

High-Speed Intercity Passenger

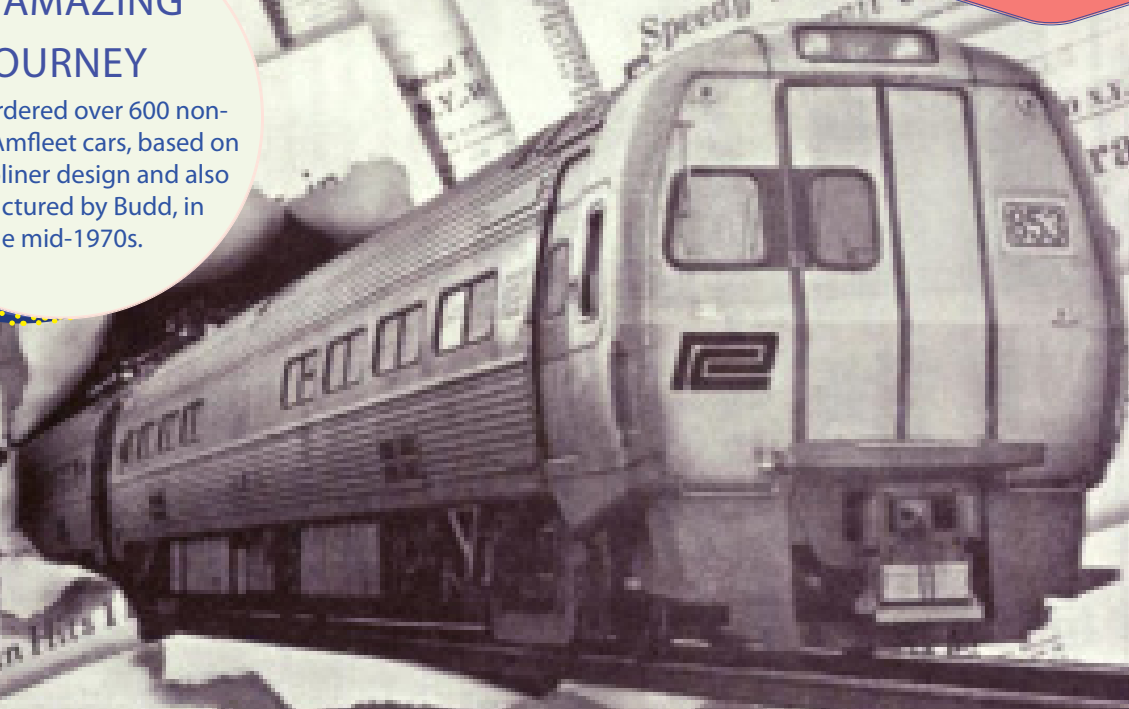
# SPEEDLINES

MARCH 2019

ISSUE #25

## AN AMAZING JOURNEY

Amtrak ordered over 600 non-powered Amfleet cars, based on the Metroliner design and also manufactured by Budd, in the mid-1970s.



## STATE ROUNDUP

Notable highlights for  
HSR in USA

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*On the front cover:*

*All Metroliners, including this car, began revenue service with Penn Central markings. They were a great success, tempting passengers out of cars and planes!*

*Designed by Budd, the Metroliner was a high-speed electric car that could reach speeds of up to 110 mph. In 1972, Amtrak offered 11 daily Metroliner Service trains between Penn Station and Boston and 14 daily trains between New York and Washington, D.C.*

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# Dear HS&IPR Committee and Friends:



Your steering committee and subcommittee leadership have been very hard at work since we last assembled at the APTA Annual in Nashville, Tennessee September 23, 2018. The Fifth HSR Policy Forum scheduled for November 27, 2018 was still a work in progress when we met, but in the following weeks the program gelled and the final product was very successful. We had excellent speakers and panels that covered a broad range of topics including advocacy, economics, demographics and more. We were pleased that Dan Richard, then-chair of the California HSR Authority, was able to join us as keynote speaker. An article highlighting that forum appears in this issue. Speaking of California, February was filled with news reports about the HSR project including the appointment of a new Chair, Lenny Mendonca, formerly the state's economic development director. In that announcement as part of his State of the State address, Governor Newsom confirmed his commitment to complete the current construction plans for the high-speed rail project between Merced and Bakersfield. Unfortunately, much of the press and late-night comics perceived Newsom's remarks as a death knell for the project as originally defined in Prop 1A, November 2008. So, the communication challenge is obvious. Only days earlier we learned of a freshman congresswoman's proposal (Green New Deal, S. Res. 59) advocating that the federal government undertake a high-speed rail program to help address the climate change challenge facing global society. Most other industrialized nations undertook this step decades ago and built more than 27,000 miles of high-speed lines in the last half century, 17,000 of those miles by China in the past decade. It is interesting to note that more than 50 years ago, the father of "The Great Society," President Lyndon B. Johnson, launched the U.S. HSR initiative. In this issue you will read about the Metroliner introduction 50 years ago on the Northeast Corridor, January 16, 1969.

Coincidentally the GND is being introduced a decade after the American Recovery and Reinvestment Act of 2009 (ARRA, P.L. 111-5, Feb 17) and the DOT Appropriations Act made \$10.6 billion available to develop both high-speed and conventional intercity passenger rail services. Hopefully this new GND initiative can build upon the success of the ARRA/PRIIA program and gain momentum to sustain a longer-term movement toward a robust national intercity passenger rail program.

As the voice for high-performance passenger rail, our committee has much work to do to remain true to our mission. We consider it an imperative to continue to have a rail title in the next surface transportation bill. What is more, we must push to obtain a sustainable and dedicated source of funding to take intercity rail funding out of the annual appropriations debate. We are increasing our emphasis on partnering with other advocacy groups with whom we share common ground and have already identified several dozen for our target list. By working together and voicing a harmonious message, our impact can be greatly amplified.

Our last committee meeting, in Nashville, was reasonably well-attended, although we would always welcome greater participation. If you are not already involved in our committee's activities, I encourage you to consider becoming involved. We schedule our meetings early on the Sunday of a conference to avoid conflict with other activities as we realize that most railroaders are early risers. We had a full program including excellent corridor presentations by Anna M. Barry, deputy commissioner of Connecticut DOT and immediate past chair; Michael McLaughlin, Virginia rail chief and officer-at-large; and Caroline Decker, Amtrak vice president NEC Service Line. Former Rep. Bob Clement, who represented the Fifth Congressional District of Tennessee as a Democrat from 1988-2003, also joined us for the meeting as arranged by Ms. Decker, a former staffer. Clement is a former chair of the House T&I Railroads Subcommittee, where he was a strong advocate for passenger rail.

In this issue of SPEEDLINES you will find the annual review of state passenger rail projects, Washington overview, legislative advocacy initiatives, HSR milestones and more. I wish to thank Ken Sislak and his publishing team and congratulate them once again for producing a high-quality issue. Thank you Wendy Wenner, Eric Peterson and David C. Wilcock.

I hope to see many of you in Washington, DC, at our committee meeting Sunday, March 17, during the Legislative Conference, when we have an informative and inspiring program planned for you. And don't forget to make plans now for your attendance at the APTA Rail conference in Toronto June 23 – 26, 2019. We will have our committee meeting June 23 and are planning several HSR sessions as part of the main conference program.

AL ENGEL, COMMITTEE CHAIR

# APTA HIGH-SPEED RAIL POLICY FORUM

FOCUS ON FUTURE GROWTH

Contributed by: Eric Peterson

For the past four years, the APTA High-Speed Rail Policy Forum has focused on the question, "What is it going to take to bring to the United States the experience that consumers all over the world have been experiencing, in some countries for up to 50 years?"

In its fifth year the forum took a decidedly different turn. From "how we get there," the conference looked to the future and asked the question, "how does the United States move its nascent entry into higher performing intercity passenger rail into a widely recognized improvement in sustainable passenger mobility?"

Among the many policy forum sessions that reinforced this new focus were presentations on the expectations of future generations of users, the coming demographic changes of the U.S., viable funding and financing models for higher performing intercity passenger rail, and the support, or lack thereof, for passenger rail at the local, state and federal levels of government.

## SHIFTING MEGA-REGIONS AND GENERATIONS: IMPACT ON PASSENGER RAIL

Following introductory remarks from APTA and committee leadership, Mike Alexander, director of the Atlanta Regional Commissions Center for Livable Communities, offered a thought-provoking presentation on the shifting mega-regions and generations that challenged the common wisdom of where and how the evolving

population of the U.S., desire to live, and their mobility expectations.

Alexander noted that the population of the country is continuing to shift from rural and ex-urban areas to higher concentrations in metro/urban areas. He noted that these urban areas are aligning themselves in corridors and regions that will lend themselves to agglomerations where people could, with appropriately configured mobility services, live in one part of the corridor and work in another. Alexander said that the American population is living twice as long as the population at the beginning of the 1900's, and having dramatically fewer children. He observed that the Southeast appears to be growing faster than the Northeast, and that the concentration of technology companies will strongly influence future migration patterns. "Leveraging transportation options to influence land use decisions will be key to future intercity and higher performing passenger rail development," Alexander said.

## GETTING RAIL DONE: ELECTED OFFICIALS ARE THE KEY!

Following that admonition, Garrett Eucalitto, program director for the environment, energy and transportation division of the National Governors Association (NGA), Karen Hedlund, chair of the APTA high-speed and intercity passenger rail legislative subcommittee, and Leslie Wollack, executive director of the National

Association of Regional Councils (NARC), unanimously agreed that the key to future success for intercity passenger rail is to have elected officials...city council members, county supervisors, state legislators, governors, and members of the U.S. House and Senate...on board as advocates.

Eucalitto said the governors' perspective and expectations on infrastructure development are changing, and the states are stepping forward to take up some of the slack left by the failure of the federal government to act expeditiously. He noted that state and local officials see transportation as a tool to leverage local and state economic development.

Wollack observed that regional leaders take their cues from locally elected officials and seek collaboration among local communities to promote economic development. Transportation is a major factor – not an end, but a means to achieving sustainable regional economic vitality.

Hedlund noted that governors are key to promoting infrastructure development, but they want strong business cases to support the development for which they are advocating. A case in point is the Cascadia project in the upper Northwest. If its business case proved true, this project will have transformative economic impact, Hedlund said. And the business community is and will be key to advancing this initiative. The business case for this project is underpinned by the impact it will have on housing and mobility equity.

Transitioning from the local and regional conversation to the federal level, Hedlund noted the role that local officials played in convincing Congress of the merits of the Interstate Highway System in the early 1950s.

Picking up on Hedlund's observation, Eucalitto observed that the NGA relies on a consensus process for addressing issues. Improving the nation's intercity passenger rail system has emerged as a top consensus issue for the governors, primarily because they are listening to their local officials and business leaders who recognize the impact these improvements could have on the quality of life and the viability of their local economies.

Wollack added that in addition to the NGA and the NARC, there are many other organizations such as the National Association of Counties and the Council of Mayors that can bring many voices to Washington to amplify the message to Congress and the administration on the benefits of public transportation and its impact on

economic development.

The role of political champions, especially regarding privately owned transportation initiatives, is critical Wollack observed. "Keep them informed from the very beginning and keep them engaged at every turn. Local political support is key," she said. "The success of current and future intercity passenger rail initiatives is based on the support of local officials, and every person has the ability to influence their local officials," Wollack concluded.

### WHAT'S NEW? FUNDING AND OPERATING INTERCITY RAIL PROGRAMS

Following a brief introduction on their respective organizations and their roles in the development and improvement of the nation's intercity passenger rail system, Peter Cipriano, special assistant to the administrator of the FRA, Rusty Roberts, vice president government affairs for Brightline Trains; Carlos Aguilar, CEO; Texas Central High-Speed Railway; Ray Chambers, president; Association of Independent Passenger Rail Operators (AIPRO), and Norman Forde, vice chair of APTA's passenger rail equipment safety standards policy and planning committee, and vice president of STV Incorporated, addressed emerging strategies for funding and financing intercity passenger rail initiatives.

Roberts stressed that while the revenues from the Brightline parent company's real estate holding are not used to support its operations, transit-oriented development (TOD) is critical to the success of the new passenger rail service because it will create many riders who will use the mobility service. Roberts also noted that intermodal connections to Brightline stations and customer service will be key.

Texas Central's Aguilar said his company is attempting to change the paradigm for American passenger rail by connecting safety, speed and reliability.

Forde reflected that no matter what the model – privately or publicly owned – the mobility service must be paid for.

Adding to Forde's perspective, AIPRO's Chambers said that no matter which model is selected there is a critical role for the federal government that must be recognized and respected. "Everything that is needed to open the current monopoly role of Amtrak is currently

If planned strategically, high-speed rail can help new cities around the world attract the citizens they want, while also positioning themselves with the region and within the global community.

in the law. It just needs to be implemented.”

U.S. DOT’s Cipriano observed that the U.S. is transitioning in the provision intercity of its passenger rail service in a way similar to how the nation transitioned from the technology of the 1980’s to today.

The new paradigm is one of workable operating standards, reasonable regulatory burdens, a certainty in the permitting process; and includes ? a reorienting from regulators of freight to providers of passenger service.

During the question and answer period there were suggestions that perhaps Amtrak’s role in the American passenger railroad industry might change as its current equipment reaches the end of its useful life. Others suggested that the prospect of new entrants undertaking IPOs might encourage the federal government to become guarantors of loans rather than grantors of operating and capital funds.

Reflecting on the entry of the Texas Central project, some suggested that greenfield projects like Texas Central may become a new model moving America away from the shared corridor challenges currently facing Amtrak and other passenger rail providers. To do that, however, will require considerable new capital for which investors will require an appropriate return on their investment.

## ACTION NEEDED – FUTURE OF ADVOCACY – DIALOGUE

In an effort to provoke discussion and encourage dialogue, Stan Feinsod, a member of the APTA board of directors, asked the following questions:

1. What are we advocating – the renaissance of the current delivery model or something new and different for America?
2. How do we transition from the current federal delivery model to the models being developed by state and regional models that seem to be gaining traction?
3. Can we demonstrate how higher-performing passenger rail service can improve lives?

## 4. How do we respond to critics of our proposals?

## 5. Should we be technological neutral and focus on intercity connectivity instead?

In response several audience members urged that every effort should be made to find champions where ever they may be, especially our customers. Make the choir as big as possible. Focus on mobility objectives rather than the mode. Sell the benefit of the new mobility. Don’t confuse advocacy over the form of technology involved in providing the service or what it’s called. Tailor the advocacy to the unique qualities of the corridor for which the advocacy is being made.

## KEYNOTE

Dan Richard, chairman of the California High-Speed Rail Authority gave the keynote address, focusing on the momentum being generated by the California project... “We’re capturing peoples’ imagination,” Richard said. “What we are about is improved mobility and changing peoples’ lives.”

Addressing what he referred to as the ‘Bacchanal of Bogus Bromides’, Richard noted that the so-called railroad to nowhere – the Central Valley portion of the project – will be a test track for future high-speed technology. Further, the entire project offers an opportunity to solve California’s current and future housing crises by promoting agglomeration and bringing communities throughout the state closer together.

Additionally Richard observed, “this project will deliver a new standard in green infrastructure. It is a rail modernization program that includes all forms of transit and rail service, and most importantly it will be the spine of an interconnected system...a true transportation network.”

In response to questions from the audience Richard offered the following lessons learned from the California High-Speed Rail experience thus far:

1. Control the land around stations. The transportation land use connection is vital.
2. The appropriate role of federal financial support for intercity, and especially high-speed rail projects is that the federal government should come in when the risk is high, but the promise is even grater. Ultimately the private sector will step forward to operate the system.

3. Change the proposition in transportation. The challenge is to move away from a zero-sum to a win-win proposition.

4. Expand the advocacy for high-speed intercity passenger rail to include potential new technologies.

### FOLLOW THE MONEY: PRIVATE FINANCING – HOW DOES IT WORK?

Sharon Green, member of the APTA Board of Directors, and a member of many APTA committees, and principal, InfraStrategies LLC, moderated this panel that included Ronald Marino, managing director, municipal securities division, Citigroup Corporate and Investment Bank; John Morton, investment principal, Global Infrastructure Partners; Raymond DiPrinzio, co-head of infrastructure finance – North America, Sumitomo Mitsui Banking Corporation, and Laurie Mahon, vice chair, global investment banking, CIBC Capital Markets. The panel offered insights into the role and expectations of private sector investors in major, long-term infrastructure projects like high-speed rail.

Marino led off with the observation that private equity may be available if a variety of factors are favorable. He cast himself as the “merchant of debt,” but cautioned that there are no projects that can be done entirely with private funding.

Morton said his company has invested \$2 billion in Italy. There is a big appetite for investment, but if there is a government subsidy, it would increase the cost to the private investors. He said investment in high-speed rail is a policy decision influenced by a number of extenuating considerations. He noted that there are many lessons to be learned from the European experience, but the European model is very different in that the capital investment was made by the government and all users of the government-owned infrastructure pay the same access charges.

DiPrinzio observed that a debt investor has a limited willingness and capability to provide debt capital to support the ridership risk. He noted that equity also has a limited capability that could actually increase the cost of any given project. Equity equals upside risk. Debt equals long-term risk. The challenges are debt allocation and risk management,

DiPrinzio noted that a well explained project will garner broad public support for taxes and fees to support it.

He observed that there is no clear path for a Greenfield rail project in the U.S because the myriad issues raised by various jurisdictions are impossible to map with clarity and certainty. But he added that no matter the jurisdiction, credible ridership and market projections must be credible for both the jurisdictions and potential investors.

Transit-oriented development is certainly a compelling and attractive feature for a project, but it will not get a project to the finish line, especially if it presents significant risk to investors. At this point, we just don’t know how much risk the market will tolerate, DiPrinzio said. But of U.S. projects seeking private-sector investment, DiPrinzio thought Texas Central probably was best positioned.

### TRACKS TO THE FUTURE: THE GEN Z AND MILLENNIAL VISION FOR HSR

Moderated by Karen Philbrick, executive director of the Mineta Transportation Institute at San Jose State University, this session sought the insights of the generations who may use higher performing and high-speed rail in the future. Panel members included Xavier Harmony, representing Young Professions in Transportation, Elena Studier, a George Washington University graduate student and Rail Passengers Association intern, and Jacob Wallace, an American University undergraduate and a former Rail Passengers Association intern. Their perspectives and discussion were preceded by a brief presentation by Darnell Grisby, APTA’s director of policy development and research.

Grisby highlighted the findings of a recent APTA paper, “Understanding Recent Ridership Changes: Trends and Adaptations,” that explored the recent declines in transit ridership and offered recommendations for winning back and maintaining customers. Among the strategies offered to improve patronage, the paper suggested that transit routes must be time competitive and reliable for every trip compared to other mobility options; that agencies should use “gamification” and sharing to enhance customer loyalty and mask the perception of price; and, that agencies should enhance community engagement in areas that seem to have limited connection to public transportation.

Following Grisby's presentation Philbrick raised a number of questions with the panel about the motivations and preferences of their respective age cohorts and the qualities of mobility options preferred by them.

Harmony noted that real time information was critical to mode selection. Studier said her generation would rally around those modes that are perceived to be resilient and sustainable. Wallace observed that public transit, including intercity passenger rail, is critical to his peers and making it reliable and customer friendly will ensure long-term customer loyalty. Wallace encouraged that an appreciation for high-speed rail must be embedded with Gen Z and millennial customers early in their lives to ensure that they will understand, appreciate, and remain loyal to the technology throughout their lives. He said his generation is willing to trade off taxes and fees for the broad benefits – especially the environmental benefits of high-speed intercity passenger rail. "Stress equity and the life improving benefits of reliable, frequent passenger rail service," Wallace concluded.

#### WASHINGTON ROUNDUP: PRIIA, AND WHAT'S NEXT

Amit Bose, HNTB's associate vice president and Mid-Atlantic district transit and rail director, facilitated the panel charged with reflecting on recent legislative and policy developments and offering a crystal ball perspective on the future. Panel members included Liz Hill, Democratic staff director of the Rail, Pipelines and Hazardous Materials Subcommittee of the House Transportation & Infrastructure Committee (Liz will be the committee's staff director in the new Congress), Chance Costello, majority research assistant on the Senate Commerce, Science and Transportation Committee, Joseph McHugh, Amtrak's senior vice president/chief, government affairs and corporate communication, and Paul Nissenbaum, associate administrator for railroad policy and development, Federal Railroad Administration (FRA).

Looking ahead to the new Congress that convenes in January, Costello noted that Senator Wicker from Mississippi will be the Senate Commerce Committee chair. Hill observed that Peter DeFazio from Oregon will be the new chairman of the House Transportation and Infrastructure Committee.

Amtrak's McHugh and FRA's Nissenbaum reflected on the on-going efforts to install and make operational the congressionally-mandated positive train control (PTC),

suggesting that the Class 1 host railroads and Amtrak will find a way to comply with the latest completion date established by the 2015 FAST Act.

Speaking of the FAST Act, Nissenbaum expressed his opinion that were it not for the truly transformative Passenger Rail Investment and Improvement Act (PRIIA) many of the major provisions of the FAST Act would not have been possible.

For her part, Hill shared that the incoming House T&I chair hopes to build on that legacy by pursuing sustainable and substantial funding for rail, wants robust Buy America provisions, and wants to address the needs of a changing work force. She said incoming chairman DeFazio is particularly concerned about the impact Chinese-owned rolling stock suppliers might have on the U.S. rail market.

Focusing on the future of Amtrak, Costello said he believed that there need to be more champions for the national rail service in Congress, but among the present congressional membership Senator Wicker is a leader. McHugh acknowledged the senator's role and added that PRIIA helped change Amtrak's relationship with the states and unleashed great creativity. Nissenbaum added that PRIIA empowered the states to take control of their future, noting that sections 212, 209 and 305 shifted the decision making process, giving the states a greater voice, while changing the role of the FRA to be more directly involved in managing the NEPA review process, providing more engineering support, and for the first time, administering grants.

Reflecting on the past, McHugh said 1999, 2000, and 2001 were politically costly for Amtrak, but that Amtrak was well on its way to recovery when PRIIA was enacted. Costello observed that the way FRA implemented PRIIA and the subsequent American Reinvestment and Recovery Act (ARRA) left a very positive impression with Congress, particularly in how the FRA implemented the new rail grant and loan programs, and streamlined project development and delivery. Hill cautioned, however, that the issues of on-time performance, the future of long-distance passenger rail service, and state supported passenger rail service remain areas where more work is needed. As an aside, Hill observed that there needs to be more creativity brought to the questions of sustained investments in passenger rail. "Value capture in passenger rail, that's how the transcontinental

rail was built. Amtrak has taken very little action in this area, and there remains more opportunity for investment particularly through FRA's Railroad Rehabilitation & Improvement Financing (RRIF) loan program.

Looking to the future Nissenbaum said FRA will be working to better align modal environmental regulations and historic preservation requirements. "Despite the improvements made to date, we can and must do better," Nissenbaum said.

Hill expressed the incoming chairman's hope that a new surface reauthorization bill will be unveiled in early 2019, and urged forum attendees to start submitting their ideas now. In response several attendees offered suggestions such as:

1. Keeping the legislative process as bi-partisan as possible;
2. Focus on performance vs. capacity;
3. Just as there was a National Defense Highway Act in the 1950s, there should be a National Defense Railway Act in 2020;
4. Provide more support for mobility options; and,
5. Challenge the Class 1 railroads in ways not done before.

## CLOSING REMARKS

The final session of the forum featured William Vantuono, editor in chief of Railway Age, and included panelists Stephen Martinko, government affairs counsel, public policy and law practice, K&L Gates, and James Kolb, partner, Summit Strategies Government Affairs, LLC.

Vantuono set the stage by recalling numerous editorials and stories he and his colleagues at Railway Age prepared over the decades on the anticipated arrival of higher-performing/high-speed passenger rail service in the United States.

Martinko and Kolb rejoined Vantuono suggesting people have been too hung up on what to call it rather than focusing on what its value to passengers would be. They observed that there are many other factors other than what to name it.

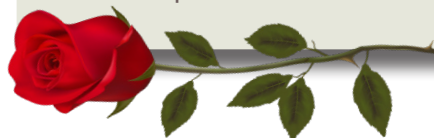
Kolb wondered when there would be a new political environment that would produce greater bipartisan cooperation committed to improving passenger rail transportation. Members of Congress need to demonstrate how what they are supporting helps their constituents. Advocates for improved intercity passenger rail need to give congress that information.

Martinko rhetorically asked, "what motivates members of Congress?" If it helps them get elected and re-elected they'll support it. Further, he noted, there must be a transition to finding new resources for infrastructure. His comment led to several observations from the audience including concerns about what level of support will states be required to provide going forward and if not, where else might it come from; that the world has changed but the program being offered in the United States since the 60s; and, identify the really strong candidates that will produce revenue in order to offer policy makers serious, compelling options.

The forum concluded with a commitment from program organizers to return in December 2019 with a strong agenda that will equip attendees with the information and insights they will need to persuade Congress of the vital role intercity passenger rail and its higher levels of technology can play in advancing the vitality of the nation's economy and the mobility of its people.

## MOURNING THE PASSING OF JOSEPH H. BOARDMAN (December 23, 1948 – March 7, 2019)

"The American Public Transportation Association (APTA) extends our condolences to the family and friends on the passing of Joe Boardman," said Paul P. Skoutelas, President and CEO. "He was an outstanding leader at the New York Department of Transportation, the Federal Railroad Administration and Amtrak, and his legacy of public service and improving rail transportation is a model for all of us."



# PROPOSED LEGISLATION

## REAUTHORIZATION OF THE FAST ACT

Contributed by: Karen Hedlund and Stan Feinsod

Recent comments from congressional leaders indicate that 2019 may be the year for bi-partisan legislation to substantially increase infrastructure funding. This would enable a robust reauthorization of the FAST Act, which expires in 2020. Rep. Peter DeFazio (D-OR), Chair of the House Committee on Transportation and Infrastructure, has stated that he plans to have an infrastructure investment bill up and ready in the first six months of 2019. And members of Congress who recently met with President Trump reported that he stated he supports a major increase in the gas tax. Rep. Earl Blumenauer (D-OR), a senior member of the House Committee on Ways and Means, is expected to introduce a bill in the near future that would raise gas and diesel taxes by 25 cents over five years, and index both taxes to inflation.

Improving intercity passenger rail in the nation's corridors which connect the emerging national megaregions is a critical national transportation priority with significant positive economic impacts.

In anticipation of congressional action in the upcoming session, representatives of APTA's High-Speed and Intercity Passenger Rail Committee (HS&IPR Committee) have made the case for increased federal investment in the rail sector. They urged APTA's Legislative Committee to support the continued inclusion of a Rail Title in any new surface transportation authorization bill. But even more importantly, they stated that it is critical that Congress identify new revenues, other than existing gas taxes dedicated to the Highway Trust Fund, to significantly increase high-speed and intercity passenger rail investment.

New revenue sources that could provide a sustainable funding source for intercity passenger rail might include carbon taxes, wholesale fuel taxes, a Vehicle Miles Traveled fee or even ticket surcharges. Funds would be deposited in a separate Rail Trust Fund or a subaccount of an expanded

surface transportation trust fund. A portion of this would be for continued funding for Amtrak's capital and operational requirements. But additionally, at least \$4 billion annually should be made available for passenger rail capital improvements and rail research including the TRB Railroad Cooperative Research Program. And support should be given to corridor planning to provide a pipeline of projects for future development.

Increases in funding should also include continued support for installation of Positive Train Control by commuter and intercity lines, as well as freight railroads, ahead of the congressionally-mandated 2020 deadline. In addition to grants, Congress should provide additional appropriations for the RRIF loan program to pay the credit risk premium required for borrowers.

Finally, existing legislation relating to on-time performance requirements for host railroads needs to be amended to make such requirements enforceable.

Will 2019 be the year for a major infrastructure initiative, including new revenues to invest in expanding and improving high performance rail systems? New polling from POLITICO and Harvard's T.H. Chan School of Public Health shows that increasing infrastructure spending is one of the top priorities for Americans for the new Congress: 79 percent of those polled said it's "extremely important," falling just behind lowering prescription drug prices and substantially reducing the federal deficit on the list of issues polled. Infrastructure spending ranks high for both parties, with 88 percent of Democrats and 81 percent of Republicans surveyed calling it "extremely important." [cite] Hopefully, Congress is listening.



They were briefly first operated by Penn Central Transportation, then by Amtrak for over 35 years. A Washington-New York round trip for VIP's was operated on January 15, 1969. Metroliner service finally started on January 16, 1969, with a single daily round trip leaving New York in the morning and Washington in the afternoon.

Robert B. Watson, Coordinator- Northeast Corridor Demonstration Project (Retired)

The date January 16, 2019, marked the 50th anniversary of the beginning of Metroliner and TurboTrain service in the Northeast Corridor, the first fruits of the Northeast Corridor Demonstration Project which was to bring high-speed rail to the U.S. This program began with the vision of Senator Claiborne Pell and caught its first breath from a contract between the U.S. Department of Commerce and the Pennsylvania Railroad in 1965. That contract called for New York – Washington service in less than three hours with five intermediate stops. A similar requirement for service between New York and Boston came a bit later. Fifty new high-speed electric MU cars were ordered, major improvements to the infrastructure were undertaken and a major training program was instituted for all those to be involved.

The inauguration of long-awaited service was hailed by the media despite the many delays and setbacks encountered during the vehicle testing and acceptance period which began more than two years earlier. The day before the start of revenue service a special Metroliner train for the press and VIPs from all over the country was operated from Washington to New York. There were celebratory stops, breaking banners at all the major cities, with lots of speeches and flag waving. At Philadelphia the VIP train was unloaded and lunch was served for all in the concourse of 30th Street Station. Railroaders from across the country met with local and national policymakers who congratulated themselves on the newest transportation marvel. Alan Boyd, the Secretary of Transportation, accepted a gold medallion from Penn Central Chairman Stuart Saunders for delivery to President Johnson who soon would be out of office. It was a worthy beginning for this landmark in passenger transportation.

The program had begun with the Pennsylvania Railroad, entered service with Penn Central after the Pennsylvania – New York Central merger in 1968, and transitioned to Amtrak after it was established in 1971. Through all of these organizational and management disruptions, to say nothing of the continuing technical problems, the new service flourished and demonstrated its value. From 1966 to 1972, I was privileged to work with the young dedicated group of railroaders who nurtured the new equipment from its earliest days of testing through acceptance and into service to solve the problems that seemed to arise every day. The original Metroliner cars were withdrawn from service by the late 1980s as Amtrak moved to locomotive hauled trains, but the Metroliner brand endured until 2006 as representative of quality transportation.

As the approach of the golden anniversary of this landmark service drew near there was little effort to recognize its significance. Amtrak in particular chose not to mark the day its only new equipment took to the rails and became its flagship operation. But Scott Spencer, Chief Operating Officer, AmeriStarRail, and a long time Metroliner enthusiast, took it on his own to organize a small group of veterans and enthusiasts to recognize the milestone. We met in 30th Street at the Amtrak Information Counter on the morning of January 16 and began to talk of our memories to each other and anyone else who would listen. The Amtrak station personnel and crews were most interested as many of them had no knowledge of the heritage of the service they now provided. Unlike the big day 50 years ago,

there was no media attention although the local papers and TV stations had been told of the plan. Rather, the big transportation news of the day centered on the retirement of the second generation Solari train information board which seemed to have captured the attention of current travelers. (Some of us of a certain age still mourn the loss of the green chalk board and the beautiful free hand calligraphy that kept travelers informed.)

After many photographs we boarded cab car 9634, former Metroliner 823, of train 646 and rode to New York at speeds equal to or faster than those of 50 years past. The converted ex-Metroliners are the oldest cars operating in Amtrak's current fleet. Among those present in addition to Spencer and myself were Dave Warner, co-author (with Bruce Goldberg, who was unable to attend) of "The Metroliners", Ken Briers, an early Metroliner "Rider" (technician), two Amtrak engineers from the equipment department, my daughter, and grandson, and two other enthusiasts. In New York we continued to reminisce through lunch and later that afternoon returned from whence we each came.

It was a great day for those of us who remember the trials of the past and the friends we made in a first step toward enlightened passenger transportation. It was those people who made it happen who should be recognized. We trust there will be more of them to remember for their work in current high-speed rail endeavors.





# STATE ROUNDUP

Contributed by: David C. Wilcock, VHB

As 2019 dawns, interest in high-speed rail in the U.S. continues to grow.

The most notable service development of 2018 was the successful launch of Brightline in South Florida, between Fort Lauderdale and West Palm Beach. While it operates at conventional speeds, Brightline has attracted ridership and growing interest. Also, construction continues on the high-speed rail system in California and planning advances for service between Houston and Dallas by Texas Central Railway.

On the regulatory front, in November 2018 FRA finalized a new passenger equipment standards rulemaking expected to help usher in U.S. high-speed passenger rail service. The rule establishes a new category of high-speed operations permitting passenger trains to operate at speeds up to 220 MPH on existing rail lines. There are numerous requirements for service providers to meet the new standard, but it opens up the possibility of using existing rail lines without having to go through a prolonged waiver request process.

Amtrak ridership in FY 2018 was essentially the same as in record-setting FY 2017: 31.7 million passengers, 0.1 percent below the previous year. The FY 2018 total represented eight consecutive years Amtrak carried more than 30 million passengers. The breakout of ridership included:

- Northeast Corridor (NEC): 12.1 million riders – increased 0.8 percent, representing yet another NEC record for ridership. The Acela service carried 3.4 million riders, a 0.4 percent decrease from FY 2017. Northeast Regional service ridership grew 1.4 percent to 8.6 million.
- Long-Distance Trains: 4.5 million riders – a decrease of 3.9 percent. The Crescent (New York-New Orleans) saw the largest gain, 6.2 percent, while the Cardinal (New York-Chicago via Washington, DC) lost 14 percent. The ridership drop on the Cardinal was attributed to the truncation of the train at Washington, DC, from late May to early November accommodating Penn Station track work in New York City. Overall, weather, the western forest fires and freight traffic congestion helped to dampen long distance ridership.
- State-Supported Services: 15 million riders – an increase of 0.4 percent. The service seeing the largest increase was the New Haven-Springfield Corridor, where ridership grew 16.9 percent to 286,000 riders. The increase is directly attributed to the launch in June of the new joint Amtrak/Connecticut DOT service along the corridor. The Chicago-Quincy Corridor saw a 6.1 percent drop to 192,000 riders.

The growth of passenger rail service outside the existing Amtrak national network is astounding. What follows are brief discussions of how regions, states and local communities from around the country are getting involved in

planning and implementing the investments needed to restore and improve intercity passenger rail services.

### GULF COAST PASSENGER RAIL RESTORATION

The Southern Rail Commission (SRC) 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 shut down after Hurricane Katrina in 2005. This route was previously served by the Sunset Limited, which operated among 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 toward restoring the service, which had gained momentum in 2017, was slowed in 2018 when issues at the state level resulted in the SRC missing a key federal funding deadline. The SRC was prepared to submit applications to two federal grant programs, the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program and the Restoration and Enhancement Grant Program (REG). Applications requiring state matches from Louisiana, Mississippi and Alabama were due in May and June. State officials would have needed to dedicate local funds over the course of four years to match these federal grants aimed at restoring service. Louisiana was prepared to support the CRISI grant application with a \$9.5 million match; however, Alabama and Mississippi officials declined to provide the necessary local matches. The SRC stated that, should Alabama and Mississippi officials pledge funding in the future, it will ready an application for a future round of CRISI funding.

### SOUTHWEST CHIEF

The long-distance Southwest Chief route operates between Chicago and Los Angeles. There was much discussion and speculation about severing the route between Dodge City, KS, and Albuquerque and replacing train service with a bus bridge. In September, Sen. Tom Udall (D-NM) announced that Amtrak had agreed to continue rail service through the end of FY 2019 (September 30).

Projects to improve the speed and reliability of the Southwest Chief's route through Colorado, Kansas and New Mexico continued through 2018. Work was completed on track improvements along a 37-mile segment of the line at a cost of approximately \$25 million.

In December 2018, Sen. Michael Bennet (D-CO) announced the securement of \$9.16 million in federal funding to install Positive Train Control (PTC) along the route between Dodge City and Las Animas, CO, through CRISI grant program. Approximately \$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 funds add to the support for these track and signal improvements.

### LAS VEGAS – SOCAL SERVICE

In November 2018, Virgin Trains USA LLC released a prospectus for an initial public offering (IPO) to raise capital for the construction of a Las Vegas--Southern California high-speed line. The IPO, released in mid-January 2019, is expected to raise around \$482 million toward the development of the new service. The total project cost is estimated at \$3.6 billion for the segment of the line between Las Vegas and Victorville, CA. They have since postponed plans for the IPO. Construction is anticipated to start later this year, with the line ready to enter service in late 2021 or early 2022.

Fortress Investment Group, the financing entity behind the successfully launched Brightline service in South Florida, partnered with Richard Branson to form Virgin Trains USA in 2018. The partnership is planning to expand the South Florida service as well as constructing the Las Vegas-Victorville line.

## STATE UPDATES

**ALABAMA** – The Alabama Department of Economic and Community Affairs is undertaking a study of the feasibility of the Montgomery-Mobile segment of the Birmingham-Montgomery-Mobile route, with assistance from AECOM. Public meetings were held in late 2018 to solicit input on the project, with preliminary findings expected this year. This new service is dependent on restoring the aforementioned Gulf Coast service that would run between New Orleans and Orlando, serving cities along the way including Mobile, AL.

**ARIZONA** – As reported in past year updates, the Tucson-Phoenix Tier 1 Final EIS was completed by Arizona DOT, in coordination with FRA, on December 19, 2016. No construction schedule has been established for the project and no funding plan has been put in place. 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** – Arkansas DOT is studying the feasibility of new passenger rail service between Little Rock and Memphis, which is part of FRA's designated South Central High-Speed Rail Corridor across the state.

FRA approved a Service Development Plan (SDP) for the proposed service, prepared with support from AECOM, on November 14, 2018. The SDP proposes two additional daily trips in the shared Amtrak Texas Eagle corridor across the state, with an extension of regional service to Memphis. The plan assumes 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 while also reducing travel times and improving reliability for Texas Eagle operations. Further development of the service, which would follow Union Pacific host corridors, is currently unfunded.

**CALIFORNIA** – Barely a month into 2019, Gov. Gavin Newsom issued a statement indicating that the state will focus on completing the initial 119-mile segment of the California High-Speed Rail system between Merced and Bakersfield before advancing other segments. His announcement has essentially placed development of the \$77 billion system on hold. The governor, who has long questioned the total cost of building out the HSR network, later tweeted that he is fully committed to high-speed rail in the state. The FRA has demanded that California repay the \$3.5 billion in federal grants. The California High-Speed Rail Authority replied to the FRA by saying its threat to cancel and rescind \$3.5 billion in grants for the high-speed train project is "rash and unlawful." In two letters to the FRA, state officials say they have not breached the terms and conditions of the grants and are making progress in building what would be a transformative passenger rail system. Stay tuned...

In 2018, construction continued on California High-Speed Rail system between Merced and Fresno in the Central Valley. The project has continued to see cost overruns, with the latest projections showing an expected cost of approximately \$77.3 billion to construct the main line from San Francisco to Los Angeles, compared with the \$35 billion projected in 2009. The latest funding projections indicate that the California High-Speed Rail Authority should be able to build most of the alignment in the Central Valley (Madera to Shafter) but will likely not have enough funding to extend the line to either the San Francisco Bay Area or Los Angeles. The authority has stated it hopes to get trains operating on a limited basis over the next decade and find private investors to finance the remainder of the project.

Plans for a passenger rail service between Southern California and Las Vegas resumed as of late 2018 after Brightline (now Virgin Trains USA LLC) agreed to acquire XpressWest. Virgin Trains is looking to have service operational between Victorville, CA, and Las Vegas by 2022 (see summary at the top of this article).

The Caltrain electrification project continues to move forward. In December 2018, Caltrain exercised an option with Stadler to lengthen its 16 trainsets on order from six to seven cars, while also adding three more seven-car trainsets to

the original order. Caltrain said additional ridership increases make the additional vehicles necessary. The vehicle order is currently in production at the Stadler plant in Salt Lake City, delivery of the first trainset scheduled for late 2019.

The three California state-supported corridor services – Capitol Corridor, San Joaquin and Pacific Surfliner – continue under regional managements. Amtrak's long-distance trains—Southwest Chief (Chicago-Los Angeles), California Zephyr (Chicago-Oakland), Coast Starlight (Seattle-Los Angeles) and Sunset Limited (Los Angeles-New Orleans)—continue to serve the state, along with multiple connecting Thruway bus routes.

Caltrans released a new State Rail Plan in September. Its goal is to increase rail passenger travel by 92 million miles per day through the development of an enhanced integrated multimodal network.

**COLORADO** - Amtrak restarted a Colorado tradition—the Ski Train, aka the Winter Park Express, between Denver and Winter Park—for the 2016-2017 season. Following two successful seasons of service, Amtrak is again operating the service for 2018-2019. This third season, which launched on January 4, includes an expansion of service to the second Friday of each month and a lounge car complete with beverage service as part of the train consist. Consistent with the second season, trains will operate from January to March on Saturdays, Sundays and the first and now second Fridays of each month.

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 passenger rail service along the Front Range by extending the Southwest Chief line to serve Boulder and Colorado Springs.

**CONNECTICUT** - Since opening on June 16, 2018, the CTrail Hartford Line has seen tremendous ridership. During the first six weeks of regular operation, the service provided approximately 69,000 passenger trips. As of September 2018, average weekday ridership is currently at 1,860 trips. Connecticut DOT hopes to increase that to 1,945 trips by the end of June 2019 and to 2,223 by the end of June 2020.

Strong ridership has led to overcrowding on Amtrak trains (which CTrail passengers may also board with a valid ticket) and has resulted in some CTrail ticketholders being left behind to accommodate Amtrak passengers. In an attempt to resolve this issue, effective January 2, two Amtrak trains will be limiting reservations in the afternoon, freeing up space for up to 72 CTrail ticket holders.

**FLORIDA** – The privately operated intercity passenger rail service between West Palm Beach and Miami, currently called Brightline, is in the process of being 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. Third-quarter ridership (July, August and September) totaled 159,586 trips, compared with 106,090 and 74,780 trips in the second and first quarters respectively. October saw approximately 60,000 trips, with approximately 80,000 in November.

Despite this healthy ridership growth, ridership on the line remains below the 1.1 million riders estimated for 2018. These low ridership numbers have continued to result in operating losses for the company, which reported a loss of \$30.9 million in the third quarter of 2018, bringing the total loss for the first nine months of 2018 to \$87 million.

Virgin Trains is planning to extend the rail line from West Palm Beach to Orlando, with construction beginning on that segment in March 2019. Construction is expected to be complete in late 2020 or early 2021. The company also has plans to extend from Orlando to Tampa, with that service expected to commence in 2021.

Virgin Trains is currently about a third of the way done with negotiating with Florida DOT and the Central Florida Expressway Authority to lease the medians of I-4 and State Road 417 for their trains. No station locations have been announced as part of the Tampa extension.

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

**GEORGIA** – High-speed rail continues to make progress in Georgia. The route from Atlanta to Charlotte, NC, is in the process of completing the Tier 1 DEIS, which Georgia DOT will present to the public for review and comment. Public meetings will be set up in the Carolinas and Georgia to allow the public to comment on the document. This segment has attracted the attention of Virgin Trains USA (formerly known as Brightline), which announced in its IPO that it is considering the Atlanta-Charlotte corridor as part of its expansion plan. The Atlanta to Chattanooga, TN, high-speed rail route is currently working toward its Tier 2 EIS.

**ILLINOIS** – Illinois has made great progress in advancing its intercity passenger rail program. Please see the feature story in this issue of SPEEDLINES on page 26.

Also, the City of Chicago and U.S. DOT's Build America Bureau have entered an Emerging Projects Agreement regarding Chicago Union Station. The goal of the agreement is to invest \$1 billion to modernize Chicago Union Station and redevelop the surrounding area.

Many individual projects have been completed at the station. Amtrak opened a new "Metropolitan Lounge," increasing the size of the waiting area and adding many new amenities for customers traveling in sleeping cars or in Business Class, as well as Select Plus and Select Executive Amtrak Guest Rewards members. The Grand Staircase and facade of the building have been restored and renovations of the Great Hall have been completed.

Amtrak selected a team led by Riverside Investment & Development Co. as the master developer for commercial elements of Chicago Union Station and neighboring Amtrak-owned properties, and work is currently underway with the design of a high rise residential complex next to the station. The Chicago DOT also completed the Union Station Transit Center, which has a direct link to Chicago Union Station via a pedestrian tunnel.

**INDIANA** – Five years ago, the city of Fort Wayne, IN. and the Northeast Indiana Rail Passenger Association (NIPRA) sponsored a feasibility study for new passenger rail service connecting Chicago with Fort Wayne and Columbus, Ohio. Since then, HNTB has been conducting pre-scoping studies in anticipation of funding from FRA and Indiana DOT for the Chicago-Fort Wayne-Lima, Ohio segment of the route.

In October 2018, HNTB, along with NIPRA and the cities of Fort Wayne, Warsaw, Lima and Valparaiso, held public meetings, which were well-attended. The comments received continue to demonstrate the need for connectivity between these cities and Chicago. The final report from HNTB is expected in February 2019.

NIPRA's next steps are to demonstrate the economic development, quality of life and quality of place advantages of convenient passenger rail service. This will lead NIPRA's public and private partners to share the investment needed for the next level of study, pre-engineering work, selecting an operator and construction work.

**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 Council Bluffs-Omaha Regional Passenger Rail Project. The third phase of the Iowa DOT-Metropolitan Planning Organization (MPO) of Johnson County feasibility study of passenger rail service between Iowa City and North Liberty continues. The Phase 3 efforts include a cost-benefit analysis, financial plan, operation and maintenance costs and proposed station stops.

**MAINE** – The Amtrak Downeaster continues to provide service from Maine to Boston with five daily round trips. In November 2018, the Downeaster increased the number of trips to Brunswick and Freeport from three to five on weekdays, and from three to four on weekends.

Special weekend service out to Rockland (with stops in Bath, Wiscasset and Newcastle) was originally proposed for three weekends in 2018; however, those plans did not move forward as anticipated. The Downeaster is hoping to try again for summer 2019 with more trips than were planned in the proposed 2018 service.

A study continues of a proposed passenger rail service to connect Lewiston-Auburn to Portland. The study is currently

evaluating different corridors between the two regions using a variety of metrics, including travel time, capital cost and anticipated operations and maintenance costs. The project is gearing up for a public meeting to present the results of the evaluation, with the goal of wrapping up the study in the spring of 2019. VHB and WSP are supporting the Northern New England Passenger Rail Authority in the development of the study.

**MARYLAND** – Baltimore's Penn Station is the eighth busiest station in the Amtrak network. In late December 2017, Amtrak selected Penn Station Partners, which includes Beatty Development, Armada Hoffer Properties, Cross Street Partners and Gensler, to lead the preparation of a master plan for redevelopment of the station and nearby Amtrak properties. Work on the preparation of the plan started in earnest in early 2018. At public meeting in July, Amtrak revealed some of the potential components of what could be a \$500 million redevelopment plan for the area. Amtrak solicited input from the public to help inform the planning process.

In August, the Maryland DOT Maryland Transit Administration announced the launch of a 14-month, \$4.7 million improvement project at the BWI Thurgood Marshall Airport Rail Station. The project includes a new passenger waiting area, improved concessions and amenities and new ticketing facilities.

**MASSACHUSETTS** –Massachusetts DOT (MassDOT) is planning to start a pilot passenger rail service between Springfield and Greenfield in June 2019 by extending the existing Amtrak shuttles that currently run from New Haven, CT. Two round trips will be added daily, one in the morning and one in the evening.

At the New Haven terminus, passengers can connect to MTA Metro-North Railroad trains to New York, Shore Line East trains to New London or Amtrak Northeast Corridor service. This new service will allow passengers to leave Greenfield in the morning and return the same day. MassDOT expects to have the pilot run for 30 to 36 months before evaluating usage.

MassDOT is also currently moving forward with a study of a high-speed rail service linking Springfield and Boston. The study, announced in June 2018, is expected to take 18 months to complete. WSP has been selected to perform the study and will examine options for such a service, including potential costs and infrastructure needs. It will also examine the possibility for providing service as far west as Pittsfield, MA.

**MICHIGAN** –Michigan DOT sponsors three separate intercity passenger rail routes serving 22 station communities in Michigan. Operated by Amtrak, these trains include Wolverine service, three daily round trips between Chicago and Detroit/Pontiac; Blue Water service, one daily round-trip between Chicago and Port Huron; and Pere Marquette service, one round trip daily between Chicago and Grand Rapids.

An important part of Michigan's intercity passenger rail services is the Accelerated Rail Program, which focuses on improving the federally designated Chicago Hub (Chicago-Detroit/Pontiac) High Speed Rail Corridor. Enhancements for passenger speeds up to 110 mph have been completed for the segment between Porter, IN and Kalamazoo, MI.

Michigan DOT purchased 135 miles of the rail corridor between Kalamazoo and Dearborn from Norfolk Southern Railway in 2012. The maximum speed on that portion is 79 mph, but it is expected to increase to 110 mph in certain sections once PTC testing is completed and when new locomotives are put into service.

All these improvements are the direct result of \$347 million in federal funds through the American Recovery and Reinvestment Act and the High-Speed Intercity Passenger Rail Program. Other improvements outside Michigan DOT ownership have been made that will benefit the movement of both passenger and freight trains. A new bridge connection was installed in west Detroit, allowing for a faster connection for trains bound for Detroit, Royal Oak, Troy and Pontiac.

Michigan was leading the multistate effort to complete a Corridor Investment Plan (CIP) for the Chicago-Detroit/Pontiac corridor. This process included completion of a Service Development Plan, a Level 1 Alternatives Analysis to support route selection and preparation of a Draft Tier 1 Environmental Impact Statement. Michigan, in consultation with FRA, concluded that continued work at the corridor level would not be beneficial in the longer term and that advancement of work at the project level identified in the SDP would be more productive. On November 30, 2018, FRA rescinded the Notice of Intent

on to prepare an EIS for this corridor published in the Federal Register on August 31, 2012. Work will continue at the project level defined under the Level 1 alternatives Analysis, dated April 2014, and the SDP dated August 2017.

**MINNESOTA** – The Northern Lights Express (NLX) is a proposed intercity passenger rail service that would operate four round trips per day at a maximum speed of 90 mph and an average speed of 60 mph between Target Field Station in Minneapolis and the Depot in Duluth, with stations in Coon Rapids, Cambridge, Hinckley, and Superior, WI. The NLX Project is being developed by Minnesota DOT in consultation with FRA and with cooperation from the Minneapolis-Duluth/Superior Passenger Rail Alliance, Wisconsin DOT and local communities. Quandel Consultants assisted Minnesota DOT by acting as project management oversight consultant. The anticipated cost to implement the NLX project is estimated to be approximately \$500 - 600 million. On February 20, 2018, FRA issued a finding of no significant impact (FONSI) on the Tier 2 Project Level Environmental Assessment. If the project is fully funded, final design and construction can be completed within two years.

Minnesota DOT was required to terminate the study examining a higher-speed rail corridor (up to 90 mph) along the Empire Builder route between Minneapolis/St. Paul and Chicago. It had expected to release a service alternatives analysis report by June 2017. However, the legislature objected to continuing work on the study and the agency suspended work late in 2017. HDR was the prime consultant for this work.

In July 2016, Minnesota DOT and Wisconsin DOT initiated the Twin Cities-Milwaukee-Chicago (TCMC) Intercity Passenger Rail Service Phase 1 study, which is examining adding a second daily round trip along the portion of the Empire Builder corridor between the Union Depot in St. Paul and Chicago Union Station at conventional train speeds up to 79 mph. The study included operational modeling to identify capacity improvements necessary to allow reliable operation of proposed passenger service while mitigating impacts to existing and future freight traffic and other passenger traffic. Phase 2 will focus on completing preliminary engineering and environmental review.

**MISSISSIPPI** – Amtrak currently provides intercity passenger rail services in Mississippi on two daily trains, 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, which travels among 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 which, as noted previously, 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. Their current priorities in Mississippi are the re-establishment of the New Orleans-Orlando segment of the Sunset Limited (curtailed following Hurricane Katrina) and the I-20 Corridor in the northern part of the state to connect Dallas-Fort Worth and Vicksburg and Meridian, MS.

**MISSOURI** - Amtrak operates in Missouri on two long distance routes – the Southwest Chief and Texas Eagle (Chicago-San Antonio, TX) - 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 that service.

**NEVADA** – Amtrak operates one long-distance train through Nevada, the California Zephyr (Chicago-San Francisco Bay Area). Motor coach connections to Reno are provided from the Amtrak-operated, California-supported Capitol Corridor trains that terminate in Sacramento.

Virgin Trains USA LLC has secured Xpress West's rights to the development of high-speed rail service between Anaheim and Las Vegas. Virgin Trains is looking to have service operational between stations in Victorville, CA, and Las Vegas by 2022 (see summary at the top of this article).

**NEW YORK** – New York State DOT's plans to strengthen its rail passenger system by providing higher-speed passenger

rail within the 463-mile rail corridor between New York City and Buffalo/Niagara Falls (Empire Corridor) are moving forward, albeit more slowly than originally planned. FRA and New York State DOT completed the Tier I draft environmental impact statement (DEIS) in January 2014 and public comments on the DEIS closed April 30, 2014. FRA anticipates publishing the Tier I final EIS in 2019.

Planning for the Gateway Program continued in 2018, led by the Gateway Development Program Corporation (GDC), a not-for-profit New Jersey 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 the number of passenger trains running under the Hudson River. The program includes the Hudson Tunnel Project (HTP), a new two-track tunnel into New York Penn Station and a new bridge over the Hackensack River; a series of bridge projects in northern New Jersey; and an expansion of Penn Station. The HTP is estimated at \$12.7 billion, while the balance of related improvements has an estimated price tag of \$29 billion. The Trump administration continues to oppose an informal agreement made during the Obama administration that committed the federal government to pay half the estimated \$12.7 billion bill for the first phase of Gateway.

Key accomplishments in 2018 included:

- The submittal by NJ Transit of an updated financial plan for the Portal North Bridge, which includes up to \$600 million in state funding , representing 100 percent of the state (local) share of the project;
- The commencement of construction on the new Portal North Bridge, representing the “beginning of the beginning”;
- The Port Authority of New York & New Jersey serving as NEPA project sponsor and CIG grant applicant on behalf of the GDC;
- A strengthened financial plan for the Hudson Tunnel component of the project submitted to FTA; and
- Ernst & Young selected as the financial advisor for the Hudson Tunnel Project component.

Another major New York project continued to progress in 2018. The work to convert the historic James A. Farley Post Office into a world-class transportation hub remained on a fast track.

In late 2018, Skanska, the contractor in the Related/Vornado/Skanska joint venture, reported significant progress on the major rehabilitation and conversion project. Construction of the new train hall is expected to be completed by December 2020. Other improvements associated with the MTA Long Island Rail Road East Side Access Project will be completed by 2022. The public is already experiencing some benefits of the project with the opening of the new Penn Station West End Concourse in late 2018. Plans are in the works to add a new 33rd Street entrance and pedestrian plaza.

**NORTH CAROLINA** – Sixteen Amtrak trains serve the state daily. The Carolinian operates as a daily round trip between New York City and Charlotte via Raleigh and the Piedmont Corridor. Three daily Piedmont service round trips operate between Raleigh and Charlotte. Amtrak also serves North Carolina with four long distance trains: the Crescent, Palmetto, Silver Meteor and Silver Star.

Projects managed under the Piedmont Improvement Program (PIP) and funded as part of ARRA have been completed. These interrelated improvements between Raleigh and Charlotte, designed to increase train operating speeds, include adding 31 miles of double track and 12 grade separations, closing 23 public and 15 private railroad crossings and renovating train stations in Cary, High Point, Burlington and Kannapolis.

The new Raleigh Union Station opened July 10, 2018. This multimodal facility, located in Downtown Raleigh’s Warehouse District, currently hosts the eight daily state-supported Amtrak Carolinian and Piedmont trains. The trackwork and platform are set up to host future commuter rail service. The new station building, an adaptive reuse of a former industrial building, includes a naturally lit passenger passageway connecting to a new 920-foot-long high-level platform.



Photos courtesy of VHB

The total cost of the new station, including the platform and track improvements, was approximately \$89 million.

**OHIO** – In August 2018, the Columbus-based Mid-Ohio Regional Planning Commission (MORPC) began two studies considering passenger and freight rail movement in the Chicago-Fort Wayne-Columbus and Pittsburgh corridor. The Rapid Speed Transportation Initiative (RSTI) will explore the planning and development of two proposed intercity high-speed transportation modes, Hyperloop and conventional passenger rail.

RSTI includes two active studies: the Midwest Connect Hyperloop Feasibility Study, examining potential Hyperloop alignments and services in the corridor, and an Environmental Impact Study (EIS) for high-speed transportation between Lima, OH, and Pittsburgh, including a review of both conventional passenger rail and Hyperloop. MORPC notes that the study represents the first incorporation of Hyperloop technology into an EIS.

Performing the RSTI studies is an AECOM/WSP partnership, with AECOM priming the Hyperloop analysis and WSP priming the assembly of EIS components. No passenger rail services currently link the combined 15.5 million corridor residents today, nor is there currently a direct interstate highway corridor between Columbus and Chicago. Columbus is one of the largest North American markets not currently served by passenger rail.

The RSTI EIS complements an ongoing Tier 1 EIS among Chicago, Fort Wayne and Lima for passenger rail service, led by the city of Fort Wayne and the Northeast Indiana Passenger Rail Association (NIPRA) with support from HNTB. The Hyperloop Feasibility Study reflects the corridor's selection as a Hyperloop One (now Virgin Hyperloop One) Global Challenge awardee. RSTI will complement a soon-to-begin high-speed study among Pittsburgh, Harrisburg and Philadelphia led by the Pennsylvania Turnpike Commission.

The Northeast Ohio Areawide Coordinating Agency (NOACA), the MPO for Greater Cleveland, signed an official public-private partnership with Hyperloop Transportation Technologies to study a multi-state Hyperloop in the Great Lakes Megaregion. NOACA awarded a \$550,029 contract to Transportation Economics & Management Systems Inc. for the Great Lakes Hyperloop Feasibility Study. The study will evaluate the feasibility of an ultra-high-speed Hyperloop passenger and freight transport system initially linking Cleveland and Chicago.

**OKLAHOMA** – Oklahoma DOT continues its support of one round trip daily between Fort Worth and Oklahoma City as part of the Heartland Flyer. Also, an Amtrak Thruway bus service between Oklahoma City and Newton, KS, connects the Heartland Flyer with the Amtrak Southwest Chief, which operates between Chicago and Los Angeles.

In early 2018, Oklahoma DOT released a new State Rail Plan that included identification of potential improvements to passenger rail service in the state. The improvements were grouped into five categories, three of which were focused on intercity rail services:

- Improvements to existing services, including improvements to the efficiency of the Heartland Flyer as well as expansion of the service, improvements to the Oklahoma City passenger rail station and improvements to connectivity with other modes at passenger rail stations;
- Support for Oklahoma City as a multimodal hub; and
- New intercity services including Oklahoma City to Tulsa, Oklahoma City to Kansas City, and Oklahoma City to Texas

In 2014, when the Stillwater Central Railroad bought the Sooner Sub from 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. After four years of inactivity, the railroad issued a request for proposals to operate passenger rail service along the route between Sapulpa and Del City in June 2018. The state recognized it as a first step although the RFP does not address the desired Oklahoma City to Tulsa service.

The Texas-Oklahoma Passenger Rail Study evaluated a range of passenger rail service options in an 850-mile corridor from Oklahoma City to South Texas. Oklahoma DOT was an important partner in the study, which was led by Texas DOT. The study concluded at the end of 2017, following completion of a Tier I service-level environmental impact statement (EIS) and a service development plan. It evaluated three corridors, one of which included Oklahoma: the Northern Section, Edmond, OK, to Dallas and Fort Worth. The recommendation for this corridor was additional Amtrak-type service.

**OREGON** – Oregon DOT and FRA continue to examine alternatives for enhancing passenger rail service on the 125-mile Portland-Springfield-Eugene corridor. This corridor is part of the federally designated Pacific Northwest Rail Corridor, currently served by the Amtrak Coast Starlight and the state-sponsored Amtrak Cascades routes. Oregon DOT recently identified two build alternatives as part of the study: one that generally follows the existing Amtrak Cascades alignment but features various track, signal and communication improvements, and one that is primarily a new route between Springfield and Oregon City (generally following Interstates 5 and 205) before merging back with the existing Amtrak alignment north of Oregon City.

Oregon DOT stated that it has identified the first alternative as the preferred alternative. The Draft Environmental Impact Statement (DEIS) was released for public comment October 19, 2018, with the public comment period closing on December 18. Oregon DOT and FRA are reviewing all comments and will select a final preferred alternative in their Final Environmental Impact Statement (FEIS) and Record of Decision (ROD), to be published in 2019.

**PENNSYLVANIA** – In November 2018, Amtrak announced it had selected four teams as finalists for a master developer for 30th Street Station in Philadelphia. The facility, originally opened to the public in 1933, hosts Amtrak, Southeastern Pennsylvania Transportation Authority and NJ Transit trains. With more than 12 million riders in 2018, it is Amtrak's third busiest station. The master developer will assist Amtrak in revitalizing the retail space, improving passenger flows and developing and enhancing amenities for users of the facility. Amtrak is expected to issue a full RFP to the four finalists in 2019.

Passenger rail service between Altoona and Pittsburgh is back on the front burner in Western Pennsylvania. Gov. Tom Wolf announced in September that he was directing PennDOT to re-examine the feasibility of service in this corridor. The new study is to review the previously completed Keystone West High-Speed Rail Study (2014), examining the rail infrastructure and looking at the potential ridership and operating costs of up to three potential service plans. PennDOT will coordinate the study with Amtrak and Norfolk Southern Railway, owner of the rail corridor.

In addition to the governor's September announcement, the state House Transportation Committee approved a non-binding resolution that calls for a study of hyperloop technology for a cross-state route. The resolution calls for a study of a route from Philadelphia to Pittsburgh with a stop in Harrisburg. The study would also examine a branch to Wilkes-Barre.

**TEXAS** – Progress continues on the privately funded Texas Central Railway connecting Houston and Dallas. In December 2017, FRA published a Draft Environmental Impact Statement (DEIS) that identified the preferred route along the "Utility

Corridor," mirroring the Centerpoint Energy and Oncor Electrical Delivery transmission lines between Dallas and Houston, using Union Pacific Railroad lines to reach within the dense urban areas on both ends. This alignment aims to maintain a 90-minute journey between Dallas and Houston.

On the Dallas side, the station will be located in the Cedars District. This area is currently being redeveloped into a mixed-use multimodal neighborhood and is currently served by Dallas Area Rapid Transit's Red and Blue light rail lines. The route between Dallas and Houston will contain only one additional stop, located at Brazos Valley to connect to Texas A&M University. In Houston, the other terminus will be located in Northwest Houston between I-10 and Highway 290. Amtrak and Texas Central have also signed an agreement on transfer services and through ticketing to facilitate additional transportation connections for passengers.

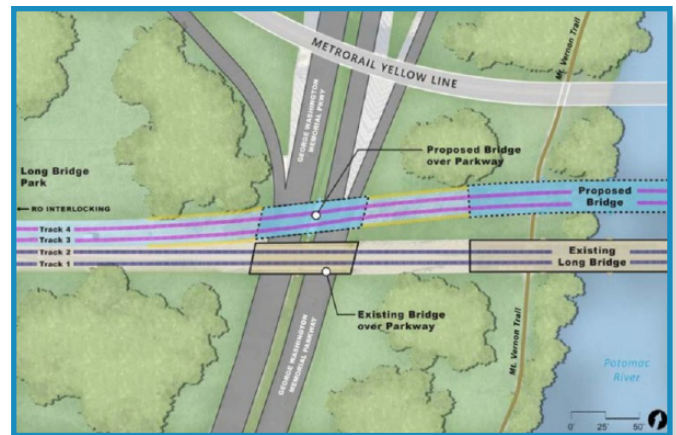
The project will utilize Japanese Shinkansen train technology. The project plans to operate roughly 15 trainsets that will seat approximately 800 passengers in eight cars. Texas Central notes that it has "chosen Japanese technology for its safety record." Texas Central is awaiting the final permit from FRA in early 2019 and anticipates beginning construction in late 2019 or early 2020. It aims to begin operating trains along the route in 2024 or 2025.

At the state level, Amtrak officials are attempting to extend the Heartland Flyer to Kansas. Currently, the service runs between Oklahoma City and Fort Worth. The proposed extension would run along existing freight track at a speed of approximately 60 mph. A feasibility study would be needed prior to the service being extended; funding sources from state partners like Kansas and Oklahoma are currently unknown.

TEXRail launched service on January 5, 2019, connecting downtown Fort Worth to the Dallas/Fort Worth International Airport. The new service operates hourly seven days a week, starting at 3:02 a.m. and running as late as 1:46 a.m. A one-way trip to the airport costs \$2.50, with a full day pass costing \$5. Nearly 100,000 riders have used the service during January. TEXRail service was free during the first month and began charging fares February 1. Connections are available to DART and Trinity Railway Express services. The service operates with DMU rail cars built by Stadler.



ABOVE: One of the most challenging aspects of the 27-mile Corridor was known as the "Hole-in-the-Wall," a tight point of convergence in downtown Fort Worth of Union Pacific Railroad, Burlington Northern Santa Fe Railway, AMTRAK passenger rail, the Trinity Railway Express (TRE) regional commuter rail line, and TxDOT Spur-280.



ABOVE: Long Bridge carries freight rail, Amtrak, and VRE over the Potomac into DC. Its two-track layout is at maximum capacity, and is one of the most serious bottlenecks on the east coast. Amtrak and VRE would like to run more trains, and MARC might like to extend its commuter trains into Virginia, but before any of that can happen, there need to be more tracks over the river.

**VIRGINIA** – Virginia has an active state-sponsored passenger rail program. Following the late 2017 extension of the Lynchburg train service to Roanoke, the state Department of Rail and Public Transportation (DRPT) is now working on enhancing service to Norfolk and the Hampton Roads area. A second daily round trip to Norfolk is planned to launch in March 2019. This new service will also bring some schedule adjustments optimizing the service, which continues to Newport News.

FRA and DRPT completed a Tier II draft EIS between Washington, DC, and Richmond (DC2RVA) in September 2017. The purpose of this project is to increase rail capacity between the two cities 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. Based on agency and public comments on the Tier II DEIS and DRPT's recommended preferred alternative, DRPT and FRA are in the process of preparing a final EIS, which will report the preferred alternative and list environmental commitments to mitigate unavoidable impacts. HDR is supporting DRPT with the project by completing the environmental documentation.

A key project supporting the proposed DC2RVA service and increased commuter rail services in northern Virginia is the expansion of rail capacity across the Potomac River. The District of Columbia DOT (DDOT) is leading the project to expand the capacity at the Long Bridge crossing. The current two-track bridge is a bottleneck on the DC2RVA corridor as there are currently three tracks on each side of the river with plans for a fourth track. The DDOT project is examining the addition of a second two-track bridge adjacent to the CSXT-owned Long Bridge. The DEIS for the project is expected by mid-2019. VHB and HNTB are leading the preparation of the NEPA documentation and development of the design.

**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 DOT also sponsors a state-supported corridor train operating between Portland-Seattle and Vancouver, BC. The Cascades corridor is 467 miles long: 300 miles in Washington, 134 miles in Oregon and 33 miles in British Columbia.

Following the December 18, 2017, derailment of an Amtrak Cascades train, the new Point Defiance Bypass route has not been used. Amtrak and state officials said PTC is now operating on all passenger trains in the Pacific Northwest but that passenger service will not return to the Point Defiance Bypass until the National Transportation Safety Board performs a safety evaluation in spring 2019.

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 recently contributed funding to study a system with a dozen daily round trips making multimodal connections to existing trains and buses at speeds of up to 250 mph. Over the next several months, the study will examine possible routes, station stops, ridership and revenue projections, construction costs, technologies, governance structures and funding options. WSP is leading the study effort and is being supported by Steer. The study is expected to be complete in July 2019.

**WISCONSIN** – Wisconsin DOT and Illinois DOT, in coordination with FRA and Amtrak, are conducting an Environmental Assessment (EA) and Service Development Plan for service improvements between Chicago and Milwaukee. A key project objective is to increase Amtrak Hiawatha Service frequencies from seven to 10 round trips per day. The final EA, being prepared by Quandel Consultants, should be released during the summer of 2019. A FONSI would follow later in 2019.

FRA announced on February 8, 2019, that Wisconsin DOT was awarded up to \$5.05 million in FY 2017 Consolidated Rail Infrastructure and Safety Improvements (CRISI) funding to construct a passenger platform, elevator towers and an overhead pedestrian bridge at the Milwaukee Airport Rail Station, a key intermodal station with connection to the General Mitchell International Airport in Milwaukee. This project is one of the nine infrastructure projects required to implement the 10-round-trip program and the first to be funded for final design and construction.

The author acknowledges the contributions of Kyle Taniguchi and Dimitre Guenov (VHB), Peter Voorhees and Ken Sislak (AECOM), and Charlie Quandel (Quandel Associates).





# IN THE SPOTLIGHT



JENNIFER HU  
DIRECTOR

"Texas Central is setting the standard for development of high-speed rail in the United States through its public/private partnerships and innovative financing techniques."

RAILROAD LEGAL  
AND REGULATORY  
AFFAIRS AT  
TEXAS CENTRAL  
PARTNERS LLC



MARIAH MORALES  
MANAGER

"Amtrak serves intercity and commuter rail customers moving between 500+ cities in 46 states and DC. Air and highway congestion are on the rise but, where intercity rail service is frequent and reliable, people increasingly turn to rail. Given the exponential growth of megaregions, bold investment in intercity passenger rail is critical to our future mobility and economic growth. At Amtrak, we know the demand for more service from our current and future state partners is great but, we will need the support of the host railroads and the federal government to grow capacity, frequency and ensure the reliability that America needs."

AMTRAK,  
GOVERNMENT  
AFFAIRS



BETH MCCLUSKEY  
CONSULTANT

"A balanced multimodal transportation network is essential to economic growth. IDOT has been working to facilitate the connections that make communities thrive including improving passenger rail service operating in mixed traffic with freight trains. I am proud of the achievements we made in Illinois to improve passenger rail services while I was a part of the IDOT team. But now, I look forward to my new role at AECOM."

AECOM

FORMER ILLINOIS  
DEPARTMENT OF  
TRANSPORTATION (IDOT)  
DIRECTOR OF INTERMODAL  
PROJECT IMPLEMENTATION

# MIDWEST NEWS

## ILLINOIS

The Illinois Department of Transportation (IDOT) Bureau of Railroads is responsible for promoting and ensuring safe and efficient rail transportation throughout the state by developing and recommending policies and programs and implementing projects for both passenger and freight rail.

Illinois, and Chicago in particular, is the rail hub of the nation and we work each day to preserve our preeminence as such. Nearly 1,300 trains pass through the Chicago region daily while we handle one-fourth of the nation's freight rail traffic and half of all intermodal trains. Six of the seven Class I freight railroads operate in Illinois. Chicago is Amtrak's Midwest hub, operating 56 daily trains, both regional and long distance, serving nearly five million riders in and through Illinois.

## PASSENGER RAIL OPERATIONS

IDOT fully supports Amtrak passenger train operations on three corridors – Chicago to Quincy, Chicago to St. Louis and Chicago to Carbondale – and partially supports, with the Wisconsin Department of Transportation, service between Chicago and Milwaukee. Between these corridors, we subsidize 30 daily state-supported trains that provide service to four regional corridors and 30 communities with two million annual riders.

## CHICAGO-ST. LOUIS HIGH-SPEED RAIL

The Chicago-St. Louis High-Speed Rail program is upgrading the existing railroad corridor between these two major Midwest cities to accommodate passenger train speeds up to 110 mph. In 2019, IDOT will continue to improve signal systems, grade crossings and passenger equipment. Since the \$1.2 billion American Recovery and Reinvestment Act 2010 grant that initially funded the project, Illinois' signature high-speed rail route has received an additional \$700 million in federal and state funds for corridor improvements. Upon completion, the Chicago-St. Louis corridor will feature significantly improved service, reliability and safety with four-quadrant gates at at-grade crossings and Positive Train

Control. Speeds will increase to 110 mph once PTC has been completed, with an interim upgrade to 90 mph in 2019.

Led by IDOT, the Chicago-St. Louis High-Speed Rail program is being accomplished in partnership with FRA, the Union Pacific Railroad, Amtrak, the Illinois Commerce Commission and local communities along the route.

Work on this project has included the installation of 285 miles of new rail and concrete ties; upgrades to bridges, culverts, drainage and signaling systems; 30 miles of new sidings and sections of double track; major safety upgrades at 300 crossings with four-quadrant gates and loop detectors; and new stations open in Joliet, Dwight, Pontiac, Carlinville and Alton, an upgraded and renovated station in Lincoln and a second platform in Normal.

## MIDWEST COLLABORATION

A multi-state coalition in the Midwest is collaborating to improve passenger rail service by investing in new passenger cars and locomotives. States in the Midwest have formed the Midwest Intercity Passenger Rail Commission (MIPRC), which meets regularly to improve coordination and advocate for passenger rail across the region.

Beth McCluskey, formerly Director of the Office of Intermodal Project Implementation at IDOT, has been chair of MIPRC since 2017. In 2018, Michigan, Indiana, Illinois and Wisconsin worked together to create an integrated schedule that would improve connections at Chicago Union Station, better enabling riders to travel from one end of the region to the other via the Chicago hub. The Midwest states are also working together on procurement of new rolling stock.

IDOT is partnering with Wisconsin, Michigan and Missouri to procure a Midwest fleet of locomotives and passenger/lounge cars. IDOT led the procurement (with Caltrans and Washington State DOT) of 33 Charger SC44 locomotives purchased and delivered from Siemens. The Chargers have been in service in the Midwest serving all Illinois, Wisconsin and Missouri routes, as well as



Michigan's Grand Rapids route with additional routes in Michigan to come.

Caltrans is leading the procurement of 88 single-level cars, which are a mix of coach, coach/business and lounge cars that have been ordered from Siemens for use in the Midwest. The cars offer greater ADA accessibility, with 30-inch aisles, two 360-degree turning locations per car, ADA accessible restrooms and wheelchair accessibility through the doorways that connect the cars. Production has begun at Siemens in Sacramento, California, and Siemens has expanded its production facilities for final assembly. Delivery of the first cars is anticipated in the second quarter of 2020.

### WHERE PASSENGER MEETS FREIGHT: CREATE

CREATE—the Chicago Region Environmental and Transportation Efficiency Program—is a \$4.4 billion public-private partnership of USDOT, IDOT, Cook County, City of Chicago, Association of American Railroads (AAR), Metra and Amtrak, designed to improve passenger and freight flow through Chicago focusing on:

- Increased capacity, speed, reliability for freight train traffic;
- Separation of freight and commuter trains at six key junctions; and

- Elimination of 25 road/rail grade crossings through grade separations.

CREATE implementation, through 70 individual projects, will reduce train and auto delays throughout the Chicago area with improvements on four major rail corridors that will handle passenger and freight traffic more efficiently. For area residents, CREATE means reduced traffic delays, shorter commute times, better air quality and increased public safety. For workers and businesses, it means more jobs and economic opportunity.

Recently, the CREATE program received a \$132 million federal INFRA grant to advance the 75th Street Corridor Improvement Project closer to completion. The 75th Street CIP is the most complex and congested segment of North American railroad. The project includes five interrelated project elements that will work together to streamline operations and expand the throughput capacity of the Chicago Terminal where six Class I railroads converge and share track with Metra commuter lines and Amtrak intercity passenger routes.

In addition to the federal INFRA grant, IDOT, Cook County, City of Chicago, AAR, Metra and Amtrak have pledged to fund the 75th Street Corridor Improvement Project to a total cost of \$474 million. This will allow for the completion of design of the entire project, building half the 75th Street CIP and constructing the Argo BRC Connection.



Above: Six tracks converge onto two tracks at this location. The total train traffic is more than the railroad tracks can handle, which causes freight and passenger trains to back up.

Joliet Gateway Center is a stop on the Texas Eagle and Lincoln Service lines heading southwest out of Chicago.



## THE FUTURE OF ILLINOIS RAIL

IDOT has a strong commitment to the advancement of passenger and freight railroad service in the state, which benefits the Midwest region and our national network with international transportation reach as well. Within our state and region, however, we have several ongoing and near future initiatives.

The Quad Cities Passenger Rail Project is an ongoing effort to determine the scope of improvements necessary to return passenger rail service to the Quad Cities. This is being done with FRA and the Iowa Interstate Railroad (IAIS). The proposed service will run from Chicago to Moline with stops in LaGrange, Naperville, Plano, Mendota, Princeton and Geneseo, using the BNSF line between Chicago and Princeton and IAIS from Wyanet to Moline. We anticipate the completion of scoping in 2019. As part of this project, improvements have been completed in the BNSF Eola Yard, which will increase train flow through this shared corridor.

The Chicago Terminal Study is a \$6 million study, funded 50% with an FRA grant and the remaining 50% by IDOT,

Chicago Department of Transportation and Metra. The study will yield recommendations for: improved inter-city passenger rail service in the Midwest; long-distance Amtrak trains; and planned expansion of Metra commuter rail service. The study will supplement rail planning efforts: Chicago/Joliet corridor; CREATE program; and the Chicago Union Station (CUS) Master Planning Study.

IDOT has been selected to administer an FTA grant for Terminal Railroad Association of St. Louis (TRRA) to complete the design, delivery, installation, testing and certification of a fully integrated interoperable PTC system. TRRA is a Class 3 railroad that would not otherwise fall under the FRA PTC mandate; however, it hosts numerous Amtrak passenger trains into and out of St. Louis. Amtrak's operation on TRRA track requires installation of interoperable PTC on its main lines contractually used by Amtrak passenger trains as well as those that serve as emergency reroutes of Amtrak service.

While we look at our accomplishments and plan for our future, we must acknowledge that partnerships, more than most factors, make projects. The support of FRA, particularly on the Chicago to St. Louis High Speed Rail Project and equipment procurement; the support of USDOT for CREATE; and the continual support from our partner railroads operating within the state to provide safe and efficient rail transportation make Illinois the transportation hub it is today and in the future. In these times of fiscal uncertainty with less available federal funding, our public sector partners have cohesively strategized and put forth resources for infrastructure in a way that has not been done anywhere else in the country. Illinois is most proud to be leading these efforts.



# MIDDLE EAST & TRANSCONTINENTAL

## EGYPT

The Egyptian National Railway (ENR) carries 500 million passengers annually, operating conventional intercity and regional passenger rail service on a variety of routes at speeds ranging from 55 to 75 mph (90-120 km/h). The ENR main line runs north to south, from the port city of Alexandria through Cairo to Upper Egypt at Luxor. Egypt's minister of transport, Hesham Arafat, speaking at the Middle East Rail Conference in March 2017, said public/private investment is being sought for three high-speed rail lines. These lines would include segments of the main line running from Alexandria to Cairo, Cairo to Luxor and Luxor to Hurghada, at an estimated combined cost of \$14.8 billion. These lines would help facilitate increased tourist activity, which is expected to reach more than 30 million tourists per year by 2025. Since then, ENR completed feasibility studies for implementing high-speed rail on these three routes with 200 mph trains. The most important of these lines is the Cairo-Luxor line, a 435-mile (700 km) line that will take about five years to build and cost \$6.8 billion to complete. Feasibility studies suggest investors could earn an internal rate of return (IRR) of about 9 percent on the line, which is expected to carry about 3.4 million passengers per year. The \$4.5 billion, 186-mile (300 km) Luxor-Hurghada will carry 1.5 million passengers annually and will offer returns of 10 percent. It will take four years to build. The Alexandria-Cairo line has an estimated cost of \$3.5 billion and will be approximately 131 miles (210 km) long, carrying up to 2.3 million passengers a year. It is expected to take three years to build and offer returns of 11 percent over its lifespan. Additional study examining the wider economic benefits of building these high-speed rail lines showed substantially increased overall benefits accruing to the local Egyptian economy. Egypt continues to seek public and private investment for these lines. The Chinese have expressed some interest in providing assistance.

## IRAN

Iran is constructing a 250-mile high-speed rail line connecting Tehran-Qom-Isfahan. It also would connect Isfahan and Qom to Imam Khomeini International Airport, the most important international airport in Iran. This line would decrease travel times significantly between Tehran and Isfahan. Construction, led by a Chinese consortium headed by China Railway Engineering Group, began in 2015 and is scheduled to be completed in 2021.

## MOROCCO

Africa's first high-speed railway, the "Al Boraq" Tangier-Casablanca TGV line, entered operation November 15, 2018, inaugurated by His Majesty King Mohammed VI of Morocco and Emmanuel Macron, president of France. The opening of the high-speed line between Tangier and Kenitra is the first milestone in an ambitious project aimed at creating a high-speed rail network in the region, which would include stations in Rabat and Casablanca. Planning and construction of the line took seven years with a budget of just over \$2.4 billion. Marrakech and Agadir would be included in the high-speed rail network in the future. The journey between Tangier and Kenitra takes 47 minutes compared with the three hours and 15 minutes required for conventional trains—a time savings of two hours and 28 minutes. In the meantime, the high-speed TGV train will run on upgraded conventional tracks from Kenitra to Rabat and Casablanca.



The journey time between Tangier and Casablanca, the economic capital of Morocco, will be reduced from four hours and 45 minutes to two hours and 10 minutes with trains operating from Kenitra to Casablanca. The upgraded conventional line will have a third track with authorization to run at speeds up to 110 mph (180 km/h). This will continue until construction of the 200 mph high-speed rail line is completed from Kenitra to Casablanca.



### SAUDI ARABIA

The Haramain high-speed railway line opened for revenue service on October 11, 2018, after being officially inaugurated by King Salman on September 25, 2018. The new line is 281 miles long and links the Muslim holy cities of Medina and Makkah via King Abdullah Economic City. The line includes a branch connection to King Abdulaziz International Airport (KAIA) in Jeddah. Construction on the project began in March 2009. Total cost of the high-speed railway and systems is estimated at \$16 billion. The double-track line is fully electrified and the design speed is 200 mph. Trains run in service at 190 mph and travel time between Jeddah and Makkah is scheduled for 43 minutes, while travel time between Makkah and Medina takes about two hours. The track, rolling stock and stations are designed to handle the extreme temperatures in the region, ranging from 0°C (32°F) to 50°C (122°F). The new high-speed railway is expected to carry 60 million passengers a year, including around three to four million Hajj and Umrah pilgrims, helping to relieve traffic congestion on the roads. The annual Hajj pilgrimage attracts more than two million faithful Muslims to the Makkah region every year.

### TURKEY

Turkish State Railways has one of the most advanced high-speed rail programs in the Middle East. Turkey started building high-speed railways in 2003 and the first section of the line, between Ankara and Eskişehir, was inaugurated on March 13, 2009. It is part of the 331-mile Istanbul-Ankara high-speed rail line. The planning,



design and construction of three separate high-speed lines from Ankara to Istanbul, Konya and Sivas, as well as construction of an Ankara-Izmir line, form part of the Turkish Ministry of Transport's strategic goals, which the ministry is well underway in achieving. The Ankara-Sivas line is under construction and scheduled to be completed by 2020. Travel time will be reduced from 12 hours to just about three hours. The high-speed line from Izmir to Ankara also is under construction in phases; segments of the line will be finished later this year, with the line completed by the end of 2020 or early 2021. A 75 km branch line between Bursa and Bozüyük is under construction. This line is expected to open in 2023 and also would be capable of 250 km/h operation. Turkey is a nation straddling eastern Europe and western Asia and plans to link the Ankara-Istanbul high-speed line 230 km from Istanbul all the way to Turkey's borders with Bulgaria and Greece, in the vicinity of Kapıkule in the Edirne Province. Travel times are estimated to decline from five hours to one hour, assuming a non-stop journey between Istanbul terminus and the border post.



By 2030, Turkey plans to construct 3,500km (2,175 miles) of high-speed lines and 8,500km of rapid lines (5,282 miles).

# HSR IN ASIA REGION

## HSR DEVELOPMENT WORLDWIDE

### PEOPLES REPUBLIC OF CHINA

China continued to build steam locomotives for regular service until 1999 and operated steam trains well into the 21st century, but its high-speed rail development has been advancing at a breathtaking pace over the past 10 years. China began construction of its first dedicated 220 mph (350 km/h) high-speed line in 2005 and inaugurated revenue service on the Beijing-Tianjin line in June 2008. This first 75 miles of dedicated high-speed rail line took just three years to build! Compare this to California, where high-speed rail has been studied for more than 25 years and the first 119-mile Central Valley segment (Madera to Bakersfield) has been under construction since 2015. This initial operating segment (IOS) is not scheduled to open for revenue service until 2022. By the end of 2018 and in the 10 years since the first line was opened in 2008, China's "eight vertical, eight horizontal" high-speed railway grid has been extended to 30 of the country's 33 provincial-level administrative divisions and reached 18,000 miles (29,000 km) in total length, accounting for about two-thirds of the world's high-speed rail system in commercial service. The high-speed rail building boom continues with plans to reach 24,000 miles (38,000 km) by 2025, completing China's ambitious grid network. The sleek high-speed trains operate at speeds from 155 mph (250 km/h) to 220 mph (350 km/h) on upgraded/dedicated high-speed track. China's early high-speed trains were either imported or built in China under technology-transfer agreements with foreign manufacturers including Alstom, Siemens, Bombardier and Kawasaki Heavy Industries. Newer trains are manufactured by the state-owned CRRC Corporation at its plants across China, creating another product to export to the developing world. Notable HSR lines in China include the Beijing-Guangzhou line, which at 1,428 miles (2,298 km) is the world's longest line of its kind in operation;



the Beijing-Shanghai line, which has the world's fastest operating conventional train services; and the newest, from Hong Kong to Guangzhou, which opened in September 2018, travel time 48 minutes. Passengers from Hong Kong can connect to the Beijing-Guangzhou HSR line and other regional services. The cost of the Hong Kong-Guangzhou HSR rail line was \$10 billion, including a 6.8-mile tunnel under a branch of the Pearl River. China also constructed the 19-mile (30 km) Shanghai Maglev connecting Shanghai Pudong International Airport to the Longyang Road Station, where passengers can transfer to the Shanghai Metro to continue their trip to the city center. The Maglev trains operate at a top speed of approximately 265 mph (430 km/h). Construction of the line began March 1, 2001, and revenue service began January 1, 2004. The Shanghai Maglev cost approximately \$1.2 billion to construct. China is currently developing new HSR trains that will have a top speed of approximately 250 mph (400 km/h). The 250 mph trainsets would operate on the Beijing-Guangzhou line. In addition, China is researching the next generation Maglev train with a top speed of approximately 370 mph (600 km/h).

### JAPAN

The Shinkansen "bullet train" network in Japan links most major cities on the islands of Honshu, Kyushu, including Hakodate on the northern island of Hokkaido. Starting with the 320.3 mile (515.4 km) Tōkaidō Shinkansen in

1964, the network has expanded to currently consist of 1,717.8 miles (2,764.6 km) of lines with maximum speeds of 150–200 mph (240–320 km/h). The original Tōkaidō Shinkansen, connecting Tokyo, Nagoya and Osaka, Japan's three largest cities, is one of the world's busiest high-speed rail lines. The Tōkaidō Shinkansen's success prompted extensions to other regions of Japan. The first new extension linked Okayama, Hiroshima and Fukuoka (the Sanyō Shinkansen), which was completed in 1975. Since then, two other new lines, the Tōhoku Shinkansen and Jōetsu Shinkansen, were built. New routes and line extensions are being planned and constructed. An extension to Sapporo is under construction and is scheduled to open for service in March 2031. [The July issue of SPEEDLINES will highlight Japan's plans for new Shinkansen lines and Maglev.](#)



ABOVE: Early February 2019 - Japan unveiled the new bullet train. This 10-carriage train, sports a sleek 22-meter nose and expected to run at a speed of 360 kilometers per hour, 40 kph faster than previous models. During the test phase JR East aims to push to speeds of 400 kph.

## INDONESIA

China and Indonesia signed an agreement in October 2015 to establish a joint venture to build and operate an 88-mile (142 km) high-speed rail line connecting the Indonesian capital, Jakarta, with West Java's capital, Bandung. The line's ground-breaking ceremony was held in January 2016. After the ceremony, issues arose regarding land acquisition, financing, operating permits for the concessionaire and hydrology reports. Major progress has been made during 2018 at 22 key construction sites. Issues related to the project's licensing and financing have been gradually resolved and land acquisition work has made breakthroughs. The high-speed trains will have a maximum design speed of 220 mph (350 km/h) on the four-stop rail line, and travel time between Jakarta and Bandung is expected to be cut from more than three hours on the current conventional passenger rail line to about 40 minutes on the high-speed line. The project is the first

to use China's high-speed railway standards, technologies and equipment on a foreign line. It will be carried out by a Chinese-Indonesian joint venture PT Kereta Cepat Indonesia China (KCIC). The cost of the project has been estimated at \$5.5 billion. Loans from the China Development Bank cover 75% of the investment.

## MALAYSIA

News of the cancellation of the Singapore–Kuala Lumpur high-speed rail project was premature. Malaysian Prime Minister Mahathir Mohamad had said he would cancel work on the \$17 billion project after he was elected in May 2018. The 93-year-old Prime Minister said the project, approved by his predecessor Najib Razak, was unnecessary. However, after weeks of talks, the construction of the high-speed rail link between Malaysia and Singapore will be postponed for two years rather than cancelled. An agreement, signed in the Prime Minister's office by Singapore's Transport Minister and the Malaysian Economic Affairs Minister, defers the start of construction on the project until May 2020. The project had been previously scheduled to open for revenue service in 2026. It is now scheduled to begin operating in 2031.

## SOUTH KOREA

South Korea has developed a dense network of high-speed trains capable of operating at speeds up to 220 mph (350 km/h). High-speed trains currently operate at maximum authorized speeds of 190 mph (305 km/h) in revenue service. South Korea has approximately 385 miles (625 km) of high-speed rail track integrated with its other intercity and regional passenger rail lines. Construction of the original high-speed line, from Seoul to Busan, began in 1992. Korea Train eXpress (KTX) commenced revenue services on the initial operating segment of the high-speed line on April 1, 2004. The high-speed services have been extended and expanded. Korea has built a domestic high-speed train manufacturing capability based on original designs of French TGV trains built by Alstom. Korea has since designed and built indigenous trains capable of operating at speeds up to 260 mph (420 km/h), joining China, France, and Japan with such trains. No new high-speed lines are planned.

## TAIWAN

Taiwan High Speed Rail (THSR) is a high-speed rail line that runs approximately 217 miles (350 km) along



the west coast of Taiwan, connecting Taipei to the southern city of Kaohsiung. Construction and operations are managed by a private company, Taiwan High Speed Rail Corporation. The system is based primarily on Japan's Shinkansen. The line reaches almost 90 percent of Taiwan's population. The line opened for service on January 5, 2007, with trains running at a top speed of 186 mph (300 km/h). Annual ridership exceeds 60 million with on-time performance of 99 percent.

## VIETNAM

The Vietnamese Ministry of Transport completed an initial feasibility study in August 2018 examining connecting Hanoi to Ho Chi Minh City (Saigon) with high-speed rail, a distance of 960 miles (1,545 km). The study was prepared by a consultancy consortium comprised of Vietnamese firms TEDI, TRICC and TEDIS. This feasibility study report will be scrutinized by a European consultancy. The line would be double-tracked with 23 stations and would operate at speeds of up to 220 mph (350 km/h) based on Japanese Shinkansen technology. The route alignment would be completely grade-separated and would include 60 percent of the tracks on viaducts, 10 percent underground and 30 percent on the surface, completely protected by fencing. Two sections—from Hanoi to the central city of Vinh and from the central city of Nha Trang to Ho Chi Minh City (Saigon)—will be built first in 2020-2030 at a cost of \$24 billion, and commercial operations are likely to begin in 2032. All sections are expected to be completed and operational by 2040-2045. Transport time from Hanoi to Saigon will be eight hours, while the current conventional passenger rail train takes 24 hours. Total cost of the entire project is estimated to exceed \$58 billion. The speed of the trains on the route would determine the attractiveness of the project, the report said, explaining that if it



ABOVE: Văn Miếu Line / Nhổn-Hanoi - Over two years in the making, Nhổn-Hanoi is now connected; serving in and around Hanoi, the Capital of Vietnam. Stretching the city's western suburbs, Nhon, to the center of Tran Hung Dao Street near Hanoi Railway Station, includes elevated and underground sections. The last concrete beam being successfully installed on December 23, 2018, consisting of 12 stations in total.

runs at 125 mph (200 km/h), it would only account for 2.7 percent of the transportation share on the Hanoi-Nha Trang section. But if it increases to 220 mph (350 km/h), the share could reach 14 percent and the high-speed rail line could compete with airlines. The proposal is for trains to run at 100-125 mph (160-200 km/h) speed after the first section is complete, and 220 mph (350 km/h) when the entire project is finished.

## UZBEKISTAN

Uzbekistan has built a network of higher-speed rail lines branded Afrosiyob by operator Uzbekistan Railways. Talgo 250 trainsets have operated on upgraded conventional lines since October 2011 at speeds up to 155 mph (250 km/h). The first of the two high-speed lines connected Tashkent to Samarkand, the two largest Uzbek cities, with a 214-mile upgraded and electrified high-speed rail line. Travel time between the two cities is now about two hours and eight minutes. The second line to open, the Samarkand-Bukhara high-speed rail line, began service in August 2016. This segment of the high-speed line is an extension of the first Tashkent-Samarkand line. Travel time for this 160-mile (256 km) segment is one hour and 12 minutes, or from Tashkent three hours and 20 minutes. The Chinese may be looking to develop the entire Urumqi and Tashkent segment into a full-speed HSR line, but this is far from certain due to differences in track gauge that effectively prevent high-speed usage of current Uzbek lines by Chinese trains.

# WASHINGTON WIRE

## HIGH-SPEED RAIL IS FRONT PAGE NEWS

Contributed by: Peter Peyser

For years, high-speed rail (HSR) advocates have sought to raise the profile of HSR in Washington. This occurred with a vengeance in mid-February after Gov. Gavin Newsom of California used the occasion of his first State of the State address on February 12 to lay out a revised approach to developing California's high-speed rail system. His speech set off a chain of events that included a Twitter battle and the announcement by the Federal Railroad Administration (FRA) that it intends to take back federal funds committed to the project.

Newsom's speech laid out a path forward for California's plan that represented only an incremental shift from the plan laid out in the California High-Speed Rail Authority's (CHSRA) 2018 business plan. However, it was couched in rhetoric that framed it as a more significant shift. Saying it was time to "level about high-speed rail," the Governor said "right now, there simply isn't a path to get from Sacramento to San Diego, let alone from San Francisco to LA. I wish there were." This was taken by the media and some policymakers, as an abandonment of the state's plan for high-speed rail.

Despite efforts on the evening of the speech by the Governor's team to clarify his remarks, the President responded, writing that "California has been forced to cancel the massive bullet train project.... They owe the federal government \$3.5 billion. We want the money back now."

FRA Administrator Ron Batory took the next step on February 19, sending a letter to CHSRA CEO Brian Kelly saying that the FRA planned to terminate the fiscal 2010 grant of \$929 million to the project and explore "all available legal options" to recover the \$2.5 billion already spent under a fiscal 2009 grant made with Recovery Act funds.

While it may be tempting for project sponsors in other states to see this as a uniquely California problem, the outcome of the dispute between the FRA and California on the recapture of federal funds already committed – and largely spent – on a project bears watching by everyone in a partnership with the federal government. However, it turns out, important

precedents may be set in terms of the responsibilities of parties to cooperative agreements for identifying and curing problems. It may also make more clear the level of political risk attached even to completed agreements on projects under construction.

Since the last edition of *Speedlines* a new Congress convened and resumed work on issues remaining from the previous one and some key members of Congress coalesced around a policy statement including a proposal for significant investment in high-speed rail. Congress also kicked off hearings designed to lay the predicate for an infrastructure package to be advanced this year.

The 116th Congress convened on January 3 with 89 new members of the House and 9 new senators. Particularly on the House side, it was impossible not to notice the diversity of the new members. More women and more people of color are serving in Congress than ever before.

On their first day in office, all of these new people were confronted with old problems from the 115th Congress – numerous federal agencies, including the U.S. Department of Transportation (DOT), were shut down and issues, such as infrastructure spending, that had been teed-up in the previous Congress, remained unresolved.

The logjam was finally broken on February 13 when congressional negotiators reached an agreement to provide for border security funding and funding for all the agencies involved in the shutdown. The final spending bill for DOT continues funding for passenger rail programs at levels slightly below their fiscal 2018 levels.

The issue at the heart of the shutdown dispute – border security – absorbed Congress up until the final spending deal was reached. But by the beginning of February, work on legislation resumed. One of the most high-profile legislative issues to emerge early in the session was the "Green New Deal," a non-binding resolution intended to lay out an aggressive agenda to address climate change and other social and economic issues. The resolution was co-sponsored by first-year Rep. Alexandria Ocasio-Cortez (D-NY) and veteran legislator Sen. Ed Markey (D-MA) and introduced on February 8.

Upon its introduction, the resolution included as co-sponsors 60 House Democrats and 10 senators. Among these senators were all the Democrats who are declared candidates for the Presidency and all but one of the senators openly considering a run. Because it is only a resolution, the “Green New Deal” measure is a symbolic one. Even if passed, it would not have the impact of a law. Even so, it lays out a number of policy markers that will serve as a part of the progressive Democratic agenda in the 2020 election cycle. The resolution includes 14 specific policy prescriptions. The one devoted to “overhauling transportation systems” contains three elements: “i. zero emission vehicle infrastructure and manufacturing; ii. clean, affordable and accessible public transit; and iii. high-speed rail.”

While the “Green New Deal” is viewed by many as creating a new standard for “pie in the sky” proposals, the fact that it included high-speed rail is helpful to passenger rail. It is doubtful the authors of the resolution offered it with any expectation it would pass. But as a tool for raising the visibility of a number of issues – including passenger rail – it will be of some value.

With regard to more traditional legislation, congressional committees in the House and Senate began work in February on infrastructure legislation by holding hearings to take stakeholder testimony on the need for investment in transportation infrastructure. The House Committee on Transportation and Infrastructure (T&I) and the Senate Committees on Environment and Public Works and Commerce, Science and Transportation held hearings before mid-February. At these hearings, the potential for an increase in the federal gas tax to pay for transportation improvements was very much on the table – put there by witnesses and by a few legislators who are on the record in support of such a step.

The hearings revealed at least some interest by key GOP members in considering a gas tax increase and some strong statements by key Democrats that a gas tax increase is needed. However, several legislators of both parties remarked in the hearings and in statements outside the hearing rooms that presidential leadership will be critical to getting a gas tax increase enacted. To date, the White House has not put forward any specific revenue proposal.

Even though the difficulty of enacting a gas tax increase leaves a cloud of uncertainty over the discussion about an infrastructure bill, legislative action on a large, multi-year package will likely occur this spring. The House T&I Committee, in particular, is on a path to approve a \$500 billion package for infrastructure improvements under its jurisdiction – including passenger rail. Committee Chair Peter DeFazio (D-OR) has made it clear he plans to move in that direction and he appears to have the support of

ranking GOP member Sam Graves (R-MO). What he has not made clear is the extent to which the bill may contain policy provisions along with the funding authorizations.

Passenger rail advocates, led by APTA’s Committee on High-Speed and Intercity Passenger Rail, have developed a number of policy proposals for inclusion in the next available legislative vehicle. These proposals are discussed in another article in this edition of Speedlines. Each of these proposals could receive favorable consideration if the legislative process is opened up for substantive policy discussions.

The eventual product of the House T&I Committee process will only be able to advance if the House Ways and Means Committee approves legislation to raise revenues for the package. This is where the discussion about a gas tax increase will be front and center and it is by no means clear that sufficient support will be there to raise the tax. Even less clear is the appetite in the Senate to seriously consider a gas tax increase.

For advocates of passenger rail, this is a frustrating situation. There is a strong interest in supporting passenger rail in many quarters on Capitol Hill, but support for raising the revenues to pay for it – and other transportation improvements – is questionable. Even so, advocates have no choice but to put their best foot forward and seek – at the very least – to use whatever legislative product advances as a marker for the funding levels and policies that must be included in any meaningful infrastructure package. If they do that, there is a good chance that whenever the time is indeed ripe for a package to move – be it this year or in the future – it will contain provisions helpful to the nation’s passenger rail network.



# EUROPE HSR

## RAIL SYSTEM DEVELOPMENT

High-speed rail (HSR) has been gaining prominence worldwide over several decades with several countries in Europe, North America, and Asia extending their networks through planning and construction of new lines. The first countries to develop HSR were Japan (1964), France (1981), and Germany (1991), followed by Italy, Spain, Belgium, and the United Kingdom. More recently, the United States, Korea, China, Taiwan and Turkey joined the list of countries boasting high-speed rail, while planning and construction of HSR systems have recently begun in Portugal, Poland, Sweden, Norway, and Russia. Figure 1 shows Europe's current high-speed network:

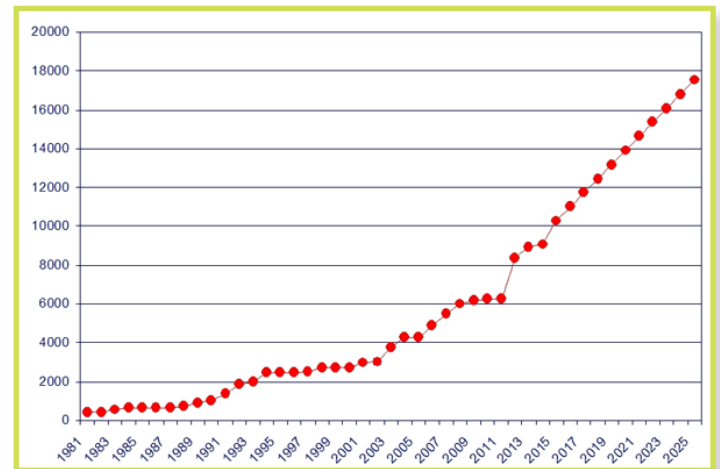


Source: UIC

Figure 1: High-speed lines in Europe (2020)

The number of passengers on high-speed trains in Europe has increased steadily (Figure 2) along with the expanded network of new HSR tracks.

Contributed by: Hassan Alsalamat (Deutsche Bahn)



Source: UIC

Figure 2: Development of HSR in Europe in passenger miles

Although HSR systems in Europe share a common set of characteristics whether already in operation or still in development, each is nevertheless unique due to the variety of conditions and requirements. Some of the influencing factors are fixed, such as line parameters (gradients, curves, speed restrictions), topography, and soil condition. Others stem from a political or socio-economic source, e.g. commercial objectives, social objectives, services provided, traffic density, and the feasibility of operating one or more types of trains at different speeds on the same line.

### HSR IN GERMANY

High-speed transportation on German railways launched a new era of domestic train travel in June 1991, when the first InterCity Express (ICE) trains went into operation at 155 mph on two new lines from Hannover to Wurzberg and Mannheim to Stuttgart. Used by passenger trains as well as freight trains, today the German

high-speed network has a total length of 916 miles, with a maximum speed of 186 mph on selected sections.

With few exceptions, high-speed lines are fully integrated into the German railway network. As with conventional lines, high-speed lines are built at standard gauge (4 ft 8 ½ in) and are completely grade separated, which means the new lines are suitable for both high-speed and conventional trains. Only the Cologne – Rhine/Main line is limited to high-speed trains due to steep gradients of up to 40 percent. Similarly, ICE trains are not restricted to new or upgraded lines. They can travel on almost any kind of electrified lines in Germany, regardless of whether they are new, upgraded or conventional lines.

Germany's first high-speed lines were built with conventional ballasted track. However, in recent years, new lines primarily have been constructed with ballastless slab track (fig. 3). Similar to the conventional network, high-speed lines are electrified with 15 kV / 16 2/3 Hz AC. The LZB-System is installed for train control. The new VDE 8.2 line is equipped with the Electronic Train Control System (ETCS).



Source: DB E&C

Figure 3: ICE2-Train traveling through Brandenburg

### HSR IN FRANCE

An early adopter of high-speed rail, France inaugurated its high-speed line "Ligne à grande vitesse" (LGV) from Paris to Lyon in 1981 with the characteristically streamlined passenger train "Train à grande vitesse" (TGV), then operating at a maximum speed of 167 mph. Since then, France has built an extensive

network (1,675 mi in 2017), with lines radiating in every direction from Paris and an increased maximum operating speed of 198 mph. TGV trains now operate from France to adjacent countries, e.g. Germany, Belgium, Switzerland and Spain.

As with the existing conventional French railway network, the new, specially built LGV lines are standard gauge (4 ft 8 ½ in) but are completely grade-separated. The LGV lines are fully integrated with the conventional network, and TGV trains also can run on conventional lines, albeit at lower speeds, particularly when approaching stations. Conversely, conventional trains cannot run on new LGV lines due to their steep grades of up to 35 percent.

### HSR IN ITALY

Italian high-speed lines are fully embedded within the conventional rail network and are designed for mixed operation. Accordingly, high-speed trains can run on conventional lines and vice versa. The Rome – Florence line represented Europe's first high-speed rail line when a section was completed in 1977, and was capable of carrying trains with top speeds of 155 mph. However, the 157-mile line wasn't finished until 1992. Since 2006, Italy's network has expanded to its current length of 609 miles with the construction of lines including Rome – Naples and Turin – Bologna, both designed for 186 mph.

Italian HS lines are standard gauge (4 ft 8 ½ in), the same as the rest of the network. The track structure of Italian high-speed lines (HSL) is conventional ballast track. The Italian SCMT system is the train control system for the Rome – Florence line, whereas the newest lines are equipped with ERTMS Level 2.

### HSR IN SPAIN

The first 292-mile high-speed line Madrid – Seville opened in 1992 on the occasion of the Seville World Exhibition (1992), operated at a 167- mph maximum speed. Beginning in 2003, several 186- mph lines connecting Madrid with other major cities were added, further expanding the network. Following a continuous period of construction, today Spain has the longest high-speed network in Europe (1,825 miles in 2017).

In contrast to the 5 ft 5 2/3 in Iberian gauge of the conventional network, all Spanish high-speed lines are standard gauge and are constructed as conventional ballast track. Similar to the Italian network, all Spanish high-speed lines are electrified with 25 kV AC,



Figure 4: Eva is the name of a proposed Spanish low-cost high-speed rail service between Madrid and Catalonia, run by the rail company Renfe.

as opposed to the conventional network, which is electrified at 3,000 V DC. The first line, Madrid – Seville, and its branches are equipped with the German-based LZB train control system. The newer lines have the ERMTS Level 2 system and the Madrid – Seville line will be converted to this system when the lifespan of the LZB system has expired.

### HSR IN RUSSIA

In December 2009, Russian railway operator RZD introduced a high-speed service on the Moscow – St. Petersburg line, with six daily journeys at a maximum speed of 155 mph. Russian transportation strategy through 2030 includes implementation of high-speed rail projects between Moscow – Kazan – Yekaterinburg and Moscow – Rostov-on-Don – Adler. The Moscow – Kazan section is a dedicated high-speed rail line passing through six regions, reducing the travel time between its capitals by an hour, on average. The planned high-speed rail lines' gravity zone population totals over 100 million, around 70 percent of the Russian Federation total population.

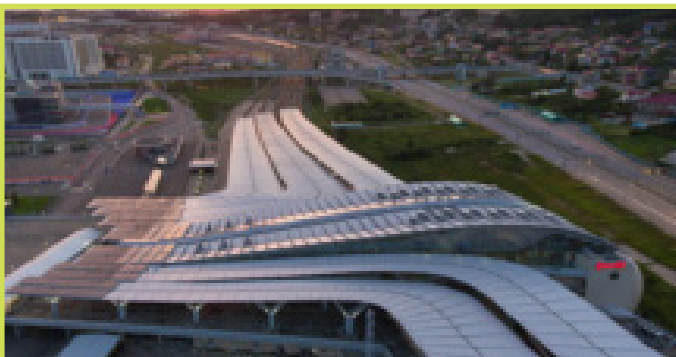


Figure 5: The Moscow-Kazan high-speed railway project is considered the first step towards the high-speed railway network in Russia, which will connect both to the Asian side and to the European side.

Railways set up a joint venture – Karelian Trains – to run high-speed passenger services (136 mph) between St. Petersburg and Helsinki with dual voltage Pendolino tilting trains from Alstom.

### VISION FOR A TRANS-EUROPEAN RAILWAY NETWORK

With France, Italy, Spain, and Germany all prominent examples of well-developed high-speed rail on a national level, over the past decades there have been increased efforts to realize an interconnected trans-European railway network. Cross-border HS passenger services from Germany to France and Belgium (fig. 4), for example, are the early results of such initiatives.



Figure 6: German DB and French SNCF train attendants work in binational teams on the high-speed lines between Germany and France.

In 1996, with Decision No. 1692/96/EC, the European Parliament established the Trans-European Transport Network (TEN-T), a policy for the development and implementation of a European-wide road, rail, air, and water transport network. TEN-T's ultimate objective is to close gaps, remove bottlenecks, and eliminate technical barriers that exist between EU member states' transport networks and to strengthen the social, economic, and territorial cohesion of the Union. The policy seeks to achieve this aim through the construction of new physical infrastructures and by modernizing and upgrading existing infrastructures and platforms.