements it needs to provide the fluidity required to maintain reliable freight service to its customers and to provide capacity for expansion of its service in the corridor. The study concluded that adding two more trips between Altoona and Pittsburgh would increase daily ridership by about 130 to 250 passengers per day by 2040, raising ridership to almost 1,100 per day. A key finding is that about 60 percent of those passengers would be traveling from Greensburg to Pittsburgh, the shortest leg of the route at 31 miles. Many conclude that costs exceed the benefits.

The Pennsylvania second daily round trip between Pittsburgh and Philadelphia is currently being studied by PennDOT with support from Amtrak and Norfolk Southern. This new study is being conducted in response to continued interest expressed by the communities served by the expanded service. The goal of the study is to determine what improvements need to be made to Norfolk Southern tracks between Pittsburgh and Harrisburg before a second daily round-trip passenger train could be operated along the route. PennDOT asked Amtrak what it would take to operate the second round-trip. Amtrak came back to PennDOT with a proposed timetable. PennDOT provided that proposed timetable to Norfolk Southern. PennDOT expects the results of the Norfolk Southern study later in 2020.



The Pennsylvania Turnpike Commission awarded a contract to AECOM to study hyperloop technology for a route from Philadelphia to Pittsburgh with a stop

in Harrisburg. The study also will examine a branch to Wilkes Barre. The goals of constructing a hyperloop are three-fold, according to the turnpike commission:

1) Improving mobility: Reducing crashes, injuries, congestion, and fatalities as well as improving passenger vehicle mobility by reducing freight traffic.

2) Economic competitiveness: Saving passengers travel time, as well as increasing productivity and economic output.

3) Building a better Pennsylvania: Providing affordable, sustainable and accessible mobility; reducing emissions and noise pollution; and lowering roadway maintenance costs.

Pennsylvania is currently updating its State Rail Plan.

TEXAS – The privately funded Texas Central Railway connecting Houston and Dallas continues to make progress. Texas Central signed an agreement with Italian construction giant Salini Impreglio and its American subsidiary Lane Construction to design and build the high-speed rail line. Environmental and safety documentation has been submitted to the FRA with the aim of having approvals to start construction by this summer. The project will utilize the latest generation of Japanese N700S Shinkansen train technology that will be adapted to the local climates of Dallas and Houston for optimized performance. The project plans to operate roughly 15 trainsets that will seat approximately 800 passengers in eight cars. Texas Central has named several other project partners, including Citi and MUFG on the financial side, Spanish train operator Renfe, and Resource Environmental Solutions (RES) as ecological mitigation partner for the project. The current plan is to have the high-speed train in operation between Dallas and Houston by 2026.

TEXRail launched its rail service on January 5, 2019, connecting downtown Fort Worth to the DFW Airport. The new service operates seven days a week, starting at 3:02am and running as late as 1:46am. Service runs hourly throughout the day. Connections are available to DART and other TEXRail services. The service utilizes Stadler DMU rail cars. TEXRail monthly ridership has increased more than 55 percent since February 2019, which was the first month of paid revenue service. In February 2019 nearly 33,000 people rode the new service. In the month of December, the number of riders increased to 51,217.

VIRGINIA – Virginia has an active state-sponsored passenger rail program and it has grown significantly in the past year. A second daily roundtrip to Norfolk was inaugurated in 2019. This new service also brought some schedule adjustments optimizing the service that continues to Newport News. Virginia has seen growth in ridership on the state-supported trains. State supported Amtrak service attracted over 924,000 rides in FY 2019,



which is 10.2 percent more riders than FY 2018. Virginia is studying e x t e n d i n g

state-supported Amtrak service from Roanoke to New River serving the Blacksburg area, home to Virginia Tech. In addition, a feasibility study of adding a new station in Bedford is being undertaken by Moffat & Nichol.

In December 2019, Governor Ralph Northam unveiled a \$3.7 billion investment in rail expansion across the state. Under the plan, nearly everything about rail in Virginia will be transformed. The project will add frequencies, enable new weekend commuter service, and even make it possible to create real East-West passenger service across the state between Norfolk and Roanoke, connecting to other services as well.

Virginia is taking the lead in building the new Long Bridge crossing over the Potomac River from D.C. into Virginia, acquiring some CSX right-of-way (ROW) and the Buckingham Branch railroad, all with the aim of improving reliability, adding capacity and separating freight and passenger traffic. The Long Bridge will eliminate a terrible choke point adding new capacity for a growing commuter and passenger rail system.

The FRA and DRPT completed tier II draft EIS between Washington and Richmond (DC2RVA) in September 2017. The purpose of the DC2RVA project is to increase the rail system capacity between Washington, D.C. and Richmond to deliver higher speed passenger rail, improve conventional speed passenger rail, expand commuter rail, and accommodate growth of freight rail service in an efficient and reliable multimodal rail corridor. DRPT and FRA completed the Final EIS and Record of Decision in 2019, which highlighted the preferred alternative and lists environmental commitments to mitigate unavoidable impacts.

WASHINGTON – Amtrak’s Los Angeles-Seattle Coast Starlight and Chicago – Seattle Empire Builder continue to serve the state with long-distance service. In partnership with the State of Oregon, Washington State Department of Transportation’s (WSDOT) also sponsors a state-supported corridor train operating between Portland – Seattle and Vancouver, British Columbia. The Cascades corridor is 467 miles long: 300 miles in Washington, 134 miles in Oregon, and 33 miles in British Columbia.

Washington State DOT is continuing its study of strengthening connections among the three largest cities in the Cascadia megaregion: Seattle; Portland; and Vancouver, BC. A key component of that vision is an ultra-high-speed public transportation system that might reduce travel time among the three cities from more than eight hours to less than two. Many community leaders in the Pacific Northwest believe such a transportation alignment could help create an international hub for innovative partnerships, significant job creation and enhanced entertainment activities. Washington, Oregon, British Columbia, and Microsoft contributed funding to study a system with a dozen daily roundtrips making multimodal connections to existing trains and buses at speeds of up to 250 mph. The study examined possible routes, station stops, ridership and revenue projections, construction costs, technologies, governance structures and funding options. WSP led the study effort and was supported by Steer. The study was completed in July 2019. A more detailed report on the results of the study can be found in the feature article on page 23.

WISCONSIN – The Wisconsin Department of Transportation (WisDOT) and Illinois Department of Transportation (IDOT), in coordination with FRA and Amtrak, are conducting an EA and SDP for service improvements between Chicago and Milwaukee. A key project objective is to increase Amtrak Hiawatha service from seven to ten daily round trips. The Hiawatha service is Amtrak’s busiest route in the Midwest. Ridership on the Hiawatha service grew to more than 882,000 riders in FY 2019, which set a new ridership record and showed an increase from the roughly 844,000 riders in FY 2018. Gov. Tony Evers included \$45 million in the state budget proposal to fund the infrastructure improvements needed to expand service to ten daily trains. Currently, the state is pursuing three projects to allow for the expanded round trips: The Muskego Yard bypass project, construction of a second platform at the Milwaukee Airport Railroad Station, and specific signal and traffic-control improvements for a 1.8-mile track segment beginning at the Milwaukee Intermodal Station. The total cost of the project is approximately \$195 million. Wisconsin received a federal grant of \$15.5 million for Milwaukee Airport Station improvements, as well as state-wide critical development projects and infrastructure needs. WisDOT expects to receive other federal grants to help off-set the cost of expanding capacity on this busy line.

