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# HIGH-SPEED INTERCITY PASSENGER RAIL

# SPEEDLINES

MARCH 2015  
ISSUE #14

# Tokyo 2015

50  
YEARS

OF HIGH-SPEED RAIL

“CELEBRATE THE PAST,  
DESIGN THE FUTURE.”



Centered around a gigantic complex of railway terminals used by a mind-boggling 3.5 million commuters daily, Shinjuku has everything a megalopolis needs — world-class skyscrapers, shopping and night-time entertainment spots.

# Shinjuku Station, Tokyo, Japan

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## SPEEDLINES MAGAZINE



*On the front cover:*

*The station consists of ten platforms that serve 20 tracks and 12 train links. It has 200 exits including an underground arcade. The JR-East system includes Yamanote Line, Chūō Main Line, Chūō Rapid Line, Chūō-Sōbu Line, Shōnan-Shinjuku Line and Saikyō Line. Odakyu Electric Railway includes the Odakyu Odawara Line while Keio Corporation includes the Keiō and Keiō Line. Tokyo Metro includes the Marunouchi Line and Toei Subway includes the Toei Shinjuku and Toei Ōedo lines. The east of Shinjuku station is dedicated for shopping and includes restaurants, department stores and kiosks.*

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## Bustling SHINJUKU

People walk through an  
underground passage at JR  
Shinjuku Station.



## Dear HS&IPR Committee and Friends:

It's a new year, and I am excited to announce that the HS&IPR Committee has seized the moment. As we entered 2015, the leadership team of the HS&IPR Committee took the opportunity to assess, review, and plan the three W's of Who, What, and Where. In the middle of January, the Leadership Team met in Washington, DC for an all-day facilitated retreat to focus on the following:

- KEY FOCUS AREAS FOR THE COMMITTEE FOR THE NEXT TWO YEARS
- NEAR AND LONG TERM GOALS AND ACTIONS FOCUSED ON THE KEY FOCUS AREAS
- CLARITY, ALIGNMENT, AND ENGAGEMENT AROUND THE MISSION AND VISION OF THE COMMITTEE RELATIVE TO APTA AND THE INDUSTRY

The Committee's leadership team was almost in full attendance, along with three senior managers from APTA. Michael Melaniphy, President and CEO of APTA joined us for dinner the evening before and offered his encouragement and thoughts on the state of the industry and stressed the importance of the Committee's crucial role within APTA and the industry as a whole. Our retreat was a great success; not only did we achieve our mission to discuss in candor and depth the focus points above, but we also developed an aggressive and achievable work plan, that will be presented and discussed at our next full Committee meeting on March 8 at 8 AM in Washington DC during the APTA Legislative Conference. You don't want to miss this meeting, where we will provide a summary of the meeting, engage the committee-at-Large to discuss our findings and next steps, and agree together on a way-forward for an exciting, positive, and refreshed Committee Work Plan and Charge.

In addition to all the hard work we did at the January 2015 retreat, the Committee has also been busy in building our succession plan and recruiting new members and leaders. I am pleased and excited to announce that Anna Barry, Deputy Commissioner of the Connecticut DOT will be filling the vacant Committee Secretary position, and that we have appointed two new emerging HS&IPR professionals to fill the role of the important vacant sub-committee chair positions: Dominic Spaethling, VP HNTB, as Program Sub-Committee Chair; and Brett Wallace, Principal Planner, PB as Research Sub-Committee Chair. Please join me in welcoming, Anna; Dominic; and Brett to the team, and you can read more about them in this edition of SPEEDLINES.

While we have been busy on committee business these past few months, there has been a lot of positive and exciting news out in the trenches that you can read about more in this edition of SPEEDLINES, including the ground-breaking of the California High-Speed Rail Program, the first in North America and the Northeast Corridor. Developments on other corridors are also discussed along with international news and the federal legislative situation. Be sure to also read the story about the 9th World Congress on High-Speed Rail and make your travel plans to be in Tokyo July 7 – 10, 2015.

Please be sure to mark your calendars for the March 8 committee meeting in Washington, DC. We have much to discuss and are keen on receiving your input.

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# TOKYO

Contributed by Norman Forde, STV, Inc.

As some of you will remember in the summer of 2012 the International Union of Railways (UIC) and the American Public Transportation Association (APTA), with the cooperation of Amtrak and other UIC North American members hosted the 8th World Congress on High-Speed Rail (WCHSR) in Philadelphia. This prestigious event attracted guests from across the globe with some of the best minds in the field of high-speed rail (HSR) in attendance.

Here we are in March and the time is rapidly approaching for the 9th WCHSR to take place in July in Tokyo, the birthplace of HSR. The Congress is being coordinated by East Japan Rail Company in collaboration with all parties involved in high-speed rail in Japan and all UIC railways members. APTA's involvement includes a member position as the Co-Vice Chair of the Scientific Committee (Norman Forde from STV, Inc.). Also as the host of the last Congress, UIC, along with East Japan Railway Company are drawing on the experience of APTA staff, so that UIC and JR East can learn from APTA's Philadelphia experience.

WCHSR is a must attend event for APTA members as it is the world's premier meeting on high-speed rail and is expected to attract more than 1,000 attendees from across the globe to exchange views on the development and achievements in the field worldwide. Opportunities for networking abound.

Because the 9th UIC WCHSR closely follows the 50th anniversary of the launch of high-speed rail in Tokyo in October 1964, this congress embraces the "50-50 concept" which will create a temporal dynamism. That is, the first half of the congress will focus on the challenges already raised and the lessons drawn from the experience of the past 50 years and the second half will focus on the new challenges that we face and the opportunities for HSR over



the next 50 years. Hence the concept and the brain child of the UIC WCHSR Scientific Committee Chair Mr. Michel Lebouf – "Celebrate the Past, Design the Future."

Half of the topics will focus on political, managerial and administrative issues, and the other half will focus on technological issues; both are essential to review and envision HSR. Five parallel sessions with 5 streams comprise: (i) Technology A – Infrastructure and other fixed installations; (ii) Technology B – Rolling Stock; (iii) Management, (iv) Customers; and (v) Culture and Society.

WCHSR will feature international rail experts on transportation policy and technology. It will bring the public and private sectors together to provide insight and identify best practices for implementing high-speed rail projects at every stage - from planning, financing and construction to operations and management. What is more, WCHSR includes a large exhibition showcasing high speed rail equipment, products and services.

SPEEDLINES recommends that any of our readers who consider themselves HSR advocates come and visit the birth place of HSR in Tokyo, Japan and join UIC at the 9th WCHSR between July 7 and 10. Be a part of the world's largest international congress and exhibition devoted to HSR and experience the hospitality of JR East Railway Company. Don't miss this once in a life time celebration of half a century of HSR. See you in Tokyo.

For more information visit <http://www.uic-highspeed2015.com>



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Birmingham New Street is the largest and busiest of the three main railway stations serving Birmingham, England. It is in the city centre and is a central hub of the British railway system. It is a major destination for Virgin Trains services from London Euston, Glasgow Central and Edinburgh Waverley via the West Coast Main Line, and the national hub of the CrossCountry network – the most extensive in Britain, with long-distance trains serving destinations from Aberdeen to Penzance. It is also a major hub for local and suburban services within the West Midlands, including those on the Cross City Line between Lichfield Trent Valley and Redditch and the Chase Line to Walsall and Rugeley Trent Valley.

**IN THE NEWS**

Passengers have just nine months to wait until they can enjoy the bigger, better, brighter Birmingham New Street station along with the new premium shopping destination, Grand Central, when they open in September 2015.



# PASSENGER & FREIGHT OPS

## SEGREGATION - IS IT TIME?

Contributed by Eric Peterson



The day may be near when the American railroad industry will need to segregate passenger and freight service into separate rights-of-way. That was the inference drawn from a three-hour, three-part panel workshop at the Transportation Research Board's (TRB) 2015 annual meeting in Washington, DC in January.

The workshop, jointly sponsored by the TRB's Intercity Passenger Rail and Commuter Rail committees featured presentations from industry, states, academic institutions, and other policy experts, and addressed the current state of shared rail corridors, the rationale for planning for separate passenger and freight rail service rights-of-way, and the next steps for separating the services.

France's TGV system links cities across the country with the capital, Paris, as well as with other European nations.

### Current Practice

D.J. Mitchell of the Burlington Northern Santa Fe Railway Company (BNSF), Emily Stock of the Virginia Department of Rail and Public Transportation, and Jason Maga of the National Railroad Passenger Corporation (Amtrak) led the workshop by reviewing the current state and near term plans of their respective organizations. Stock noted that in Virginia, Amtrak, Virginia Railway Express (VRE), CSX and Norfolk Southern all operate over shared rights-of-way with both VRE and Amtrak seeking to expand service. Stock said that CSX in Virginia has presented opportunities for new cooperation and the development of new capacity especially in the Washington to Richmond corridor.



Mitchell told the workshop audience that BNSF operates with three governing principles – cash, capacity, and capability. He said questions of service density take into account track structure, available dispatching tools and the requirements of memoranda of understanding between BNSF and other rail services accessing the BNSF network. He noted that redundancy, reliability and recoverability were guided by the condition of the railroad's physical plant, the rolling stock to be used and the service plans of both BNSF and the passenger rail service provider, and that operating choices included temporal separation, dedicated track and/or shared use. BNSF, Mitchell noted, faces a variety of capacity investment choices including staging tracks, long haul tracks, sidings, and station capacity. He said modeling and measuring were two critical lessons learned from BNSF's shared use experience.

Maga of Amtrak said that separation and segregation of service does not always make sense. Fifty percent of all Amtrak trains reach 100 mph on shared tracks and the Federal Railroad Administration (FRA) suggests that passenger trains operating at 90 to 110 mph can run on shared tracks. He did observe that trains traveling at 115 MPH or higher probably should operate on separate tracks, segregated from slower moving trains.

Maga noted that the disadvantages of segregated service include potential capacity underutilization, lost opportunities for mutual benefits, environmental impacts, and the cost of property takings. He observed, however, that there are solid reasons for pursuing service segregation strategies including track geometry, existing rights-of-way, maintenance and operating costs, the ability to expand capacity and other situational factors and alternatives.

Charlie Banks, president of R.L. Banks and Associates, moderated the panel.

The second panel, which was moderated by Martin Peirtucha, director of the Thomas D. Larson Pennsylvania Transportation Institute at Penn State University, focused on the options and consideration for separating passenger and freight rail services.

Katie Kam from the Center for Transportation Research at the University of Texas at Austin, noted that, based on her research in the Lone Star state, highway rights-of-way offer an attractive alternative and in many cases unique



advantages for developing segregated rail service. Additionally, she noted, because highway rights-of-way have already gone through the environmental review process, completing the regulatory phase of rail service development may be somewhat streamlined.

Former US Department of Transportation Under Secretary for Policy Roy Kienitz observed that rail policy and the consideration of whether to segregate service comes down to rail economics: it depends on what amount of money is required and whose money it is. Based on the current U.S. experience, Kienitz noted that shared use often works, but sometimes it does not, and for the latter instances segregation planning is needed.

Rail expert and lawyer Chuck Spitulnik told the workshop audience he spends most of his time trying to determine how to integrate as opposed to segregate freight and passenger rail service. Like Kienitz, Spitulnik observed that if you have the money, the alternative that mitigates environmental impact makes sense. He noted that integrated commuter and freight services make sense because they have similar characteristics. But high-speed (115 mph and faster) is a very different issue that demands its own right of way. As a result, he said, more capacity will be needed to accommodate high-speed trains. Rail safety regulations will impact the ability to have higher-speed trains, particularly from a cost perspective.





Spitulnik posed a wide range of additional issues. How the new capacity (i.e. infrastructure) will be used? How will it be scheduled – will it be reliable and timely? And finally, how will this new capacity be financed – will it attract private investment and what will be the return on this investment?

#### Next Steps Toward Segregating Freight and Passenger Rail Service

Curtis Morgan, program manager and assistant research scientist for freight and passenger rail at the Texas A&M Transportation Institute, facilitated the final panel of the workshop, focusing on the next steps for planning the separation of freight and passenger rail service.

This panel, which featured presentations by Jeff Morales, chief executive officer of the California High-Speed Rail Authority, Steve Clark of ARUP and Jennifer Hu, representing the Texas Central High-Speed Railway, offered perspectives on how two high-speed rail projects under development in the United States are dealing with the issues of rail service separation and the role of their projects in Texas and California respectively.

Morales noted that the California project is more than a passenger train system. "It's an economic driver. It's an environmental enhancer, a capacity builder, and a link

to separate areas of economic and cultural activities."

Hu described the Texas Central high-speed rail project as being in the early stages of its environmental impact study process. She noted that the Texas project intends to use Japanese shinkansen technology in an existing freight rail right-of-way.

Clark noted, however, that track fouling (freight cars derailling and spilling onto rail occupied by a passenger train and visa-versa) is a serious concern in identifying a right-of-way for the Texas project. "Risk is not arbitrary," Clark said. "It can be quantified and planners need to understand the 'danger zone,'" he observed.

#### Future Research and Policy Debate

As the presentations of the workshop suggest, there is significant need to further research the pluses and minuses of rail service separation, as well as to explore its policy implications. As the United States moves forward in its efforts to improve intercity passenger rail service and introduce true high-speed rail service, serious consideration will need to be given, especially regarding the safety, environmental, mobility and economic aspects of separating, or not separating, freight and passenger rail service.

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# LEGISLATIVE NEWS



2015

Contributed by Peter Peyser



The 114th Congress convened on January 6th, 2015. History will likely record that a more important event took place on that very same day – Governor Jerry Brown of California broke ground on the first segment of the California high-speed rail network. The extent to which the convening of Congress will offer any competition with that in terms of contribution to the nation’s transportation agenda remains to be seen.

Barely five weeks after Congress convened, the U.S. House of Representative’s Committee on Transportation and Infrastructure (T&I Committee) reprised its action from last fall in passing the “Passenger Rail Reform and Investment Act” (H.R. 749). This version of “PRIIA” was essentially identical to the bill of the same title passed by the committee in September of 2014. The recent action was required because all pending legislation died at the end of the 113th Congress in December. In order to put the bill back before the full House, the Committee was required to re-pass it.

As we noted in the previous edition of SPEEDLINES, this legislation is notable for its new requirements on Amtrak to be more transparent in its bookkeeping and to create more partnerships for planning service and improvements on the national intercity passenger rail network. In addition to reauthorizing and restructuring Amtrak funding, it also creates grant programs to support improvements to the national rail network. The committee session that approved the bill was notable in that there was no mention of the California high-speed rail project.

High-speed rail advocacy groups, including the Midwest High-Speed Rail Association, pointed out after the House committee action that the spending levels in the bill -- \$1.8 billion per year – fall short of the \$9.5 billion level identified by the American Public Transportation Association (APTA) as required to maintain and improve the current intercity passenger rail network.

On the House side, the T&I Committee is preparing to turn its attention to the reauthorization of highway and transit programs. Current programs expire on May 31 and the Highway Trust Fund, which partially supports them, is once again facing insolvency. In the discussion on Capitol Hill over raising revenue to shore up those programs there is virtually no mention of one of the intercity passenger rail community’s top goals – gaining a dedicated revenue source for passenger rail programs. Barring some unforeseen developments, that issue may have to wait for another time.

On the Senate side, rail safety issues relating to both freight and passenger rail are driving the conversation – not the reauthorization of Amtrak or intercity passenger rail. Part of the reason for this emphasis is the change of leadership in the Senate. With the new GOP majority, the committee with jurisdiction of rail issues – Commerce,

Science and Transportation – is now chaired by Sen. John Thune (R-SD). Sen. Thune has a long-standing interest in the rail freight industry and comes at it from the perspective of a Senator representing strong shipper constituencies in the agricultural sector. The safety and efficiency of the national freight network have been his foremost concerns when it comes to rail matters.

Another part of the reason for the Senate's areas of focus can be found in a review of recent news. On February 6, six people died in suburban New York when a Metro North train on the New Haven line struck an SUV at a crossing. On February 16, a CSX train with more than 100 oil tanker cars derailed in West Virginia. The resulting fire and explosions required the evacuation of a nearby town.

The oil tanker derailment cited above will rekindle the conversation in Washington about standards for the construction of oil tankers and the timeline on which new, stronger, tankers must be put in service. The Senate Commerce committee has given attention to this issue in recent years and more can be expected this spring. The result of that attention is likely to be legislation on the issue of oil tanker safety.

The accident at the grade crossing in suburban New York brings together a number of threads in the conversation in the Senate over passenger rail. Because this accident was one of several in recent years, it has intensified discussion over the need for more safety regulation of commuter railroads. It has also pointed out the crucial link between safety improvements and funding shortfalls for passenger rail systems.

The Senate Commerce Committee leadership is likely to soon start seeking a consensus of committee members on how to move forward on rail legislation. The safety of the freight and commuter networks and access to the freight network for all shippers will be top of mind for the leadership, with Amtrak reauthorization a secondary issue. Having said that, the Committee has Amtrak legislation on its shelf from 2013 and it would not take a great deal of effort to dust it off and begin moving it.

So as we assess the landscape for rail legislation early in the 114th Congress, it appears that the House and the Senate will both make progress on rail legislation – although they come at it from differing perspectives. The extent to which they come together on a plan that helps advance the cause of intercity passenger rail will depend largely on the intensity of effort by advocates to bring focus to the need for federal investment.

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SEND AN ARTICLE TO OUR STAFF AND EXPRESS IT.

“The 114th Congress is the most diverse in the nation’s history, surpassing the mark set by the 113th Congress and containing more women and minorities than any previous congress. Between both chambers, 96 racial minority members and 104 women from both parties are serving in Congress as of February 2015. According to outside analysis, 59 percent of House Democrats elected to the 114th Congress were women, minorities or LGBT.



# CALIFORNIA HSR BREAKS GROUND

After five decades of commissions, studies and bills (the first high-speed transportation bill was the High-Speed Ground Transportation Act of 1965), on January 6, 2015, the California High-Speed Rail Authority celebrated the official groundbreaking of California's High-Speed Rail project.

On this historic day, the California High-Speed Rail Authority joined California Gov. Jerry Brown and more than 1,000 supporters-- labor, government, student, community, transportation and business leaders to break ground on the nation's first high-speed rail system. The event was held at the site of a future high-speed rail station in downtown Fresno.

"What is important is the connection that we are rooted in our forebears and we are committed and linked to our descendants," Gov. Brown said. "And the high-speed rail links us from the past to the future, from the south to Fresno and north; this is truly a California project bringing us together today."

It is also noteworthy that this is the 10 year anniversary of a pivotal meeting which had a lot to do with the realization of the

California HSR project. It was in January 2005 that a group of engineering and construction company executives met for breakfast in San Diego the morning after a California High-Speed Rail Authority Board meeting. The meeting was organized and co-hosted by Al Engel, then CEO of SYSTRA USA, Inc. The group gathered to consider the proposal of forming a non-profit, project specific association to advocate for the CA HSR project and the referendum then scheduled for November 2006. The group was legally created and funded with member contributions in the summer of 2005 and fortunate to be able to hire a very capable executive director, Jo Linda Thompson. Ms. Thompson

was successful in educating key legislators in Sacramento to the point where the first substantive appropriation was passed in the FY07 budget of \$13 million, 10 times what was budgeted the year before. Named the Association for California High-Speed Trains (ACHST), it went on to build coalitions with consumer groups such as CALPIRG (<http://www.calpirg.org/page/cap/about-calpirg>) and launch a campaign to get the \$9 billion HSR referendum passed, which fortunately was rescheduled for a presidential election in November 2008. Our current Chair, Peter Gertler became very active in ACHST and was an important activist in contributing to the success of the referendum.





Gov. Jerry Brown at California's HSR Official Groundbreaking

The first segment, Construction Package 1 (CP-1) covers 29 miles from Madera County to Fresno County and will include grade separations, two viaducts, a tunnel and a bridge over the San Joaquin River. The second segment (CP 2-3), for which contract were signed in December, covers 65 miles from Fresno to north of Bakersfield.

CHSRA Board Chairman Dan Richard said, "We now enter a period of sustained construction on the nation's first high-speed rail system—for the next five years in the Central Valley and for a decade after that across California. This is an investment that will forever improve the way Californians commute, travel, and live."

Plans call for the high-speed rail line to connect San Francisco and Los

Angeles by 2029, operating at more than 200 mph. After 2029, the second phase of construction will connect the system to Sacramento and San Diego, totaling 800 miles with up to 24 stations.

Funding sources for the high-speed rail line include \$3.3 billion in federal American Recovery and Reinvestment Act money and matching funds from Proposition 1A, a \$9.9 million bond approved by California voters in 2008. The state also will use 25 percent of greenhouse gas fees collected under its cap-and-trade program to help fund the project. However, a funding shortfall remains, and CHSRA is continuing to acquire land for future development.

"California is leading the way in transportation innovation," said APTA President & CEO Michael Melaniphy.

"High-speed rail will expand transportation options in California and generate strong economic activity up and down the San Francisco-Los Angeles corridor. The American Public Transportation Association congratulates Gov. Brown and the California High-Speed Rail Authority on this major milestone and pledges to continue to work with them on this transformative project."

Although the ceremony marked the official launch of the project, CHSRA has already broken ground in the Central Valley, and the day's events included tours of nearby construction activity, including various demolition sites. Other achievements to date include finalization of project designs, ongoing right-of-way purchases and workforce training and mobilization.

The groundbreaking comes on the heels of a series of good news for the



## California project:

### Surface Transportation Board Rules That ICCTA Preempts CEQA Review of California's High-Speed Train System

On December 12, 2014, in a decision that has huge ramifications, the Surface Transportation Board (STB) issued a decision, in response to a petition filed by the Authority, finding that the Interstate Commerce Commission Termination Act (ICCTA) categorically preempts the stringent and highly litigious California Environmental Quality Act (CEQA) with respect to the 114-mile passenger rail line that the Authority is constructing between Fresno and Bakersfield as part of its High-Speed Rail (HSR) System. The decision should effectively preclude CEQA challenges to all lines that will be constructed as part of the HST System. In February, some opponents to the project filed a lawsuit contesting the STB's exemption.

As a result of a request from Congressman and T&I Rail Subcommittee Chair Jeff Denham (R-CA-10) to do so, the STB asserted its jurisdiction over the project, and had completed environmental review under the National Environmental Policy Act, and authorized construction of the line. The Authority had also voluntarily completed an environmental review of the line pursuant to CEQA, while reserving its right to argue that CEQA is preempted with regard to the line. Seven lawsuits were subsequently filed, challenging the adequacy of the Authority's CEQA review and seeking injunctive relief that would delay, if not prevent altogether, construction of the line.



Anaheim Regional Transportation Intermodal Center – ARTIC

### Construction Package 2-3 Contract Awarded

On December 11, 2014, the Authority has identified Dragados / Flatiron / Shimmick as the best value team for the design-build contract for Construction Package 2-3 (CP 2-3), the next 65 mile segment from Fresno to North of Bakersfield.

The Authority had estimated the cost of CP 2-3 to be between \$1.5 billion to \$2 billion. The Authority determined that identified Dragados / Flatiron / Shimmick, who bid \$1.2 billion, was the best value.

CP 2-3 represents the continuation of construction of the high-speed rail program to the south. CP 2-3 will extend in excess of 65 miles from the terminus of Construction Package 1 in Fresno to just north of the Kern-Tulare County line. CP 2-3 includes

approximately 36 grade separations in the counties of Fresno, Tulare and Kings, including viaducts, underpasses and overpasses.

### ARTIC Trans-modal Terminal Opens in Orange County

In December 2014, the Anaheim Regional Transportation Intermodal Center – ARTIC – opened to the public. It will eventually serve as a high-speed rail and streetcar station, but for now it serves as Anaheim's Amtrak and Metrolink station, along with serving connecting OCTA buses. ARTIC is the new state-of-the-art transportation hub in Orange County, bringing nine transportation options under one roof. The 67,000 square foot facility will not only house transportation services, it will also feature dining, retail and entertainment services. ARTIC's environmentally friendly design was given LEED

Platinum status by optimizing energy and water, reducing storm water runoff, air emissions, and providing electric vehicle charging stations.

### Authority Reaches Agreement with Bakersfield

On December 19, 2014, the California High-Speed Rail Authority (Authority) announced that it has reached a settlement agreement with the City of Bakersfield, which will result in the dismissal of California Environmental Quality Act (CEQA) litigation over the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Fresno to Bakersfield project section of the high-speed rail program. This agreement demonstrates the commitment between both parties to work together to bring high-speed rail service to the region along with small business opportunities and jobs for Central Valley residents. The Authority and City will work together to engage the public and affected stakeholders to move the program forward.

### Report on California High-Speed Rail and the Central Valley Economy

This month, the Authority released a report it had commissioned for a study of the economic conditions, trends, issues and opportunities in the Central Valley, where work on the California high-speed rail system is underway.

In commissioning this study, the Authority sought to deepen its understanding of the economic issues and opportunities in the Central Valley. Prior economic analyses prepared for the Authority's business plans provided a relatively broad and high-level understanding of the economic conditions and potential benefits

of high-speed rail across the state. Through the California High-Speed Rail and the Central Valley Economy study, the Authority sought a more in-depth, on-the-ground analysis so that it could identify additional steps to ensure that its investments and actions support regional and local economic goals and objectives.

The three objectives that guided the study were to help the Authority to:

1. Develop a deeper understanding of the economic issues, conditions, plans and objectives in the Central Valley
2. Establish a dialogue with a range of organizations working to advance economic development in the Central Valley and explore how the high-speed rail program could support those objectives
3. Identify ways to engage and collaborate with those and other California organizations and stakeholders

You can find the Executive Summary here:

[http://www.hsr.ca.gov/docs/Newsroom/reports/2015/FINAL\\_SUMMARY\\_REPORT\\_020215v4.pdf](http://www.hsr.ca.gov/docs/Newsroom/reports/2015/FINAL_SUMMARY_REPORT_020215v4.pdf)

You can find the full 179 page report here:

[http://www.hsr.ca.gov/docs/Newsroom/reports/2015/FINAL\\_FULL\\_CENTRAL\\_VALLEY\\_ECONOMIC\\_STUDY\\_REPORT\\_020515.pdf](http://www.hsr.ca.gov/docs/Newsroom/reports/2015/FINAL_FULL_CENTRAL_VALLEY_ECONOMIC_STUDY_REPORT_020515.pdf)

And there is a 16 page PowerPoint that gives a good short overview of the report:

[http://www.hsr.ca.gov/docs/Newsroom/reports/2015/brdmtg\\_021015\\_Item2\\_Presentation\\_of\\_the\\_Central\\_Valley\\_Economy.pdf](http://www.hsr.ca.gov/docs/Newsroom/reports/2015/brdmtg_021015_Item2_Presentation_of_the_Central_Valley_Economy.pdf)

### Challenges Remain

While the Authority has the funding it needs for the first 130 miles, funding for the remaining segments remains elusive. California's cap and trade funds when fully implemented could provide up to \$1 billion a year. Those funds could be leveraged for private investment and Railroad Rehabilitation & Improvement Financing (RRIF) loans. Additionally, California's high-speed rail project is as much as a year behind schedule in buying the land needed to start construction on the first 29-mile stretch in the Central Valley. You can count that opponents' lawsuits will continue to proliferate. In February 2015, California's high-speed rail project faced another challenge after a group of counties and activists filed a lawsuit to strike down the December decision by the federal Surface Transportation Board that put federal jurisdiction over California environmental regulations with regard to a segment of the rail line that travels from Fresno to Bakersfield.

### Conclusion

Enormous challenges lie ahead but that is to be expected. The system will be built and the benefits will be realized. Successful economies depend on an effective and efficient transportation system. High-speed rail will be a game-changer for the state, especially the Central Valley, which for too long has been isolated from the economic engines of the Bay Area and the LA Basin. This project will create thousands of quality jobs, decades of economic growth and spark a renaissance of passenger rail travel.



Contributed by Eduardo Romo,  
Fundacion Caminos De Hierro,  
Madrid, Spain

# Different HSR Approaches

delivery approaches.

- **Saudi Arabia.** The first train for Mecca-Medina line has been recently shipped

Late in December the first Talgo trainset composed of 13 coaches and two power heads arrived in the port of Jeddah. The next one is planned to be shipped in April and shipments will continue until 36 trains are delivered. This Haramain fleet is scheduled to start operation in 2017.

The first Saudi high-speed line is being implemented through two major stages: a first package regarding civil works and a second contract awarded to a Spanish consortium including track, systems, rolling stock and operation for a 12 year period.

- **Taiwan.** Government to provide solutions to THSRC private high-speed operator

The Ministry of Transportation and Communications is taking steps to redefine the business model in order to avoid the bankruptcy of the Taiwan High Speed Rail Corporation.

This is as a consequence of lower ridership than projected for the services which started in 2007.

Taipei-Kaohsiung, a 211-mile high-speed line, is the first one worldwide privately financed and operated under a DBO contract.

- **France.** Deeper private involvement in new line construction

The Tours-Bordeaux section, southern extension toward the Spanish border of the Paris-Tours line (193 miles, \$10.1bn), is being built through a 50-year concession contract. This may be the world's largest ever passenger rail project that includes financing, design, construction, operation and maintenance.

The Brittany-Loire Valley line (114 miles, \$4.4bn) is expected to be completed in 2016. It's constructed under a PPP contract, signed in 2011, which includes finance, design, build and maintenance of the infrastructure.

The 1250+ mile French network was planned, designed, constructed, funded and is operated and maintained directly by a national state-owned operator, the French National Railway Company (SNCF).

- **Poland.** Pendolino train starts revenue services on the Polish network

The first high-speed train to

Fifty years ago only one country, Japan, was operating a high-speed service, the Bullet Train. Today passengers in a dozen countries are able to take advantage of this modern technology and there are additional networks being planned or under construction. The High-Speed Rail service is a well understood concept globally, but there are many different forms of implementation. As the technology has evolved, a number of reasons have been influencing these processes. Many factors have to do with local conditions ranging from geographical constraints to economics, or from a particular country's rail culture to politics. These various characteristics influence or give shape to the new lines or networks in each locality.

There is a continuous flow of news about these successful experiences from distant origins. Let us follow some recent ones to gain an appreciation for the diversity of

High-speed system operating in Taiwan from 2007



From first line commissioning in 1981, French network extension is still in progress



Ridership record in 2014 in Spanish network

The train system is expected to carry more than 20 million passengers every year, including pilgrims visiting the holy cities of Makkah and Al Madinah

High-speed train to run on the Polish upgraded lines

modes, the number of train passengers is substantially growing: more than 29 million in 2014 compared with 25 in 2013 and 22 in 2012.

operate in Poland started commercial services connecting Warsaw with other main cities December 14th. The new vehicles, certified to a maximum speed of 156 mph, will deliver the services along existing upgraded lines at 125 mph in some sections. The fleet consisting of 20 trainsets has been manufactured and delivered under a contract that includes 17 years of maintenance as well.

Poland, having one of the largest European rail networks, is developing its high-speed program starting with an incremental approach that

will be followed by the construction of dedicated lines in future years.

- **Spain.** Keeps extending the network and increasing the ridership in a tough economic atmosphere

Since the great success of the Madrid-Sevilla line, the first high speed experience in Spain, the investment in this modern railway infrastructure hasn't stopped. Even during the recent economic recession that the country has been suffering, the investment effort isn't negligible. Within the last four years, for instance, more than \$15 billion has been devoted to build new lines. From the ridership point of view, the high-speed system is also showing a robust behavior. Unlike all other long distance passenger transportation

As one of the largest countries in Europe, the goal is to create a network connecting the main cities and different regions along with an additional effort of integrating with other European destinations. The trend of extending the network is being followed by ridership and revenues increases.

Many local conditions are influencing the way different countries are pursuing the development of their own high-speed systems, and a number of lessons can be learned in the process. This analysis on the suitability of the implementation model to be applied is critical to the success of these long-term investments.

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# STATES ROUNDUP



## PASSENGER RAIL PROGRESS

There remains high interest in passenger rail service investment and improvement. Recently, Vice President Joe Biden joined US Transportation Secretary Anthony Foxx near Charlotte's Amtrak depot to push a long-term plan to finance transportation projects. And they urged more investment in passenger rail as part of the Obama administration's \$478 billion, six-year transportation plan for roads, rails, bridges and public transit.

Over the past year, several intercity passenger and high-speed rail projects have been featured in SPEEDLINES with articles describing the progress they are making. In previous issues we highlighted the All Aboard Florida and Texas Central Railway projects. In this issue, the California high-speed rail project is again presented because of the historic ground-breaking of the first construction segment between Merced and Fresno. We continue to feature the NEC FUTURE project because of the importance of the Northeast Corridor to passenger railroading in America. However, very quietly there is progress being made on passenger rail projects across the country that often goes unnoticed because of the large banner headlines of these other high profile projects. It is important to highlight these other projects.

**Alabama** – A recent feasibility study sponsored by the Alabama Department of Economic and Community Affairs (ADECA) and jointly funded by the Federal Railroad Administration (FRA) and the cities of Birmingham and Montgomery, considered passenger service between Birmingham and Montgomery, with expectation for future extension to Mobile. A similar study related to the feasibility of initiating passenger rail service in the Birmingham-Atlanta corridor was conducted by Georgia DOT in partnership with the Regional Planning Commission of Greater Birmingham (RPCGB). While public outreach revealed pent-up demand for such services, implementation steps are difficult. The study was prepared by HDR. Funding for capital improvement investments and operating assistance is not available. But the state continues to publicize the project and includes it in the State Rail Plan.

**Arizona** – Arizona DOT (ADOT) has been working closely with the Federal Transit Administration (FTA), the FRA and local governments and planning organizations in Maricopa, Pinal and Pima counties on completing planning and environmental studies of the Phoenix – Tucson passenger rail service. During the last two years of the study, nearly 7,000 people across Arizona completed surveys to weigh in with their ideas of which routes best served communities. ADOT has identified three potential routes. But, there is currently no construction schedule and no funding identified for the project. The project remains alive as an aspiration.

**Arkansas** – The Arkansas State Highway and Transportation Department (AHTD) was awarded funds from the FRA to develop a feasibility study and a Service Development Plan (SDP) for corridor improvements and expansion of service in the Arkansas portion of the existing South Central High-Speed Rail Corridor (SCHRC) between Little Rock and Texarkana. In addition, AHTD also is studying the feasibility of improvements for the provision of new passenger rail service between Little Rock and Memphis. AECOM is currently assisting AHTD in preparing the SDP and feasibility studies.



**Colorado** - The Front Range of Colorado is continuing to grow into a linear economic region from Fort Collins to Pueblo with increasing traffic congestion throughout. A high level of support has been expressed by many communities throughout Colorado to implement a passenger rail system. The Colorado Department of Transportation (CDOT) Division of Transit & Rail and the FRA prepared the Interregional Connectivity Study (ICS), which examined multiple types of high-speed rail technologies. The study was completed in January 2014 by CH2M Hill. Neither a preferred alignment nor a preferred technology has been identified by CDOT. And there is no funding. But CDOT actively publicizes the project.

**Connecticut** - The Connecticut Department of Transportation is looking for an operator to run its planned New Haven to Springfield passenger rail "CTrail Hartford line" service. The \$365 million project is expected to provide trains at least every half hour during peak hours from Springfield to New Haven with stops at Hartford and other stops in between. Trains are expected to start rolling in late 2016. This service has been in the planning phase since 2003 when Connecticut initiated a major study to evaluate the implementation of new passenger rail service between New Haven and Springfield. This study included significant public outreach activities and initiation of an assessment of the environmental impacts of new passenger rail service along the corridor and was conducted by CDM Smith.

**Georgia** - The Georgia Department of Transportation (GDOT) is studying two passenger rail corridors. GDOT is preparing a Tier I Environmental Impact Statement (EIS) to evaluate the general environmental and related impacts of constructing and operating proposed high-speed ground transportation (HSGT) between Atlanta and Chattanooga for the FRA and Federal Highway Administration (FHWA) in cooperation with the Tennessee Department of Transportation (TDOT). An Administrative Draft of the EIS has been reviewed by the FRA and the consultant team led by AECOM is currently addressing FRA review comments. In addition, GDOT is preparing the Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP). This is an extension of the Southeast High-Speed Rail Corridor (SEHSR), which is under development from Charlotte to Washington, DC. The extension from Charlotte, would travel southeast through portions of South Carolina and into Atlanta. HNTB is preparing the Tier 1 EIS.

**Louisiana** - A study was completed for the Baton Rouge - New Orleans passenger rail corridor in 2010 by Burk-Kleinpeter, Inc in association with HDR. But there is no funding. However, the project continues to be actively publicized by rail advocates in the state.

**Massachusetts** - USDOT awarded \$70 million for final design and construction of the "Knowledge Corridor" along the Connecticut River rail line in western Massachusetts. The Knowledge Corridor - Restore Vermonter Project is one of the initiatives included in the Vision for the New England High-Speed and Intercity Rail Network. The Knowledge Corridor - Restore Vermonter Project will restore Amtrak's intercity passenger train service to its original route by relocating the Vermonter from the New England Central Railroad back to its former route on the Pan Am Southern Railroad. The Pan Am Southern route provides a shorter and more direct route for the Vermonter between Springfield and East Northfield, and improves access to densely populated areas along the Connecticut River. The Pan Am Southern route would include station stops at the former Amtrak station at Northampton and the new intermodal station at Greenfield. The routing of Amtrak service in Vermont and south of Springfield would remain unchanged.

**Michigan** - The Michigan Department of Transportation (MDOT) is upgrading the Chicago - Detroit/Pontiac corridor for improved speeds and additional daily departures. Its goal is to increase daily departures from three trains each way to nine and cut Chicago -Detroit trip times from 5.5 hours to 4 hours. MDOT in partnership with Illinois and Indiana who are preparing a TIER I EIS for FRA on the Chicago-Detroit/Pontiac, MI route. This will create a 20-year master plan for the corridor. The Draft EIS has been produced with the assistance of a team of consultants led by HNTB. Additional passenger rail studies are in the procurement or early project development phase, including a proposal to operate trains between Grand Rapids - Ann Arbor - Detroit. A project linking Traverse City to Ann Arbor - Detroit is being proposed.

**Minnesota** - There are two passenger rail projects advancing through project development in Minnesota. The

Northern Lights Express (NLX) is a proposed passenger rail project between Minneapolis and Duluth. The Minneapolis-Duluth/Superior Passenger Rail Alliance is a joint powers board formed to explore options for renewing passenger rail service on existing BNSF tracks in the 152 mile corridor. The Alliance and its community partners are working with the Minnesota Department of Transportation Passenger Rail and Environmental Services offices to advance the project. The Tier 1 EIS was completed by Kimley – Horn/SRF. A Finding of No Significant Impact was signed by FRA in 2013. Currently, Quandel Associates is working on defining the operating plan and locating stations and other facilities.

The second project is the Rochester - Twin Cities Rail Corridor (Zip Rail), which is an approximately 100-mile corridor located between Rochester and the Minneapolis/St. Paul. Currently, Parsons Brinckerhoff is preparing a Tier 1 EIS for FRA in partnership with the project sponsors, Minnesota Department of Transportation and Olmsted County Regional Railroad Authority. A project scoping report has been prepared.

**Mississippi** - Mississippi is a member-state of the Southern High-Speed Rail Commission, which has envisioned a high-speed rail service operating along the Gulf Coast. The Gulf Coast Corridor runs from Houston to Atlanta. The Corridor travels east through Baton Rouge to New Orleans, Biloxi and finally Mobile. A line runs north from New Orleans to Atlanta. The line between New Orleans and Atlanta via Meridian and Hattiesburg would use the Norfolk Southern Railway's mainline. A leg of this service would operate along the Gulf Coast between New Orleans and Mobile on the CSX Transportation mainline. A feasibility study was completed in 2006. This passenger rail project is still in the State Rail Plan despite not identifying how this project will be paid for.

**Missouri** - Amtrak service is provided in Missouri on two long distance routes – the Southwest Chief and Texas Eagle - and two regional routes - the Missouri River Runner and Lincoln Service. The state provides about \$8 million annually to operate the Missouri River Runner. Amtrak ridership in Missouri has grown 46 percent in the last five years. Recommendations to improve Missouri's passenger rail service are part of a greater plan to improve travel within the Midwest region and are outlined in the State Rail Plan prepared by HNTB.

**Montana** - Amtrak completed an analysis of the restoration of passenger rail through the southern part of Montana for the Montana Department of Transportation (MDT). The Amtrak study examines two segments. The first is between Sandpoint, ID and Williston, ND and is limited to a track analysis and outlines improvements that would be needed to make the railroads ready to carry passenger rail. The second part of the study provides more detailed analysis along the most populous segment of the same route, between Billings and Missoula, MT. This study considers investments, timetables and ridership. The Amtrak study was intended to help inform further planning and policy development in regard to the restoration of passenger rail service through Montana's populous southern corridor. Amtrak recommended state policymakers determine if passenger rail service should be developed along this southern route and if so, identify funding for capital and operating expenses. Rail advocates continue to press the state for the new southern route. Their goal is to restore the North Coast Hiawatha route across southern and central Montana, possibly from Glendive, Miles City, Billings, Livingston, Bozeman and Helena to Missoula.

**Nevada** – There are many proposals to improve passenger rail service in Nevada. Some include private enterprise such as the Las Vegas Railway Express (X-Train) conventional speed entertainment-themed passenger rail project between Los Angeles and Las Vegas and the XpressWest high-speed rail project connecting Las Vegas to the California high-speed rail system at Victorville. The X-Train is still seeking private financing to start services on a new route alignment that avoids heavily congested UP routes.

XpressWest completed an environmental impact statement and received a Record of Decision. With all required federal right-of-way approvals in place and having received the necessary licensing and approvals to construct and operate, XpressWest only needs to secure the funding to construct. XpressWest in 2010 filed a loan application with the Railroad Rehabilitation and Improvement Financing (RRIF) program. In 2013, Representative Paul Ryan (R-WI), Chairman of the House Budget Committee and Senator Jeff Sessions (R-AL), ranking member of the Senate Budget Committee announced in a joint letter the USDOT had advised Xpress West it had suspended consideration of the requested RRIF loan indefinitely. The federal loan had been considered necessary for the project to proceed by Xpress

West officials. In 2014, Senator Harry Reid (D-NV) mentioned that the federal loan request may resurface, but little has been seen so far of the project's continued viability.

A number of other studies will likely influence passenger rail in the state, especially over the longer term. Amtrak's PRRA-required study of its California Zephyr service found in 2010 that only 30 percent of this route's trains operated on schedule. Amtrak's September 2010 PRRA study evaluated restoring Desert Wind service. Each of these services would require state support.

The Western High-Speed Rail Alliance (WHSRA) is focused on realizing long-term high-speed rail opportunities as part of an initiative to provide intercity passenger rail service throughout the western states. This initiative is being explored in FRA's Southwest Multi-State Rail Planning Study, which is a regional rail planning model or guideline with national supporting data.

All of these projects are described in greater detail in the Nevada State Rail Plan prepared by Jacobs.

**New Hampshire** - The two intercity passenger rail services that operate within New Hampshire are the Amtrak Downeaster between Boston and Portland, ME, and the Amtrak Vermonter between Washington, DC and St. Albans, VT. In operation since December 2001, the Downeaster is one of Amtrak's fastest growing state-supported services. The service is managed by the Northern New England Passenger Rail Authority (NNEPRA). The Downeaster serves three stations in New Hampshire. A second state-supported intercity passenger rail service, this one sponsored by the State of Vermont, also operates in New Hampshire, although making only one station stop, in Claremont, NH. The service has other stations that serve New Hampshire residents within easy driving distances. The six states in New England have come together to create a vision for a future regional rail system that will enhance New England in many ways, including: providing a foundation for economic competitiveness; promoting livable communities; and improving energy efficiency and environmental quality. This vision is based around a high-speed rail network that will link every major city in New England with smaller cities and rural areas and internationally to Montreal. This high-speed rail network is composed of a few key corridors, several of which directly and indirectly affect New Hampshire.

URS, which was acquired by AECOM, recently completed the Capitol Corridor Rail and Transit Alternatives Analysis (AA) which examined passenger rail service between Boston and Concord, NH with potential extension to Montreal. The study found the need for this passenger rail service has been growing for decades along the 73-mile corridor. A series of recommendations have been made.

**New Mexico** - New Mexico is served by two long-distance Amtrak trains, the Southwest Chief and the Sunset Limited/Texas Eagle. The Southwest Chief is a daily train in each direction, serving the northern New Mexico towns of Raton, Lamy, Albuquerque, and Gallup. The Sunset Limited serves the southern New Mexico towns of Deming and Lordsburg in addition to El Paso, TX three days a week in each direction. A number of people have called for the development of a new transportation option for Front Range residents to promote economic development by connecting more than half of the dozen largest metropolitan areas in the Mountain Time Zone. As indicated, this initiative is being explored in FRA's Southwest Multi-State Rail Planning Study.

**New York** - New York is developing plans to strengthen its rail passenger system by providing higher speed passenger rail within the Empire Corridor. Adding to the appeal are anticipated improvements in on-time performance and reliability resulting from investments in this 463-mile rail corridor between New York City and Niagara Falls. New York State DOT sponsored a FRA Tier 1 EIS for the Empire Corridor. The Tier 1 EIS was prepared by HNTB.

**North Carolina** - North Carolina Department of Transportation (NCDOT) oversees passenger rail improvement projects with the goal of safely connecting residents to their desired destinations more efficiently. The Piedmont Improvement Program (PIP) is NCDOT's largest and most significant rail program encompassing a series of projects along the North Carolina Railroad Corridor between Raleigh and Charlotte. These projects are largely funded through federal stimulus money from the American Recovery and Reinvestment Act.



The FRA awarded the state a \$545 million grant from that program in 2010. A cooperative agreement with the FRA specifies that \$520 million of the money must go directly to PIP, which includes adding two Amtrak trips between Raleigh and Charlotte--making a total of five trips daily. PIP will be completed in early 2017. The rest of the money is helping to improve reliability of existing freight and passenger service from Raleigh to Virginia.

The Southeast High Speed Rail Corridor (SEHSR) was designated by Congress as running from Washington, DC through Richmond, VA and Raleigh, NC to Charlotte, NC, with maximum speeds of 110 mph. It is part of an overall plan to extend service from the existing Northeast Corridor (Boston to Washington) to points in the Southeast. North Carolina and Virginia are members of a compact brought together to evaluate high-speed rail in this corridor. A "tiered" approach was adopted for the SEHSR environmental studies because of the length of the corridor. The original SEHSR Tier I EIS and Record of Decision covered the entire Washington, DC to Charlotte, NC corridor at a program level, establishing the overall project purpose and need and modal alternative along with the preferred corridor.

**Texas** – In the last issue of SPEEDLINES, we highlighted the efforts of the privately-financed Texas Central Railway (TCR) working to bring to bring high-speed rail service to the 240-mile Dallas-Houston corridor. But this is not the only corridor currently being examined in Texas. Texas Department of Transportation (TxDOT) is evaluating an 850-mile corridor from Oklahoma City to South Texas. The Texas-Oklahoma Passenger Rail Study is commenced in 2013 and is scheduled to conclude by the end of 2015. The study includes the completion of a Tier I EIS and a service development plan. Both of these reports will document how passenger rail could serve Texas communities and the benefits and impacts of different passenger rail choices. The study will consider the corridor as a whole, as well as three discrete portions of the corridor including, Oklahoma City to Dallas/Fort Worth; Dallas/Fort Worth to San Antonio and San Antonio to Rio Grande Valley/Corpus Christi/Laredo. CH2M Hill is conducting the study on behalf of TxDOT.

**Virginia** – Virginia has an active state-sponsored passenger rail program. The Commonwealth of Virginia presently invests in six state-sponsored trains that are an extension of the Northeast Corridor regional service: Lynchburg, which started in October 2009; a Richmond train, which began in July 2010; the extension of the Richmond train to establish the Norfolk route, which debuted in December 2012; and the successful transition of two existing Amtrak routes originating in Newport News and two additional routes in Richmond in October 2013. Service to Roanoke, an extension of the highly successful Lynchburg train, is among the most anticipated projects from DRPT. A public-private partnership with Amtrak, Norfolk Southern, the city of Roanoke and DRPT will bring intercity passenger rail service back to Roanoke for the first time in more than 34 years. Service is scheduled to begin in 2017.

VDRPT completed the Tier 1 EIS of the Richmond to Hampton Roads extension of the SEHSR and received a Record of Decision in fall 2012. On October 23, 2014, FRA published a notice of intent in the Federal Register to prepare the Tier II EIS for the 123-mile portion of the SEHSR Corridor from Washington, DC to Richmond, VA. The environmental study area begins at the southern terminus of the Long Bridge over the Potomac River in Arlington, VA and continues south to Centralia, Virginia at the CSXT A-Line/CSXT S-Line junction. This study will evaluate alternatives and environmental impacts within the preferred corridor described in the Tier I Record of Decision for the SEHSR Corridor from Washington, DC to Charlotte, NC.

**Washington** – Washington State has invested nearly \$500 million of its own funds in rail service, for both capital projects (\$228 million) and operating costs (\$271 million) along its portion of the 467-mile Cascades Corridor linking 18 cities in the Pacific Northwest from Eugene, OR north through Portland and Seattle to Vancouver, BC. In addition to state funding, Washington received \$800 million in federal high-speed rail funding to improve the Washington segment of the Pacific Northwest Rail Corridor (PNWRC), between Vancouver, WA and the Canadian border. The details of the project were reported on in SPEEDLINES #12 dated June 2014. The ARRA-funded Cascades high-speed rail program continues to make strides, and now has 10 projects in construction, five completed and five in the design stage. Recent updates include the completion in early January of the Tukwila. The \$46-million station replaces a temporary structure and serves as a major, multimodal transportation hub. Construction was partially funded and overseen by Sound Transit with assistance and financial support from Washington State Department of Transportation (WSDOT), FRA and FTA. Station dedication and rider appreciation events occurred on February 18.

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# IN THE SPOTLIGHT



**DOMINIC SPAETHLING**  
VICE PRESIDENT

"Existing high-speed and intercity rail systems have shown incredible ridership gains over the last few years in the U.S. Planned systems throughout the US in California, Texas and Florida also show great promise for the future. With strong intermodal connections to existing and planned transit systems and walkable communities, high-speed and intercity services can be the 'tide that lifts all boats' in bringing new customers to public transit, walking and biking."

HNTB  
SAN FRANCISCO  
TRANSIT MARKET  
SECTOR

HS&IPR COMMITTEE  
Chair of the Program  
Sub-committee



**STACY MORTENSEN**  
EXECUTIVE DIRECTOR

"Our most important marketing tools are our train and our riders. When we promote ACE-forward initiatives we invite stakeholders to take a ride with us and share their experience with our devoted riders."

SAN JOAQUIN  
REGIONAL RAIL  
COMMISSION



**BRETT P. WALLACE**  
SENIOR SUPERVISING PLANNER

"Intercity rail is not a standalone mode of travel, but an element within a comprehensive and connected transportation system. Existing and emerging rail systems need full integration for the communities served. Operational aspects - rerouting bus service connections to the train station are part of that, but broadly we need to develop cities around rail and the customer experience to the complete system from trips beginning to end."

PARSONS  
BRINCKERHOFF

HS&IPR COMMITTEE  
Chair of the Research  
Sub-committee

# THE NORTHEAST CORRIDOR: INVESTMENT IN INCREMENTAL IMPROVEMENTS

## While Planning for the Breakthrough...

### NEC INSIDER

Thomas E. Frawley, P.E., Esq. with contributions from Anna M. Barry (CDOT) and Rebecca Reyes-Alicea (FRA)



While the California High-Speed Rail Project begins construction, and planning continues on Next Generation High-Speed Rail in the northeast United States, what's going on with America's first, and right now only, high speed railroad – Amtrak's Northeast Corridor? The answer is: plenty!

#### Historical Context

Back in the 1960's, the original Metroliner program inaugurated 125 mph service between New York and Washington. The fleet consisted of 61 EMU's, and the prototype attained a test speed of 164 mph. It was an exciting time, and even the United Aircraft TurboTrain got into the act, testing at a maximum speed of 170.8 mph on December 20, 1967 in the vicinity of Princeton Junction. But brief sprints to 160 or 170 mph do not easily translate into fast reliable passenger service. And think about what the people in the Metroliner program were being asked to do at the time – trying to run service like the Shinkansen on a railroad with wooden ties, numerous relatively slow spots (like the Frankford reverse curve), and in Maryland – grade crossings!

#### Present Day Corridor Operations

Fast forward to the present day. The Northeast Corridor of today is a very different railroad from the one that hosted the first Metroliners. Physical infrastructure is dramatically improved with concrete ties from end to end, and new constant tension electrification between New Haven and Boston. The traffic has grown enormously – to about 2300 trains per typical weekday including Amtrak, commuter rail, and freight. (The commuter rail growth has been particularly dramatic, with multiple agencies operating on the corridor – like VRE, MARC and CDOT's Shore Line East – that didn't even exist a few decades ago.) And the trains are very different. This surely applies to the Acela's, which attain 150 mph daily in Rhode Island. But just as significant are the gigantic bi-level commuter cars assembled into ten or twelve-car trains, and ever heavier freight cars, all of which have axle loads that create issues for track infrastructure being maintained for high-speed passenger trains.

In many ways, today's Northeast Corridor seems to have reached or be approaching its limits. So what's next?

#### Goals for the NEC

In one sentence, the goal is 160 mph scheduled service and capacity to reliably accommodate current traffic and future growth. This may be disappointing for some who had hoped for a top speed of 185 MPH or even faster, but as more bigger and faster trains vie for safe passage over this steel superhighway, real limits have become apparent. Two major issues that pegged the planned maximum speed at 160 mph are aerodynamics and mixed traffic overtakes. Amtrak has worked extensively with the Volpe Center to examine issues related to aerodynamics, and found that the combination of closer than desirable center-to-center track spacing and certain combinations of equipment passing on adjacent tracks – such as a high-speed trainset and a train of bi-level commuter cars – make maximum operating speeds in excess of 160 mph infeasible. Similarly, at speeds in excess of 160 mph, overtakes between different types of trains require longer distances and more time than can be accommodated reliably without radical changes in the number and locations of interlockings.



But the 160 mph maximum speed will yield significant travel time improvements. Current estimates of total savings between New York and Washington are in the range of 30-40 minutes!

### Projects Moving us Closer to the Goal

There are several projects that are funded through ARRA and the stimulus and that represent key components of the incremental improvement of the NEC.

**Gateway** – Amtrak has an RFP in development for a consultant to prepare the necessary EIS documentation, and hopefully start the EIS process at the beginning of FY2016. Although the previous effort to bore new Northeast Corridor tunnels under the Hudson was cancelled, the impact of Hurricane Sandy, and the pressing need to be able to take the existing tubes out of service for an extended period for renovation, appear to have made this project a priority.

**Moynihan Station** – Opening the NJ Transit concourse and renovating the Amtrak waiting space have been welcome improvements, but Penn Station in New York continues to routinely handle passenger volumes significantly in excess of its design capacity. Moynihan Station, in addition to providing an appropriately grand portal between the Northeast Corridor and the Big Apple, will provide much needed additional pedestrian capacity at America's biggest volume rail station with over 600,000 passengers per day. Currently in final design, construction will hopefully start in 2016.

**The "Racetrack"** – Construction has begun on that largely arrow straight piece of railroad between New Brunswick and Trenton, which hosted testing at 160 mph and faster nearly five decades ago, so that 160 mph

service can become routine. Numerous foundations are in-place for new poles that will support the conversion to constant tension catenary, and more will be installed once winter ends. Perhaps most importantly, this segment of the Corridor will serve as a proof-of-concept for the planned combination 160 mph maximum speed, expanded capacity and improved reliability that will establish the new "limits of the envelope" for a high speed, high capacity, mixed traffic railroad.

**High-Speed Trainsets** – Amtrak is in the middle of a procurement process to acquire a minimum of 16 new trainsets capable of operating at 160 mph to add to the Acela fleet and eventually replace the aging fleet. Amtrak is following a confidential multi-step procurement process which will result in award later this year.

**Portal Bridge** – A grant is in-place to fund design of a replacement bridge for the potential point of failure and cause of delays.

Other projects include the replacement bridge over the Susquehanna River, new B&P tunnels, addition of a fourth track at BWI, and a new siding at Kingston, Rhode Island. Branches of the Corridor are seeing improvements too, such as the Connecticut DOT program to improve the Springfield Line.

### NEC Commission

Northeast Corridor Infrastructure and Operations Advisory Commission was established by Section 212 of the Passenger Rail Investment and Improvement Act of 2008 to create a new forum for collaborative planning and decision-making for the Northeast Corridor.

The Commission is composed of one member from each of the NEC states (Massachusetts, Rhode Island,

Connecticut, New York, New Jersey, Pennsylvania, Delaware, and Maryland) and the District of Columbia; four members from Amtrak; and five members from the U.S. Department of Transportation (USDOT). The Commission also includes non-voting representatives from freight railroads, states with connecting corridors, and commuter authorities not directly represented by a Commission member.

The Commission's mission is to:

Lead the creation and implementation of a visionary, long-term, regional investment strategy for the Northeast Corridor;

Advance near-term projects to improve Northeast Corridor performance;

Coordinate regional planning and communication; and

Educate stakeholders and the public about the Northeast Corridor's investment needs and its role in the future economic growth and development of the region.

The Commission set the following goals for the Northeast Corridor:

**Economic Growth** – Support the global economic competitiveness of the Northeast Region and the nation.

**Connectivity and Coordination** – Support regional travel through improved connectivity and coordination among Corridor users and with other modes of transportation.

**Market Share and Network Capacity** – Increase the capacity of the rail network and expand rail's market share to support the existing and future demand for passenger and freight rail service.

**Service Reliability** – Improve the reliability of passenger and goods movement in the Corridor.

**Travel Time** – Reduce trip time to enhance rail as a competitive choice in the Corridor.

**System Preservation** – Bring the corridor up to and then maintain a state of good repair.

**Safety and Security** – Provide safe and secure transport of passengers and goods.

**Community Development** – Enhance the integration between transportation investments and local development in communities throughout the corridor

**Energy and the Environment** – Reduce energy use and protect the environment.

The Commission has nearly completed its statutory mandate to develop a cost-sharing arrangement for NEC infrastructure used for commuter and intercity rail services. In January 2015, it adopted an Interim Policy framework for implementation of cost allocation. It contains the required cost-sharing methods, policy recommendations to support them, and new practices to enhance collaboration on the Corridor. The Interim Policy will be used by NEC stakeholders to negotiate various agreements with Amtrak, so that cost-sharing can begin by October 1, 2015.

The framework for collaboration will not fully address the funding gaps facing the NEC. The Commission looks forward to partnering with Congress to ensure the success of these new approaches to collaborative planning, funding, and financing of rail services and infrastructure improvements.

James Redeker, Connecticut Commissioner of Transportation and the current Commission Chair, remarked on the Commission’s

success:

“The Northeast Corridor is at a historic turning point. It is one of the world’s greatest railroads, contributing \$50 billion annually the gross domestic product, and providing high capacity access to the fifth largest economy in the world. Yet record-breaking ridership growth belies the unsustainable and fragile infrastructure which has resulted from decades of insufficient capital investment, lack of vision, and fractured governance. The Northeast Corridor Commission has demonstrated unprecedented collaboration and the commitment to own the responsibility for this vital asset with the goal of positioning the Northeast for a globally competitive economic future.”

Commission also has been working on the first-ever Northeast Corridor Five-Year Capital Plan — due for publication in spring 2015 — which is action plan to address the investment needs identified in previous reports. The Five-Year Capital Plan will analyze how to ramp up investment levels over the next five years to reverse decades of deterioration and modernize this shared national asset for future economic growth.

**NEC FUTURE**

NEC FUTURE is the Federal Railroad Administration’s (FRA) comprehensive program to develop a long-term vision and plan for phased improvements for both intercity and regional passenger rail service on the Northeast Corridor (NEC). Its purpose is to improve the reliability, capacity, connectivity, performance, and resiliency of passenger rail service on the NEC through upgrading aging infrastructure, eliminating chokepoints, and expanding the carrying capacity of the network, for both intercity and regional trips, while promoting environmental sustainability and economic growth.

FRA has completed the development of alternatives for evaluation in the Tier 1 Environmental Impact Statement. The alternatives were shared with the public at nine open houses throughout the corridor in November 2014. (Note: if you missed these meetings, the materials can be viewed online at [www.necfuture.com](http://www.necfuture.com).) Each alternative reflects a distinct vision for the NEC and its role in the region’s future transportation system:

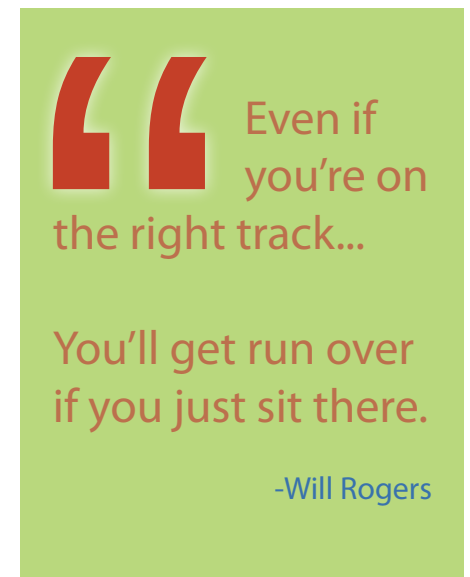
Alternative 1 would maintain the current role of rail, adding enough capacity to keep pace with the region’s growth.

Alternative 2 would grow the role of rail and maximize the capacity of the existing NEC.

Alternative 3 would transform the role of rail, with a major increase in capacity, service to new markets, and dramatic reduction in trip times.

The alternatives will be further analyzed and compared with a No Action Alternative in the Tier 1 Draft EIS, which FRA plans to release for public comment later this year.

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# ADVOCATING FOR A CONNECTED AMERICA

## GALVANIZING A WIDER CROSS-SECTION

Contributed by Jim Matthews, NARP

As the dust settles on what was a particularly rancorous mid-term election season, a surprising consensus is beginning to emerge on the need to do something about the US infrastructure crisis. Even though many of the old battle lines still appear around how to pay for that “something,” crumbling bridges, flooded tunnels and choking delays seem finally to have penetrated America’s political consciousness.

A simple elegant truth is once again making itself plain: as surely as mobility powers economic growth, congestion constrains it. And we have a small moment now, perhaps fleeting, in which some of the key decision makers may be ready to acknowledge that rail has a vital part to play as we look to build a 21st century intermodal transportation network worthy of the United States.

Several rival plans to address the crisis are jostling for political position and public attention as the new Congress starts to get to work. Senators Bernie Sanders (I-VT) and Barbara Mikulski (D-MD) led with the most ambitious legislation—a five-year, \$1 trillion infrastructure plan that would invest \$15 billion per year in modern passenger rail. Several other Senators have pushed alternate proposals that focus on the funding question—most notably Sens. Rand Paul (R-KY) and Barbara Boxer (D-CA). The bipartisan duo is looking to raise revenue through a corporate tax holiday that would encourage repatriation of offshore earnings. By taxing repatriated foreign earnings at 6.5%, the proposal would inject a one-time revenue infusion to the Highway Trust Fund. Then there’s the Obama Administration’s proposed Grow America Act, aimed at creating a dedicated and sustained funding source and stepping away from annual band-aids.

Meanwhile, millions of Americans today face loss of personal mobility: airlines are cutting back the number of flights and have reduced or discontinued service to literally hundreds of smaller cities. Millions more find flying to be too expensive, too inconvenient, or simply too unpleasant. An increasing number of young people don’t own automobiles, either as a personal choice or because they are unaffordable. Many older citizens are unable or unwilling to drive their personal automobiles for more than just a few miles. Projections suggest that by 2040 we’ll be sharing the country with a net 70 million more citizens, and all of them need will need mobility.

I’ve been on the job here as NARP’s President and CEO since September, and spent seven of my first nine weeks travelling the country, meeting with mayors, city administrators, planning and transportation officials, as well as NARP members and riders on the Capitol Limited, the Crescent, the Acela and other services. What I found was that once you leave Washington and visit communities whose trains are a vital part of the economy, or whose officials wish they had service, the old Red/Blue divide fades. Locally, passenger train service is seen as a tool of economic development – not just a bipartisan rally point, but a non-partisan necessity.

The new multi-use Birmingham Intermodal Transit Facility in downtown Birmingham, AL, is as good an example as any, helping to create a new downtown gateway to bring people, goods and ideas into a vibrant downtown, with safe and walkable streets where people will want to live, work and play.

Like APTA, we at NARP are strong supporters of intermodal progress because we’ve seen in communities from Salt Lake City, UT, to Meridian, MS., what happens when inspired, innovative public policy is used to spur





Use of Mass Transit Is Highest in Nearly 60 Years

private-sector investment. When government selectively and creatively works to create the preconditions for unleashing entrepreneurial energy, through smart tax policy and public-private partnerships that unlock the power and ingenuity of private capital, the returns are tangible and long-lasting. Look no further than passenger trains for a model, returning about \$3 in economic benefit to their communities for every dollar of federal investment.

Thanks to the success of the National Association of Railroad Passengers over the past four-plus decades, we're ready to move past merely "saving" passenger trains and into growing a high-quality, linked and balanced intermodal and multimodal transportation system. All of us who care about transportation can do this by advocating for a "Connected America," bringing like-minded partners together across states and regions linked by the new, modern network. This 21st century system, which must include a robust passenger and freight component, will unite our great country in the same way that the interstate highway system did a generation ago, and position us to compete in the 21st century linked economy.

Our members live and work in thousands of towns, cities and counties all across the US, and the emerging consensus on the desperate state of our infrastructure – we have taken to calling it "The United States of Underinvestment" – will give each of them an opportunity to be heard in those towns, cities and counties.

Wherever you work, and whomever you represent, one of the most important things transportation advocates

and professionals like NARP, APTA or any of the state organizations can do is to help galvanize a wider cross-section of Americans to speak out for rail's benefits to their town, county or region. Not because they've never met a train they didn't like, but because they want and need the speed and efficiency; they believe in rail's power to make mobility greener; they're eager to see the economic benefits of rail in their community. That's a compelling message, no matter who you voted for.

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“ I like trains. I like their rhythm and I like the freedom of being suspended between two places, all anxieties of purpose taken care of: for this moment I know where I am going.

-Anna Funder

*One Can Never Grow Tired  
While Strolling Through This  
Cavernous And Historic Midtown  
Manhattan Landmark. Grand  
Central Terminal Is One Of The  
Busiest Train Stations In The  
World, Serving Nearly 200,000  
NYC Commuters Every Day. Built  
In 1871, Grand Central Terminal  
Is Home To 44 Train Platforms,  
Several Great Restaurants,  
Market And Retail Shopping,  
Some Of The Most Beautiful  
Beaux-Arts Architecture, Not To  
Mention It Boasts A Quintessential  
Cultural Significance In  
New York City.*



# GRAND CENTRAL ELECTRIFIED



## A VISIT BACK IN TIME

Contributed by Wendy Wenner, Amtrak

As the plans were being conceptualized for Grand Central, electricity soon became a high-priority but, the specifics were not yet known; both overhead wires and third rail were contenders. Each posed pros and cons with the overhead wires having the ability to carry higher voltages requiring fewer power substations, yet susceptible to extreme weather conditions-- with the third rail able to endure severe weather conditions, yet requiring more substations. The controversy caused the formation of the Electric Traction Commission with New York Central's Chief Engineer William Wilgus, two other senior railroad engineers, and three outside electrical engineers to serve as consultants.

As they decided on the electrification process, the commission needed to determine which lines to electrify. Initially the controversy surrounded meeting the demands of the City which only required the removal of steam from Manhattan Island. Under this plan, electric trains would operate from Grand Central to Mott Haven, in the Bronx, where trains would be switched back to steam power. Wilgus was fearless and envisioned plans on a broad scale by implementation of a 33-mile long stretch known as the "electric zone". It was expected to reach the Hudson from Grand Central to Croton-Harmon, and 23-miles on the Harlem to White Plains. At this time, there were very few electrified systems and those known were relatively short distances. In all, including multiple tracks and yards, the project would require 292 miles of electrified rail. In making a comparison, if one were to tally all the world's electrified rail at that date it totaled around 212 miles; with his project vision surpassing what existed.

Wilgus knew that by encouraging growth the railroad would flourish. His electric zone thrived in becoming the known commuter traffic into Grand Central, while the steam locomotives, in comparison, faced acceleration difficulties to serve between so many stations in close proximity. Wilgus sold his electric zone plan the same way he sold Grand Central Terminal, with his air rights plan, by citing the returned revenue offsetting what would have been a substantial investment. With the initial electric trains pulled by electric motors, both inventors, Wilgus and Frank Sprague, then conceptualized an improvement plan for electric multiple unit cars, which evolved into a lucrative implementation that both Metro-North and LIRR use now.

As momentum was gained, there was another decision of either a direct or alternating current that was highly politicized at the time. The Westinghouse Corporation promoted AC, while General Electric (GE) advocated DC. Though it was thought that AC was superior for long distances it was just theory on the ability to handle the vast traffic load that Grand Central possessed; they went with DC. The GE issued contract marked the first electric engine completed under a year, and a four mile electrified track to be set up outside Schenectady for testing. By 1906, and many years before Terminal completion, electric trains were being tested into Grand Central Station, and by the year-end a few electric trains were on regular schedule – with New York Central sticking to their promise to eliminate steam locomotives from Grand Central.

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