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*Celebrate the past.
Design the future.*

Special Edition

SPEEDLINES

HIGH-SPEED INTERCITY PASSENGER RAIL

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SPEEDLINES MAGAZINE



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On the front cover:

UIC along with East Japan Railway Company is co-organising 9th World Congress on High-Speed Rail "UIC HIGHSPEED 2015". It is the largest international congress and exhibition devoted to High-Speed Rail in the world, which has been initiated by UIC and gathered up to 2,000 professionals once every few years since 1992, will finally come back to the birth place of High-Speed Rail, Japan.

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Dear HS&IPR *Committee* *and Friends:*

It's been a year since my appointment to Chair of APTA's High-Speed and Intercity Passenger Rail Committee (HS&IPR). We have had a challenging, busy but, fulfilling year culminating in the Annual APTA Rail Conference in Salt Lake City, Utah. At our Committee meeting we will review progress made this year on several areas including developing a new Vision and Mission for the Committee; Legislative and Advocacy activities and the Committee led and sponsored Return on Investment Study.

At this year's Rail Conference, the HS&IPR Committee will be sponsoring two exciting sessions that I hope you will be able to attend. At the session on International Success Stories you will hear about the exciting projects underway in California, the Northeast Corridor and from around the world. At the session on High-Speed and Intercity Passenger Rail Corridors, you will hear about progress being made along other intercity corridors in Michigan, Texas, and the North East Maglev. As will be discussed at these sessions, we have made great progress and we have a lot to be proud of and much to look forward in the advancement of high-speed and intercity passenger rail in North America.

Many challenges lie ahead; however, including long-term and sustainable funding for passenger rail. While APTA and our committee have been active in working with Congress and the Administration to demonstrate the value of passenger rail and to work toward a bi-partisan effort to secure funding for future programs and projects, there is much to be done.

I am also excited about our current edition of "Speedlines" which contains several informative articles covering international and national current topics such as, a review of Japan's highly successful Shinkansen Business Model; prospects for a national intercity passenger rail policy; legislative report on the state of high-speed and intercity rail; and reports from California and other statewide programs. We also carry the views of various professionals active in the legislative policy arena. Take note that at times these views do not coincide with the position or opinion of this publication or APTA's position on an issue. We think it is important at times for you to know what others are thinking.

I am looking forward to another fantastic Rail Conference this year and hope to see you all in Salt Lake City.

Sincerely,

Peter Gertler

CHAIRMAN

APTA High-Speed Intercity Passenger Rail Committee

The 2015 Rail Conference is scheduled for June 21-24, 2015, at the Grand America Hotel in Salt Lake City, UT.



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STATION REDEVELOPMENT

CONTRIBUTING TO RAIL PASSENGER GROWTH

Contributed by Eric Peterson

As intercity and commuter rail ridership continue to grow across the United States, much credit can be given to rail station rehabilitation and redevelopment initiatives for making passenger rail a more attractive transportation alternative.

Whether it's a project completed a few years ago, or a project just in the planning stage, the excitement and foresight reflected in station preservation and redevelopment is providing a broad array of benefits for local economies and for the bottom lines of passenger rail service providers.

Encouraged by local leaders and supported with federal, state, and local grants and guidance, many communities across the nation have launched or are in the process of launching initiatives that create new value and distinction to rail station properties that once were the cornerstones of a robust transportation system, but over time either lost their luster, or were forgotten altogether.



Built in the Central Platte Valley at a cost of \$525,000, Union Depot, as it was first known, opened June 1, 1881, during the era when Colorado and the rest of the West was undergoing rapid industrialization through coal production and transcontinental railroad expansion.

Washington, DC's Union Station, Denver's Union Station, and the proposed Moynihan Station in New York City are among the more widely known examples of passenger rail station redevelopment, but there are dozens of other cities, small and large, where the rehabilitation and/or redevelopment of rail station property has boosted the economic vitality of the neighborhood around the station and helped attract new ridership for intercity and commuter rail providers.

Included in this mix of towns and cities are places like Lynchburg and Richmond, Virginia; communities along and adjacent to the Northeast Corridor; communities throughout the spokes that reach to the Chicago hub; and, destinations all along the West Coast from San Diego all the way north to Seattle.

In each of these areas there are examples of recently redeveloped and rehabilitated stations that have experienced strong ridership improvements and significant



A lower downtown Denver landmark, Union Station was recently renovated to serve as a regional transit hub and the center of a new mixed-use neighborhood.

Richmond, Virginia, circa 1905. "Main Street Station." The clock tower will be familiar to travelers on I-95 where it pokes up over the elevated portion of expressway downtown.



Richmond, Virginia's Main Street Station is located in the Shockhoe Bottom district. It is a National Historic Landmark, and is a vital connection between this southern capital and the greater Northeast Corridor. Originally opened to serve as a union station for two major railroads, the Seaboard Air Line (SAL) Railroad, running north and south, and the Chesapeake and Ohio (C&O) Railroad, running east and west, the headhouse building and train shed were originally designed by Wilson, Harris, & Richards, three famous railroad terminal specialists from Philadelphia, prior to the Spanish-American War, in 1898.

improvements in economic activity surrounding the stations.

On the East Coast, Richmond, Virginia's Main Street Station and Lynchburg, Virginia's Kemper Street Station are standouts that show great passenger train ridership growth and tremendous contributions to the economic vitality of the areas around the two stations.

Recognizing the relationship between local economic impact and the potential for growing passenger rail ridership, Amtrak has launched the Great American Stations program, a resource center that supports local initiatives that seek to retain, repurpose, and rehabilitate their train stations.

Located at greatamericanstations.com, this on-line toolbox provides community leaders a complete guide to launching, maintaining and succeeding in their efforts to restore their passenger rail depots.

Noting that, "approximately one-third of the more than 500 stations served by Amtrak are listed on the National Register of Historic Places, either individually or as contributing structures to historic districts," and that, "many of these same stations are also listed on state and local historic registers" the Great American Stations website suggests that, "historic designation can be a powerful tool for a community contemplating the renovation or adaptive reuse of a station."



Amtrak, LIRR, and NJ TRANSIT are considering architectural improvements to the existing New York Penn Station. The three agencies are currently completing a Penn Station master plan that could guide aesthetic and layout improvements aimed at upgrading and expanding the passenger waiting areas, creating new retail options, and making it easier to board trains and move through the station.



Amtrak's expansion of New York Penn Station's track and platform facilities will increase capacity in New York with the proposed Gateway Program. Plans under consideration include the construction of four new platforms and seven new tracks to accommodate the additional intercity and commuter services that would be made possible with new Hudson River tunneling.

The Great American Stations website observes that, “while a train station’s primary purpose is to provide a point from which to depart or arrive, communities that fail to see their station’s full potential are missing a tremendous opportunity.”

“Transforming a station into a place worth visiting, with shops, restaurants, museums and the like, enables towns to take advantage of the variety of people passing through every day by giving them something more – a reason to return. Additionally, if a station is more than a travel hub, locals will see the station as a place to relax and be entertained as well.”

Among the benefits identified are: tourism growth, economic development, historic preservation, civic pride, aesthetic and architectural improvement, cultural space and museums, and commercial use. The Great American Stations website contains case studies of at least a dozen communities where one or more of these benefits have been realized through station restoration.

An additional benefit recognized in most restoration initiatives is the possibility of multi-modal connectivity.

Washington’s Union Station is a great example of an intermodal hub with Amtrak, two commuter rail services, Washington’s Metro Rail service, intercity bus services, and bike share programs all present in the facility. As a result, Union Station is the second busiest depot in the Amtrak system. It is also the reason that Washington’s Union Station is in the midst of the launch of a \$7 billion, 20 year redevelopment program that will see the installation of tracks to accommodate high-speed passenger rail service, improved connectivity between the two commuter rail services, and a host of new office, retail, and residential development along and over the air-rights of the tracks serving the station.

In support of Washington Union Station’s latest round of redevelopment, George Mason University undertook a research project looking at the experience and impact of train station redevelopment at four locations abroad. The four case studies focused on Atocha Railway Station, Madrid, Spain; St. Pancras International Station, London, England; Poznań Główny Railway Station, Poznań, Poland; and, Southern Cross Station, Melbourne, Australia.

While each station offered a different set of challenges and different approaches to addressing those challenges, the bottom line for each of those situations was to create a multi-purpose, multi-modal environment that promoted a growing and robust rail passenger ridership.



In 1903, Daniel H. Burnham, Principal Architect of the 1893 Chicago World’s Fair, was chosen to design Union Station. He modeled the Station in the monumental Beaux-Arts style and after the Baths of Caracalla and Diocletian and the triumphal Arch of Rome. Union Station’s arches symbolize its primary function as a gateway. On October 27, 1907, Union Station officially opened at 6:50 a.m., when the Baltimore and Ohio Pittsburgh Express pulled into the Station. The Station was ultimately completed in 1908.



The 14-acre project is to be called Burnham Place, after the Chicago architect Daniel Burnham, who designed the station. The new platform atop the tracks will extend a renovated and reconfigured station that will adjoin the mixed-use project.

IN THE SPOTLIGHT

CELEBRATING WOMEN WHO MOVE THE NATION



VENETTA KEEFFE
SENIOR RAIL PLANNER

"State departments of transportation are very familiar with competition and know the benefits it can bring to taxpayers and travelers. Indiana believes that private-sector innovation is the way to improve passenger rail service."

INDIANA
Department of
Transportation



JENNIE GRANGER
EXECUTIVE DIRECTOR

"Governor Tom Wolf is focused on delivering government that works and ensuring a well-managed transportation system. Pennsylvania has new multi-modal funding sources in place, which puts us in better position to keep growing ridership on our cross-state passenger rail service. The Keystone Corridor continues to see more riders even with lower fuel prices and PA's ongoing financial commitment to high-speed and frequent service is the reason. Covering nearly 45,000 sq. miles stretching from the Great Lakes to the Eastern Seaboard, PA is a diverse state with an array of transportation needs and the PADOT is committed to using its taxpayer-provided resources wisely and efficiently."

PENNSYLVANIA
Department of
Transportation



ANGELA BRAZZALE
SENIOR RAIL PLANNER

"There is a growing need for public partners to work cooperatively with host freight railroads to study ways to expand system capacity and improve infrastructure to increase fluidity of the entire rail network. This would benefit all rail service providers and improve Amtrak on-time performance. Public-private partnerships are an important way to leverage available capital funding sources."

AECOM
Rail and Transit

COMPETITORS WILL FIND A WAY TO WIN

PRIVATE SECTOR INNOVATION

Contributed by Venetta Keefe, INDOT

State Departments of Transportation are very familiar with competition and know the benefits it can bring to taxpayers and travelers.

State and federal rules require construction contracts to be awarded to the qualified company that submits the lowest-cost bid. Requests for professional services and certain design-build projects are also procured using a competitive process that considers experience and the best value to taxpayers.

Time and time again travelers reap the benefits of private-sector innovation. Indiana, for example, has partnered with federal officials to have contractors compete over both cost and minimizing the closure of heavily traveled projects. This bidding process has successfully reduced full closures of Interstates 64, 65, 70 and a busy interchange near an Indianapolis mall.

Private-sector innovation and competition have also transformed the design-build construction of major Ohio River Bridges. Madison, Ind., and Milton, Ky., faced having the one bridge linking their shared workforce and economy be closed for a year or more. By having bidders compete over cost and closure days, Walsh Construction Company proposed building the new bridge on temporary piers and then sliding it into place. This innovative solution minimized the closure to about one month.

Indiana bid its portion of the massive Louisville-Southern Indiana Ohio River Bridges Project as a public-private partnership. This combined the design, construction, financing, operations and maintenance of the East End Crossing, upstream from Louisville, into one large public-private contract. An international consortium of Walsh, Vinci Concessions and Bilfinger Berger submitted a winning proposal that cost 23 percent less than estimated and would open the new bridge to traffic eight months earlier.

When Congress voted in 2008 to end federal support for certain Amtrak routes of less than 750 miles, it was expected that states would pick up the tab. The Passenger Rail Improvement and Investment Act also allowed state departments of transportation to introduce the private-sector innovation they know so well by seeking competing contractors.

Indiana was the first to seek competition for its state-supported Amtrak service, and it may not be the last. Amtrak's Hoosier State travels four days per week between Indianapolis and Chicago. It combines with Amtrak's long-distance Cardinal service to provide daily round-trip service.

Beginning in October 2013, the state partnered with the on-line communities of Beech Grove, Crawfordsville, Indianapolis, Lafayette, Rensselaer, Tippecanoe County and West Lafayette

to fund the Hoosier State. The local communities have an interest in improving performance and ensuring accountability for the tax dollars they are investing.

The Indiana Department of Transportation is negotiating on behalf of the state and on-line communities, long-term agreements with Amtrak and INDOT's contractor, Iowa Pacific Holdings. Under the proposed service, Amtrak would serve as the primary operator, working with host railroads, providing train and engine crews, and managing reservation and ticketing. Iowa Pacific would provide the train equipment, train maintenance, on-board services and marketing.

The proposed service is modeled in part after Amtrak's successful Piedmont service between Charlotte and Raleigh, N.C. North Carolina owns the equipment used for the Piedmont, and the NCDOT contracts with Amtrak for operations and private contractors to maintain the rolling stock.

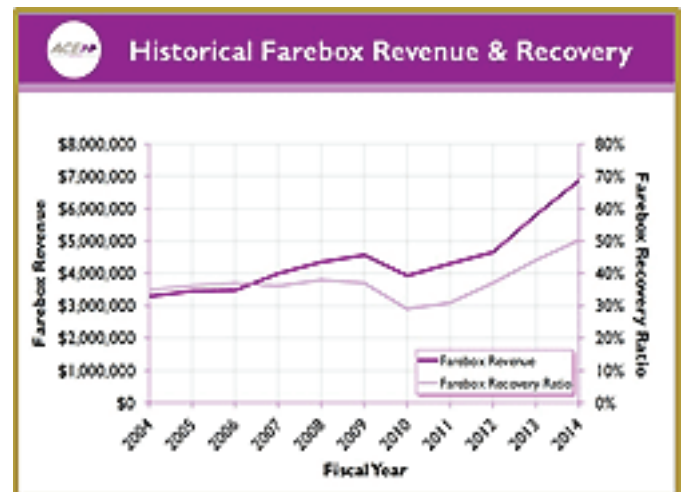
While the path to accomplish this has not been clear, and there have been a few bumps in the road, Indiana believes that private-sector innovation is the way to improve passenger rail service. Indiana hopes an improved Hoosier State service will serve as another successful, sustainable example of the benefits of competition, which states know so well.

ACE MOVES FORWARD

Riding on a crest of four years of impressive ridership increases, the Altamont Corridor Express (ACE) is embarking on an ambitious system expansion plan.

The ACEforward initiative will increase frequencies along the 85-mile route between Stockton and San Jose from 4 to 6 round trips near term and to 10 round trips long term. ACE will also expand, adding 57 route miles in the San Joaquin Valley to link up with the high-speed rail system at the proposed interim northern terminus in Merced.

ACE ridership has exceeded 1,000,000 riders per year for the first time in 2013 and has seen ridership increase more than one-third since 2008 with percentage increases approaching or exceeding double



digits the last four years in a row.

Current On-Time Performance (OTP) of 93.5% following completion of track work by host railroad Union Pacific has helped.

Financial performance has been increasing as well in recent years. Farebox revenues have increased nearly 60 percent in this same timeframe and the farebox recovery ratio exceeded 50 percent in Fiscal 2014.

Under the dynamic leadership of Executive Director Stacey Mortensen, ACE makes customer service number one priority and uses a variety of creative marketing strategies ranging from free tickets to football specials to the San Francisco 49'ers new Levi's Stadium which sits adjacent to ACE's highest ridership "Great American" station in Santa Clara.



Stacey is supported by a talented executive management team which includes Brian Schmidt as Director of Operations, Planning and Programming and Nila Cordova as Director of Fiscal and Administration. Additional senior management staff includes Dan Leavitt, Manager of Regional Initiatives; Karlha Davies, Manager of Community Engagement and Marketing; John Giovannoni, Operations Manager; and Don Johnston, Maintenance & Facilities Supervisor.

Impetus to Expand California Intercity Rail Services

Plan Bay Area, the 2040 integrated transportation and land-use/housing strategy jointly developed by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) recognizes that ongoing job growth in the core and the inability to meet all of the housing needs for such employment will result in increased in-commuting along constrained transportation corridors which are topographically limited to a small number of principal gateways such as Altamont Pass which lies to the east of San Jose, San Francisco and Oakland.

California High-Speed Rail Authority released a Business Plan in 2012 which commits the agency to a phased construction plan which relies heavily upon “blended systems” (e.g., use of conventional rail feeder routes) especially in Northern California where extensions beyond Merced will not be built until after the system has reached the Los Angeles Basin. ACE has determined that there is robust ridership potential in the northern San Joaquin Valley and is pursuing a southern branch to Modesto and Merced with a platform located adjacent to the interim high-speed rail terminal.

California has adopted a Smart Communities Strategy (SCS) which embraces the concept of higher densities surrounding transportation hubs such as downtown stations; the State also has the nation’s most aggressive regulations aimed at limiting greenhouse gasses (GHG). With strong support from the Governor’s office, California has elevated transportation to a cabinet-level agency with formation of the State Transportation Agency (CalSTA) and there is a new Deputy Secretary of Transportation dedicated to rail. State officials have cited the potential of rail to help the State meet GHG reduction targets due to the relatively large level of Vehicle Miles Traveled (VMT) reduced with long distance intercity rail trips.

In concert with the California policies and strategies noted above, a new state “Cap and Trade” law aims to tax carbon consumption and use the proceeds to fund a range of green strategies including dedicated state-level funding for intercity rail. This new programmatic funding, in conjunction with local transportation sales tax initiatives passed and/or under consideration by counties in the ACE market area, could bankroll system expansion using wholly state and local dollars.

The ACEforward Vision

ACE initiated service as the “Altamont Commuter Express” and was launched to provide exclusively long distance commute services connecting homes in the Central Valley and in the Tri-Valley area midway to San Jose with businesses located in the Tri-Valley and Silicon Valley north of downtown San Jose. ACE recently re-branded itself as the “Altamont Corridor Express” (emphasis added) in anticipation of a more robust future serving a wider range of trips with a more robust set of expanded services.

ACE has negotiated two additional round-trip slots between Stockton and San Jose with the Union Pacific Railroad (UPRR) and is developing capacity improvements to the route to accommodate growth. ACE has identified a target of 10 round trips on this route as a longer term goal. In the longer term, with higher frequencies ACE will be able to offer mid-day trips both to and from San Jose as well as a weekend – holiday schedule.

Track improvements will eliminate current “slow order” locations over Altamont Pass and additional passing sidings will improve reliability as well as avoid delays associated with conflicts between freight traffic and passenger trains. The goal is a ten percent improvement in scheduled trip time which would cut the Stockton – San Jose travel time below two hours. The target travel time from Merced to the “Great America” station in Santa Clara in the heart of Silicon Valley would be two hours and twenty-three minutes.

Another potential long-term improvement would be an approximate 1.8-mile tunnel under the Altamont crest which would further shorten the route and avoid four sharp reversing curves. ACE is also evaluating an option to re-route through new stations in downtown Tracy and the commercial district of the River Islands new community potentially shaving 2.6 miles from the 85-mile route.

ACE aims to expand in the Central Valley with a phased branch extension south from the Lathrop / Manteca area

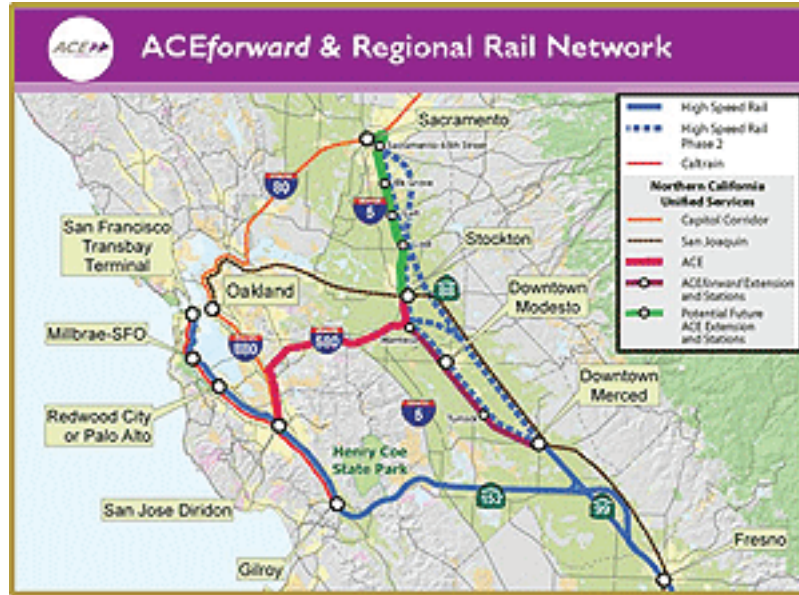
to Modesto in Stanislaus County ultimately reaching the high-speed rail interim terminus in Merced. With the extension to Merced, ACE could connect directly with the initial operating segment of the California High-Speed Rail project.

A future extension north to Sacramento would tie ACE in with the Capitol Corridor and the ultimate (Phase 2) high-speed rail network allowing it to serve as the regional complement to the statewide high-speed system in the northern San Joaquin Valley.

In a separate effort related to ACEforward, CalSTA is evaluating network integration options to enhance synergy in the Northern California passenger rail system (ACE, CalTrain, Capitol Corridor and San Joaquin services) to provide conventional rail feeders to the high-speed system.

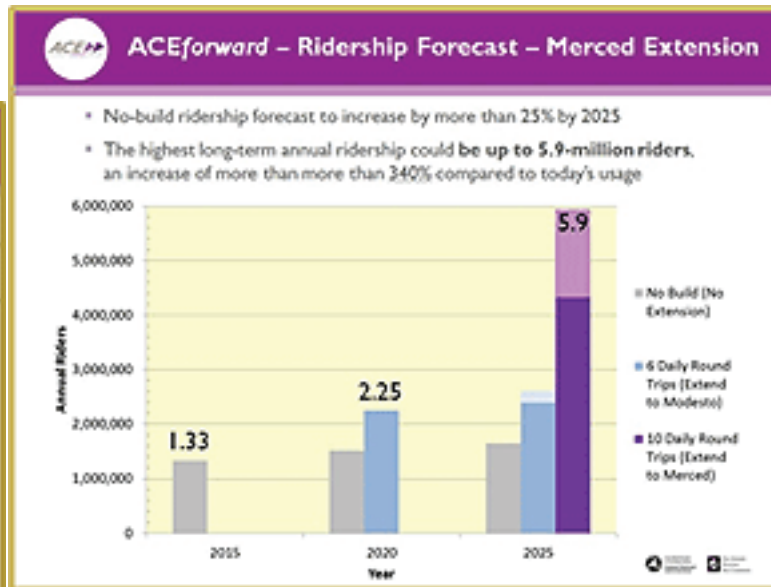
An expanded ACE would first serve as the connection between the initial operating segment of the high-speed rail system, providing direct access to portions of the East Bay and South Bay and with connections to all of the greater Bay Area. Later, with high-speed rail is extended to San Jose and San Francisco; ACE would serve as a complementary service connecting to the high-speed system both in San Jose and Merced, but serving the inherent market along the Altamont Corridor routes.

With ACE extended to Sacramento, there would be the opportunity to connect with the Capitol Corridor, providing a San Joaquin Valley complement between San Jose and Sacramento.



Ultimately, when the Phase 2 high-speed link between Merced and Sacramento would be completed, the expanded Altamont service, in conjunction with the San Joaquin service, would serve as a regional complement to the high-speed line throughout the northern San Joaquin Valley.

With the Merced extension and a connection to high-speed rail and a weekend – holiday service plan, ACE ridership is projected to more than triple up to 6,000,000 passengers per year.



NEW POLICY APPROACHES

ASSISTING PTC IMPLEMENTATION

Contributed by Ray Chambers, Executive Director
AIPRO - Association of Independent Passenger Rail Operators

The Amtrak/intercity passenger/FRA safety authorization has expired. This action forcing event puts passenger rail squarely in the sights of Congress. Furthermore, the 500 pound gorilla of the transportation world, the MAP-21 Trust Fund also expired. Through temporary extensions, Congress kicked the can on both. Congress reacts to crisis. Due to the tragic Philadelphia accident of Amtrak Train 188, Congress perceives a crisis.

The Metrolink Chatsworth accident occurred in 2008 as the last rail passenger and safety bill was poised to pass Congress. With no due process and little thought, Congress reacted with an industry-wide mandate to deploy complex untried positive train control technology by December 2015. Subsequent, hi-tech and bureaucratic obstacles included fighting for FTC spectrum, negotiating regulatory approvals and Native American tribal demands on thousands of wayside communications poles. With the 2015

deadline expiring, the PTC statutory requirement simply cannot be met.

Ironically, just like Chatsworth in 2008, the Philadelphia accident intersected with the moment Congress was moving the major rail passenger bill. The House passed its version on March 4, 2015. On May 12, the very night of the accident, Republican and Democratic Commerce staff concluded agreement on the Senate counterpart. On May 14, Commerce Senators stopped the bill cold to gauge the accident impact.

What will Congress do? Immediately following the Philadelphia tragedy, chief NTSB investigator Robert Sumwalt stated that had PTC been installed as the Board recommended, "this accident would not have occurred!" In the following great debate, options ranged from providing billions more to Amtrak to strict enforcement of deadlines against delinquent railroads.

No real solutions were put on the table. If the "get tough with railroads" crowd prevails, fines could reach up to \$100,000 per day under current law.

There is progress. The freight railroads are working hard and have expended more than \$5 billion on this government mandate. If given three to five more years of breathing room they will fully deploy PTC. The real problem is on the passenger side. For a half century our highway centric national transportation investment has starved passenger rail. America needs a first class passenger network as road congestion intensifies and population grows. Yet, today our states and commuter agencies struggle to provide even basic service. APTA estimates that full PTC deployment for commuter rail in the near term would cost an additional \$3.48 billion. They don't have the money. It can't be done! Thus, the unfunded federal mandate faces empty public treasuries and an impossible deadline. This could be the straw that breaks the camel's back on some

commuter and intercity passenger properties.

The question is will Congress once again overreact with a “knee-jerk” at huge cost to industry and little impact on safety? The only hope for Congress is if labor and management from freight, commuter and intercity passenger craft a common sense approach and hand it to Congress. Recently, AAR president Ed Hamberger noted in a Wall Street Journal piece, “Although freight and passenger rail are separate we are one rail community.” This is the cornerstone of the PTC solution.

The Association of Independent Passenger Rail Operators is ready to bring a specific proposal to Congress. We invite comment.

AIPRO proposal: One Common Solution – In Three Parts:

1. Short term - Freight and Passenger Additional Time - Congress should promptly enact a responsible delay to 2020. We endorse legislation reported from the Senate Commerce Committee.

2. Short term - Passenger Pilots - Now is the time for Congress to help fund the mandate it imposed on passenger rail. The Senate intercity passenger authorization should include a provision establishing a PTC Pilot Program to: 1) create a stakeholder committee under FRA to oversee passenger PTC implementation. This Committee would survey the industry to get a property-by-property handle on costs and priorities to achieve full PTC implementation. 2) Provide competitive grants to accelerate PTC passenger implementation. The demonstration grants would be geographically diverse and could be



“States get to improve transportation infrastructure; that creates economic development, puts people back to work and, most important, enhances safety and improves local communities.”

-Corinne Brown

used for anything from planning and installing basic PTC systems to equipping passenger locomotives to operate on freight track.

3. Long term – National PTC Full Deployment - Create a new National Initiative for full PTC implementation. This one-time program would build on the experience of the Pilots. The MAP-21 re-do would embrace the initiative by establishing a new Unified Transportation Account to assist with public interest passenger rail projects as proposed by the Administration. Within that account the priority would be full PTC Implementation in the shortest possible time.

Can this be done in our fractious tight fist Republican Congress? I say it can. I predict that around December the Republican leadership will bite the bullet and authorize a bipartisan four to six year Transportation Trust Fund at greater than current levels. Why? Because Republicans must prove to the nation they can govern responsibly if they ever hope to retake the White House. Further, I believe they

will draw on massive Repatriation Tax funds. Why? Because there is no other real option. If I am right, most of the money in the New Trust Fund will not be from gas tax—but from everybody. With most funds not being from road motorists, there will be no reason to exclude public interest rail passenger projects. Last December 10 in Senate Commerce testimony, I proposed a MAP-21 reauthorization rail title to provide new capital investment for the Northeast Corridor, state supported intercity routes and urban commuter rail. The MAP-21 Rail Title #1 Priority should be a firm commitment to accelerated implementation of Passenger PTC across the country. Only then can we truly put the Chatsworth and Amtrak Train 188 in the rearview mirror and move to safer passenger railroading in America. The goal should be to emulate the Japanese decades long record of accident free high performance passenger rail service.

PASSENGER RAIL SUMMIT - CALIFORNIA

FOCUS ON INNOVATIVE FINANCE

Contributed by Art Guzzetti, APTA

The outlook for passenger rail development in California received in-depth discussion at the California Passenger Rail Summit, convened April 29, 2015 in Sacramento. Organized by the Capitol Corridor Joint Powers Authority (Gail Murray, chair; David Kutrosky, Managing Director) the event attracted over 150 participants, including passenger rail officials, rail advocates, elected officials, planning and land use officials and staff.

Celebrating the Success of California's Burgeoning Passenger Rail Network

The event was aimed at raising awareness of the benefits of California's passenger rail network and to strategize for its future development. Attendees helped forge advocacy strategies and partnerships to educate local, state, and federal agencies on the need for a funding program to support passenger rail.

Participants discussed challenges and explored ways to improve the state's passenger rail services to meet the needs of passengers and communities.

The state's recognition of passenger rail as a long-term strategy for commerce and economic prosperity was highlighted in a keynote address by California State Transportation Secretary Brian Kelly. Other sessions focused

on the Development of California's High-Speed Rail System; Sustainable Transportation Strategies; and Transportation & Tourism Collaboration. A session on Statewide Rail Network Integration included presentations by Altamont Corridor Express, San Joaquin Joint Powers Authority, Caltrain, Capital Corridor Joint Powers Authority, and LOSSAN Joint Powers Authority.

Solutions for Financing an Ever-Growing Network

Securing viable and sustainable revenue sources to support the development of the envisioned network continues to be a challenge. Support for California's various passenger rail services must address operation and maintenance, capital and state of good repair. A session focused on this topic included Karen Hedlund, Director of Public-Private Partnerships, Parsons Brinkerhoff, and former Deputy Administrator of the Federal Railroad Administration; Sharon Greene, Senior Vice President and Director of Finance Market Sector, HDR, and Art Guzzetti, APTA Vice President, Policy. The importance of a federal-state-local-private partnership was emphasized throughout.

Ms. Hedlund served as moderator, and led the discussion. In her own presentation she described in thorough detail the passenger provisions of the Obama Administration's proposed GROW America Act, including the proposed Rail Services Improvement

Program, which would help support the development of new corridors and the upgrade of existing corridors. Other provisions would make regional rail development authorities eligible for federal grants, thus facilitating rail service improvements across state lines.

Hedlund also described issues pending before Congress in the context of the pending reauthorization of the Passenger Rail Investment and Improvement Act. This includes the proposed Railroad Infrastructure Financing Improvement Act (RIFIA), introduced by Senator Cory Booker (D-NJ). This legislation would make various changes to the current RRIF program to facilitate obtaining low-cost capital for railroad improvements.

Ms. Greene spoke to opportunities for innovative funding, financing and private sector involvement. Discussion covered sources at the federal, state and regional / local levels, highlighting the following key capital sources:

Federal: FTA New Starts grants; FRA unallocated grant funds; TIGER grants; FHWA flexible funding.

State: State bond proceeds; Regional Transportation Improvement Program; Interregional Transportation Improvement Program; Greenhouse Gas Emission Reduction Fund.

Regional / Local: Existing and future voter-approved local dedicated funding; Benefit Assessment Districts; Enhances Infrastructure Financing Districts (replaces TIF); Property / ROW donations; Naming rights; Cost sharing with major activity centers / employers / universities / other institutions served; lease revenues; access / usage fees.



Guzzetti spoke of the economic, social and market trends that point to a favorable future for passenger rail. Including a discussion of the current study sponsored by APTA's High-Speed and Intercity Passenger Rail Committee which will quantify the various benefits which stem from passenger rail investments.

Guzzetti gave a series of case studies from rail transit and commuter rail, and how creative funding plans were put together in places like Salt Lake City; Washington DC; Denver; Charlotte, Phoenix and Dallas. In each case, local self-help initiatives helped leverage other sources of support from the federal government, the private sector as well as low-cost capital. He gave examples of how the private sector is beginning to recognize in more tangible ways the economic value of the access provided through public transportation. Figuring out ways to further monetize this will be the next big frontier.

“You can't understand a city without using its public transportation system.”

-Erol Ozan

PRIIA

NEC, COST ALLOCATION & SECTION 212 - *AN AMTRAK PERSPECTIVE*

Contributed by Jason Steffensen

In the March 2015 issue, Tom Frawley's article provided an overview of Section 212 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), which established the Northeast Corridor Infrastructure and Operations Advisory Commission (the Commission) and directed it to develop a consistent method of allocating costs associated with shared use infrastructure between Amtrak and the Northeast Corridor (NEC) commuter rail operators. Section 212 prohibits cross-subsidization between intercity and commuter rail modes and requires that existing pricing mechanisms be replaced with the new approach.

Some of the ramifications of the cost allocation requirement are obvious. The new method will be fairer compared to the current amalgam of methods that have been negotiated over the years; generally, commuter agencies that have long-standing agreements with Amtrak pay less than more recent arrivals. And the elimination of cross-subsidization will ensure that funds for intercity or commuter rail transportation modes are put toward their intended use.

Less obvious are the long-term implications of Section 212. In a few years, let's hope that we will look back at cost allocation as the turning point for reversing decades of underinvestment. Already, cost allocation discussions are maturing into a dialogue

about the future of the NEC, the pace of investment, priorities, and how to partner together and with others to achieve the desired levels of investment. This dialogue involves a level of cooperation and collaboration among the stakeholders not seen on the NEC before.

I feel privileged to have been able to participate in some of these discussions. For the past couple of years, I have been responsible for coordinating Amtrak's efforts in complying with Section 212. In the beginning, developing the cost allocation method was the emphasis, and lately it has evolved into managing its implementation. One of my roles is providing information about the new requirements throughout the company. In presenting the material, I emphasize the potential long-term benefits, as extra motivation in pulling together to ensure success.

The interim cost allocation policy adopted by the Commission in December, 2014, is a major accomplishment. It provides the method for allocating costs, and establishes transparency requirements pertaining to cost data. It also sets forth a framework for collaboration in capital planning and investment, and it identifies policy actions that could be taken at the federal level to help streamline investment and secure additional funds. Throughout, the policy artfully navigates between the sometimes-competing concerns of

operators and owners. Different interpretations of the policy may arise, and we'll try to resolve those without sacrificing the overall cooperative spirit.

Many of us involved in Section 212 are familiar with Section 209 of PRIIA, which resulted in a consistent formula for allocating costs associated with state-supported intercity trains nationally. Hopefully, we've learned some lessons from Section 209, which was implemented two years before Section 212 and faced some interpretation issues.

Of the various pieces of the policy, the framework for capital planning has the most potential to begin turning around the fortunes of the NEC. It requires the Commission to develop an annual NEC-wide five-year capital plan and one-year capital spend plan with input from all owners and operators. The current capital plan for Federal Fiscal Years (FFY) 2016-2020 was endorsed by the Commission in March, and work on the FFY 2016 spend plan is underway.

This collaborative capital planning process will reap some immediate benefits. All operators can now see what projects are being planned that could affect railroad operations or consume limited resources such as track outages, staffing, and equipment. Owners can better plan ahead to secure and manage the resources needed to support those projects. The plan will also help identify projects in close proximity that may be better

coordinated among project sponsors.

Also, as the new policy becomes effective in FFY 2016, operators will begin contributing to a capital program, not just specific projects. Owners will be expected to provide meaningful progress reports on the full capital program. Today, many commuter agencies contribute only to capital projects that they have approved, and Amtrak gets reimbursed on an actual cost basis. This results in a few projects being heavily scrutinized while the bulk of the program gets relatively little attention. The new all-inclusive reporting environment should help all operators better understand how the capital program is developed, how program delivery must be integrated with daily operations and maintenance, and how the program gets adjusted as conditions change. This will take some patience as owners figure out the best way to convey information to the operators, and operators develop the capacity to understand the information and use it in a meaningful way.

The capital planning process will also need to mature over time to become better linked to service plans and other goals, such as those related to safety, state of good repair, infrastructure improvements, and passenger experience. As noted in Mr. Frawley's article, the Commission's adopted mission includes creation and implementation of a visionary, long-term, regional investment strategy for the NEC; and NEC FUTURE, led by the Federal Railroad Administration, is developing a long-term vision and plan for improvement. The tactical work of implementing those visions will take place during the annual update of the five-year capital plan and one-year spend plan, through ongoing discussions between owners and operators, and will surely consider current economic

The NEC is a shared resource with multiple right-of-way and station owners and service providers. Amtrak is the only service provider that operates from end-to-end, though ten commuter authorities, in addition to six freight carriers, also rely on the NEC rail network for some portion of their service.

and political realities, nationally and locally.

There are also risks associated with Section 212. First, we have to be disciplined about adhering to the prohibition against cross-subsidization. There will certainly be occasions where Amtrak has the funds to advance an important project but a commuter agency is unwilling or unable to partner with us to fund its share. Second, we have to adhere to our responsibilities as an owner and steward of the infrastructure to maintain safe and reliable service for all operators, while making our decisions more transparent and incorporating more input from others (whether in capital planning or in other areas). We will have to manage expectations about how such input will be incorporated by establishing clearly defined processes.

Also, Amtrak recognizes that in the new environment where each operator pays its fully allocated cost, operators expect information about how their contributions are being spent and what actions owners are taking to become more efficient. We are committed to providing such information, which presents another set of risks to manage: for one, we need to put protections in place so that confidential information is not used improperly; for another, we anticipate that we will have to react to increased questioning and criticism stemming from the

new information that we release.

Despite the tremendous amount of work ahead, and the potential pitfalls, this is an exciting time for Amtrak. I know many of our partners are also optimistic about the opportunities presented by Section 212. The NEC is an incredibly complex operation, with eight commuter operations, Amtrak, and six freight carriers operating over 2,100 trains daily, and right-of-way ownership split between Amtrak and three public entities. The Commission provides a necessary forum for coordination, one that has never existed in the history of the NEC. Recent progress bodes well for the future. The NEC may yet be revitalized into an asset that the United States can be proud of.



“Never doubt that a small group of thoughtful, committed, citizens can change the world. Indeed, it is the only thing that ever has.”

-Margaret Mead

LEGISLATIVE NEWS



SENATE COMMERCE COMMITTEE TO CONSIDER REFORMS TO PTC, RRIF

Contributed by Peter Peyser



The nature of conversations in Washington over rail legislation changed dramatically on May 12 when eight people lost their lives in the derailment of Amtrak Train 188 in Northeast Philadelphia.

The immediate impact of that tragic crash was on the discussion over funding for Amtrak. This came into sharp focus when the House Appropriations Committee voted on the day after the accident to reduce Amtrak funding by 20%.

The juxtaposition of these two events framed the discussion over rail funding in a way that will have an impact well beyond the spending bill for the fiscal year beginning October 1. It will also have an impact on the discussions over legislation to re-authorize Amtrak funding, authorize an intercity passenger rail funding program and

consider an extension in the deadline for installing Positive Train Control on our nation's rail networks.

As our readers will recall from the most recent edition of "Speedlines," the House acted in March on its version of rail legislation -- "PRRIA". Since the House acted, the Senate has been gearing up to consider its own version of rail legislation. On March 4 Sen. Roy Blunt (R-MO), introduced legislation (S. 650) to extend for five years the deadline for installing PTC on the nation's railroads. The bill's bipartisan list of 13 co-sponsors of that legislation gave it momentum and the full Senate Commerce Committee approved the bill on March 25. That action most likely represented the high water mark for the idea of a five-year extension. On April 16, Sen. Dianne Feinstein (D-CA) introduced S. 1006, a bill allowing the

Federal Railroad Administration (FRA) to grant rolling one-year extensions to railroads upon their request. The bill included six co-sponsors, all of them Democrats. As many will recall, Sen. Feinstein was the author of the PTC provision now on the books in the aftermath of the 2008 Chatsworth train crash in California. Her passion for this issue is well known and she is a formidable presence in the Senate.

Given this chain of events, the 5-year extension of the PTC deadline was in trouble even before the Philadelphia accident. As it became clear that PTC would have prevented the deaths of those eight people in Philadelphia, the chances for an extension of that length diminished even further.

The other piece of legislation to emerge in the Senate recently has been a proposal by Sen. Cory Booker

“In every region of the country, passenger rail investments boost local economies and create thousands of family-wage construction, engineering, and manufacturing jobs. This bill isn’t perfect—but it was a bipartisan effort that ultimately provides critical investments and system wide improvements to increase capacity and make our railways safer,” said DeFazio.

(D-NJ) to reform the RRIF program. His bill, S. 797, the “Rail Infrastructure Financing Improvement Act,” (RIFIA) suggests several interesting reforms to the RRIF program that are intended to make it more “user friendly.” There are two particularly important reforms proposed in this bill. First is a provision that would allow for more options for borrowers to satisfy the requirement to pay a credit risk premium to the FRA to cover the potential for default. Second is a proposal to allow the FRA to engage in Master Credit Agreements. These agreements would allow borrowers to gain approval for a program of projects before each project in the program is ready to close its loan. This provision mimics one in the TIFIA program. The Department of Transportation has yet to implement this provision of law. Importantly, Sen. Booker was joined in the introduction of this legislation by Sen. Mark Kirk (R-IL), so it has a bipartisan flavor to it.

The Booker legislation will be particularly valuable to Amtrak as it seeks to advance a number of projects in the Northeast Corridor. The Gateway project, for example, includes a number of elements between Penn Station Newark and Penn Station New York. Some, like the Portals Bridge replacement, are ready to go. Others, most notably new tunnels under the Hudson River, are not. A Master Credit Agreement would provide an assurance to Amtrak that a credit facility exists to cover part of the financing cost of projects that will advance at different times. The same benefits might also be available to complex programs like the one being advanced by the California High Speed Rail Authority.

As this article goes to press, draft legislation is being circulated on the Senate side which would serve as the basis for action by the Commerce Committee on a comprehensive rail bill this summer. According to Senate sources, the bill includes the RIFIA provisions proposed by Sen. Booker,

and provisions similar to those in the House bill regarding Amtrak and intercity passenger rail. The question of PTC may or may not be brought up at committee again when this bill is considered.

Once the Commerce Committee acts, a decision will need to be made as to how to move the legislation to the Senate floor. There is a potential it would be attached to the bigger surface transportation package, but given the diminishing prospects for a long-term bill to reauthorize highway and public transit programs, it looks more likely rail legislation will move separately. Action on this legislation is even more important now to address the issues raised by the Philadelphia accident. While Congress is likely to “kick the can down the road” on highways and public transit, it will be harder for them to do so on issues relating to rail infrastructure and safety with the memory of eight lost lives so fresh.

SHINKANSEN

SETTING THE STANDARD FOR BUSINESS AND TECHNOLOGY

Contributed by Mr. Hitoshi Saimyo, Executive Director, JR Group



JR East is one of the companies established when Japanese National Railways (JNR) was privatized in 1987. It provides passenger rail service on conventional lines and Shinkansen high-speed lines. In 1964, JNR opened the world's first high-speed railway, while simultaneously opening a liaison office in New York. Over the past 50 years our New York Office has collected and disseminated rail information about Japan and the United States. Presently, it represents the interests of both the Japan Railways Group (JR) and JR East.

Since the high-speed rail system started 50 years ago, there have been no fatal accidents on Japan's Shinkansen lines, a remarkable record. The total absence of grade crossings along the line and our highly sophisticated signaling system are important elements in this but there are many other contributing

factors. It is the strong combination of various systems that guarantees safety. These include disaster prevention measures (e.g. our earthquake warning system), intense employee training, and strict safety rules. All of these areas have been rethought and improved over the years to reflect environmental and technological changes. Shinkansen trains are preferred by travelers in Japan: they offer high speeds up to 200 mph, on-time operations (average delay less than 1 minute), and high frequency of service. Shinkansen cars are quiet and comfortable with sophisticated ticketing and fare collection systems so that passengers ride in comfort, style and tranquility.

The Shinkansen is an integrated network where trains, track, tunnels and stations form a highly efficient system, simple to operate and maintain. This makes the cost of constructing and operating the Shinkansen system very competitive from the viewpoint of total life-cycle cost. We hope that our 50 plus years of experience with high-speed rail service can be shared with the United States to bring greater rail

customer satisfaction and a more economically beneficial rail system to America.

JR East Contributions to U.S. High-Speed Rail Projects

Japan has a long history of involvement with high-speed rail projects in the U.S. It took part in the NEC improvement project conducted in the 1970s, and in the California High-Speed Rail Plan of the 1980s. More recently, the Japanese government and other organizations held high-speed rail seminars in Washington, DC and Chicago (2010) and in Los Angeles (2011) in response to the growing interest in high speed rail in the U.S. our President and CEO has made presentations in the U.S. In 2010 Secretary of Transportation Ray LaHood, and California Governor, Arnold Schwarzenegger visited Japan and rode on the Shinkansen. JR East also participated in the peer review of operations and maintenance that the Japanese government conducted for the California High-Speed Rail Authority at around the same time. In 2011 JR East, as a member of the Japan California High



Mr. Ogata, Vice Chairman, JR East, High-Speed Rail Forum in California - April, 2015



Speed Rail Consortium together with other Japanese companies, submitted its entry to the "Request for Expression of Interest."

JR East has also participated in other seminars and exhibitions in the U.S. sharing its high-speed rail know-how. The Vice-Chairman of JR East, Masaki Ogata, has visited the U.S. to present the economic benefits of high-speed rail including job creation and regional development, in addition to the excellent safety and environmental record of our trains. He spoke at the Western High-Speed Rail Alliance (WHSRA) in November 2011 and the 9th US-Japan Future Forum held at San Jose State University in September 2014. At the California High-Speed Rail Authority Board Meeting in

January 2015, he discussed "Crucial Concepts of High-Speed Rail" such as minimizing transfer and wait time for passengers as well as other management techniques responsive to customers' needs. Just in April, a High-Speed Rail Forum was held in California, capitalizing on the visit of Japan's Prime Minister, Shinzo Abe. At that event, JR East provided a Shinkansen driving simulator allowing Governor Jerry Brown and other guests to experience the thrill of sitting at the controls of the Shinkansen.

9th UIC Congress on High-Speed Rail

Last held in Philadelphia in 2012, this year the 9th UIC Congress on High-Speed Rail will be held on 7

to 10 July in Tokyo, hosted by UIC (International Union of Railways) and JR East with support from APTA. Its theme is "Celebrate the Past; Design the Future" and some 150 high-speed rail specialists will discuss the lessons of the past while envisioning the future. Participants will enjoy product displays and a chance to ride the Shinkansen.

We firmly believe that this conference will be the gateway to high-speed rail technology for this century. It is an event that no supporter of high-speed trains can afford to miss. Please join us in Tokyo for this memorable event; we look forward to welcoming many visitors from the United States and other countries.

KEY COMPONENTS



DRAFT ENVIRONMENTAL DOCUMENT UNDERWAY

NEC FUTURE is the Federal Railroad Administration's (FRA) comprehensive plan for the Northeast Corridor, the rail spine from Washington, D.C. to Boston. The plan will define a long-term, 2040 vision for improved passenger rail service and an incremental, phased approach to realizing the vision. The FRA is looking at all types of passengers on the NEC – from daily commuters to intercity travelers who today are served by Amtrak. It's the first plan to consider these varied services in an integrated way and with a long-term perspective.

A Tier 1 Draft Environmental Impact Statement (EIS) is currently in preparation for NEC FUTURE. The draft, to be released for public comment later this year, will evaluate three Action Alternatives in comparison with a No Action Alternative. Each Action Alternative reflects a distinct vision for the NEC and its role in the region's future transportation system:

- **Alternative 1** maintains the current role of rail, adding enough capacity to keep pace with the region's growth. In addition to choke-point relief projects throughout the corridor, it includes the B&P Tunnel replacement, two new Hudson River tunnels, and a new segment between Old Saybrook and Kenyon, RI, which avoids the movable bridges in that area and provides travel-time savings.
- **Alternative 2** grows the role of rail by adding service to new areas, reducing trip times, and significantly increasing service frequency. It adds direct service to Philadelphia International Airport and a new supplemental two-track route from New Haven to Hartford and Providence that would support higher-speed service. The existing NEC expands to four tracks, with six tracks through portions of New Jersey and southwestern Connecticut.
- **Alternative 3** transforms the role of rail, with a major increase in capacity, service to new markets, and dramatic reduction in trip times. In addition to upgrading the existing NEC, it includes a new two-track second spine the length of the corridor, supporting higher-speed service between major cities. The FRA is evaluating several route options for the second spine.

Each of the three Action Alternatives improves service on the existing NEC, achieves a state of good repair, and protects freight rail access and the opportunity for future freight expansion. They reflect the results of extensive analysis, collaboration with stakeholders, and public involvement throughout the eight NEC states and District of Columbia.

Initial estimates are now available for travel times and service frequency by alternative. Express travel time estimates are shown in Figure 1. In the No Action Alternative, the shortest trip from Boston to Penn Station New York takes 3 ½ hours, and a trip from Washington, D.C. to New York takes 2 hours and 45 minutes. Alternative 1 reduces the express travel time from Boston to New York by half an hour; Alternative 2 brings these times down further. In Alternative 3, travel times are reduced dramatically, with a trip from each end to New York taking only an hour and 40 minutes, allowing the entire NEC to be traversed in just over 3 hours.

Service frequency also increases in each Action Alternative. For example, the number of intercity trains crossing the Hudson River in the peak period (peak direction) is three per hour in the No Action Alternative. This more than doubles to an estimated 7 trains per hour in Alternative 1, 10 per hour in Alternative 2, and 16 per hour in Alternative 3. Regional rail (commuter) train frequencies also increase in each Action Alternative.

The Action Alternatives include innovative approaches that improve the passenger experience, including new intercity service, with trains that stop at more stations than Amtrak does today; higher performing equipment; coordination of schedules and ticketing across the NEC, and easier transfers between services, with some stations becoming hubs for coordinated

arrival times.

Each of the Action Alternatives would provide significant benefits to rail passengers and to the Northeast region as a whole. Passengers would be able to reach more destinations conveniently by rail, with more frequent, reliable service, more convenient connections, and a greater range of fare options. Northeast businesses and institutions would be able to draw on larger labor pools and interact across a wider area, potentially strengthening the global competitiveness of the regional economy. Cities and station areas with new service would likely become more attractive for development. The results would be far-reaching, helping to power regional growth and mobility for future generations.

The next step for NEC FUTURE is to complete the evaluation of the



Boston's South Station is within easy walking distance of the city's growing financial and seaport districts.

alternatives and the Tier 1 Draft EIS. The FRA plans to publish the draft document this fall. Public hearings will follow in each state and the District of Columbia, and there will be a variety of ways to provide comments. The public comments received will help inform FRA's decision on a preferred alternative for the Tier 1 Final EIS. To learn more and participate in the process, visit necfuture.com.

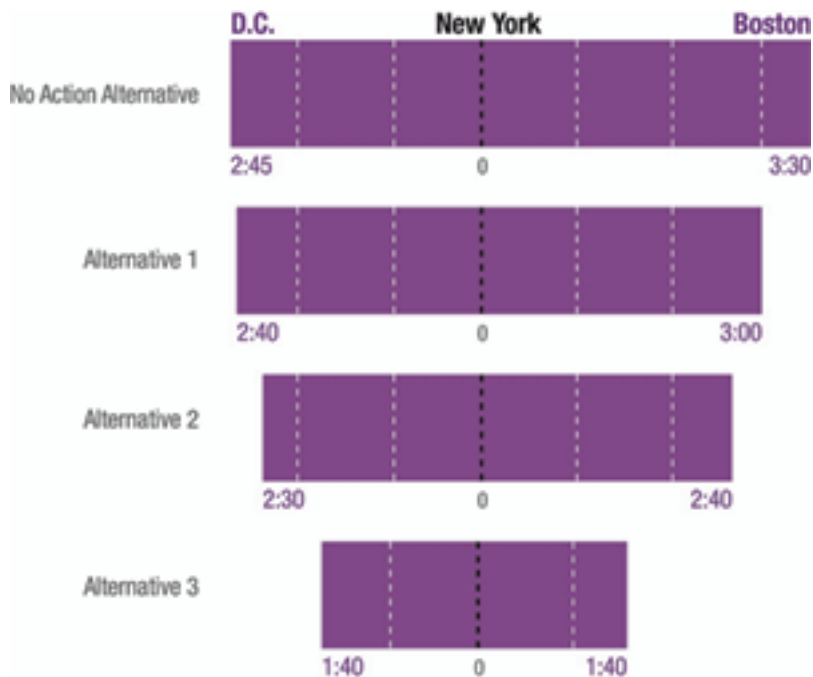


Figure 1: Estimates of Shortest Travel Times to New York by NEC FUTURE Alternative (hours)



1. The term “horsepower” originated as a marketing tool.

James Watt didn't invent the steam engine, but he did create the world's first modern one, and developed the means of measuring its power. In the 1760s, the Scottish inventor began tinkering with an earlier version of the engine designed by Thomas Newcomen. Newcomen's design required constant cooling down and re-heating, wasting vast amounts of energy. Watt's innovation was to add a separate condenser, greatly improving the engine's efficiency. A savvy salesman, Watt knew that he needed a way to market his new product. He calculated how much power a single horse working in a mill could produce over a period of time (though many scientists now believe his estimates were far too high), a figure that he dubbed “horsepower.” Using this unit of measurement, he then came up with a figure that indicated how many horses just one of his engines could replace. The sales ploy worked—we're still using the term “horsepower” today—and his engines soon became the industry standard, leading directly to invention of the first steam locomotive in 1804.

2. America's first steam locomotive lost a race to a horse.

In 1827, the Baltimore and Ohio Railroad became the first U.S. company granted a charter for transporting both passengers and freight. However, the company struggled to produce a steam engine capable of traveling over rough and uneven terrain, instead relying on horse-drawn trains. Enter industrialist Peter Cooper: Cooper, who not coincidentally owned extensive land holdings over the proposed route of the railroad (the value of which would grow dramatically if the railroad succeeded), offered to design and build just such an engine. On August 28, 1830, Cooper's engine, which he called the “Tom Thumb,” was undergoing testing on B&O tracks near Baltimore when a horse-drawn train pulled up alongside it and challenged Cooper (and “Tom Thumb”) to a race. Cooper accepted, and the race was on. The steam engine quickly roared into the lead, but when a belt broke loose it was forced to retire, and the horse crossed the finish line first. However, B&O executives, impressed with the massive power and speed Cooper's engine had proven capable of, made the decision to convert their fledgling railroad to steam. The B&O became one of the most successful railways in the United States, and Cooper (with his newly minted fortune) went on to a career as an investor and philanthropist, donating the money for New York's Cooper Union for the Advancement of Science and Art.

3. Trains helped the North win the American Civil War.

Throughout the war, railroads enabled the quick transport of large numbers of soldiers and heavy artillery over long distances. One of the most significant uses of trains came after the Battle of Chickamauga in September 1863, when Abraham Lincoln was able to send 20,000 badly needed replacement troops more than 1,200 miles from Washington, D.C. to Georgia (in just 11 days) to fortify Union forces—the longest and fastest troop movement of the 19th century. Control of the railroad in a region was crucial to military success, and railroads were often targets for military attacks aimed at cutting off the enemy from its supplies. Union General William Tecumseh Sherman provided particularly adept at the art of railroad sabotage. During his infamous “March” through Georgia and the Carolinas, his men destroyed thousands of miles of Confederate rails, leaving heaps of heated, twisted iron that southerners wearily referred to as “Sherman's neckties.”

4. Abraham Lincoln's assassination helped publicize train travel.

George Pullman, who had made a name for himself during the 1850s as a self-trained engineer and building mover in Chicago, began tinkering with the idea of a comfortable railroad “sleeping car” after a particularly uncomfortable train ride in upstate New York. By 1863, he had produced his first two models, the Pioneer and the Springfield, named for the Illinois hometown of then-President Abraham Lincoln. Pullman's cars were indeed comfortable, but they were also prohibitively expensive and

few railroad companies were interested in leasing them—until President Lincoln’s assassination in April 1865. After Lincoln’s death, a Pullman car was used as part of the cortege that travelled through several Northern cities before returning his body to Illinois. The funeral train was front-page news, and when Pullman also temporarily loaned one of his beautiful sleeper cars to a grief-stricken Mary Todd Lincoln, the publicity poured in. Two years later, he established the Pullman Palace Car Company, which would revolutionize train travel around the world. Curiously enough, when Pullman died in 1897, his replacement as head of the company was none other than Robert Todd Lincoln, the slain president’s eldest son.



5. The world’s first travel agency got its start thanks to a train trip.

In 1841, Englishman Thomas Cook, a Baptist minister, organized a train excursion for 540 parishioners to attend a temperance meeting in London. Cook negotiated a set fare for passengers, including tickets and a meal. The trip was so successful that he expanded his operations, first within the United Kingdom and then to the United States and Europe, providing passengers with comprehensive packages including transportation, accommodations and meals. In 1873, the agency, now known as Thomas Cook and Son, launched an international railway timetable, still published today, and by 1890 they were selling more than 3 million rail tickets annually.

6. The railroads also gave us standardized time zones.

Britain adopted a standardized time system in 1847, but it took nearly 40 more years before the United States joined the club. America still ran on local time, which could vary from town to town (and within cities themselves), making scheduling arrival, departure, and connection times nearly impossible. After years of lobbying for standardized time, representatives from all major U.S. railways met on October 11, 1883, for what became known as the General Time Convention, where they adopted a proposal that would establish five time zones spanning the country: Eastern, Central, Mountain and Pacific. The plan originally called for a fifth time zone, the Intercontinental, which was instituted several years later and became known as Atlantic Time. At noon on November 18, the U.S. Naval Observatory sent out a telegraph signal marking 12:00 p.m. ET, and railway office in cities and towns across the country calibrated their clocks accordingly. However, it wasn’t until 1918 that standard time became the official law of the land, when Congress passed legislation recognizing the time zone system (and instituting a new “daylight savings time” designed to conserve resources for the World War I war effort).

7. The miles of railroad track in the United States reached its peak in 1916.

It didn’t take long for railroads to catch on in the United States. The same year that the “Tom Thumb” lost its race, there were just 23 miles of railroad tracks in the United States. But within 20 years there were more than 9,000, as the U.S. government passed its first Railroad Land Grant Act, designed to attract settlers to the undeveloped parts of the country. By the beginning of the Civil War in 1861, there were 30,000 miles (more than 21,000 of them in the North), and lobbyists were clamoring for a transcontinental system across the nation. The number of railroad miles continued to climb until hitting its peak in 1916. That year there were more than 250,000 miles of track—enough to reach the moon from Earth.

8. Today’s bullet trains can top 300 mph.

When Englishman Richard Trevithick launched the first practical steam locomotive in 1804, it averaged less than 10 mph. Today, several high-speed rail lines are regularly travelling 30 times as fast. When Japan’s first Shinkansen or “bullet trains,” opened to coincide with the 1964 Tokyo Olympics, they were capable of running at speeds in excess of 130 mph. In the 40 years since, the top speed of these trains has been steadily climbing, with a current world speed record of 361 mph. Japan is no longer alone in the high-speed rail department however: France, China and Germany all operate trains capable of similar extreme speeds, and the plans are currently underway in the United States to construct a high-speed rail line connecting the California cities of San Francisco and Anaheim.

COMPETITIVE TRIP TIMES

THE KEY TO PUBLIC SUPPORT

Contributed by Wendy Wenner, Amtrak

When traveling from Richmond to Washington, timely options are not plentiful; dodging traffic with the train running parallel to 95, you will face a commute of approximately 2 hours and 45 minutes.

Virginia transportation officials, along with the FRA, say the answer is to explore the 123-mile stretch connecting the two cities. The plan would be to raise the maximum rail speed from the current 70 to 90 mph. In doing so, the trip time would be reduced to 90 minutes, thus making intercity passenger rail more competitive with car and air travel. They want this to happen by 2025.

This type of effort would require maximizing the efficiency of the existing infrastructure while making enhancements to increase rail capacity. The corridor, which generally has a two-track system, is used by passenger and commuter rail, as well as freight. The goal of the current EIS Tier II Study would be to develop site-specific rail alternatives for placement of a third track and along with station redevelopment necessary for

growth, additional sidings, signals, grade crossings and curve modifications to increase speed.

“This is an important gateway project, that will open up all that is functional, efficient, and comfortable about rail travel in the Northeast to those who are south of Washington, DC” said Emily Stock at Virginia Department of Rail and Public Transportation.

Efforts are already underway for the addition of a third track in the area used by Virginia Railway Express which provides commuter rail service from Fredericksburg to Washington, DC. There’s also been some controversy whether a fourth track would enhance the vicinity north of Fredericksburg where rail traffic is reaching capacity due to various passenger and freight services in Northern Virginia.

The Virginia Department of Rail and Public Transportation, meanwhile, expects to complete the federal environmental study in 2017 which will include detailed improvement projects and costs. The plan is to seek federal funding and implement the recommendations in phases. Officials say they expect to see improvement

over the next decade.

The Richmond-DC project is part of a larger push to progress federal plans for bringing higher-speed trains to the Southeast Corridor reaching into Florida.

Any improvements in the Commonwealth’s rail system also would support Amtrak’s vision to transform the Northeast Corridor into a high-speed system by 2040. Many of the Northeast trains originate in Virginia. Amtrak’s plan calls for the replacement of its Acela Express fleet which currently operates at up to 150 mph and is planned to increase speed to 160 mph.

Last year, there was a request for procurement bids seeking up to 28 high-speed trainsets, adding 40 percent more capacity than the current Acela models. In turn, they are expected to meet or exceed current Acela Express trip-times on the existing NEC infrastructure between DC, NYC and Boston.

Amtrak’s long-term strategy for the busy Northeast Corridor — which

currently carries about 12 million passengers annually— would make a trip from NYC to DC possible in just 94 minutes, compared with the current three hours.

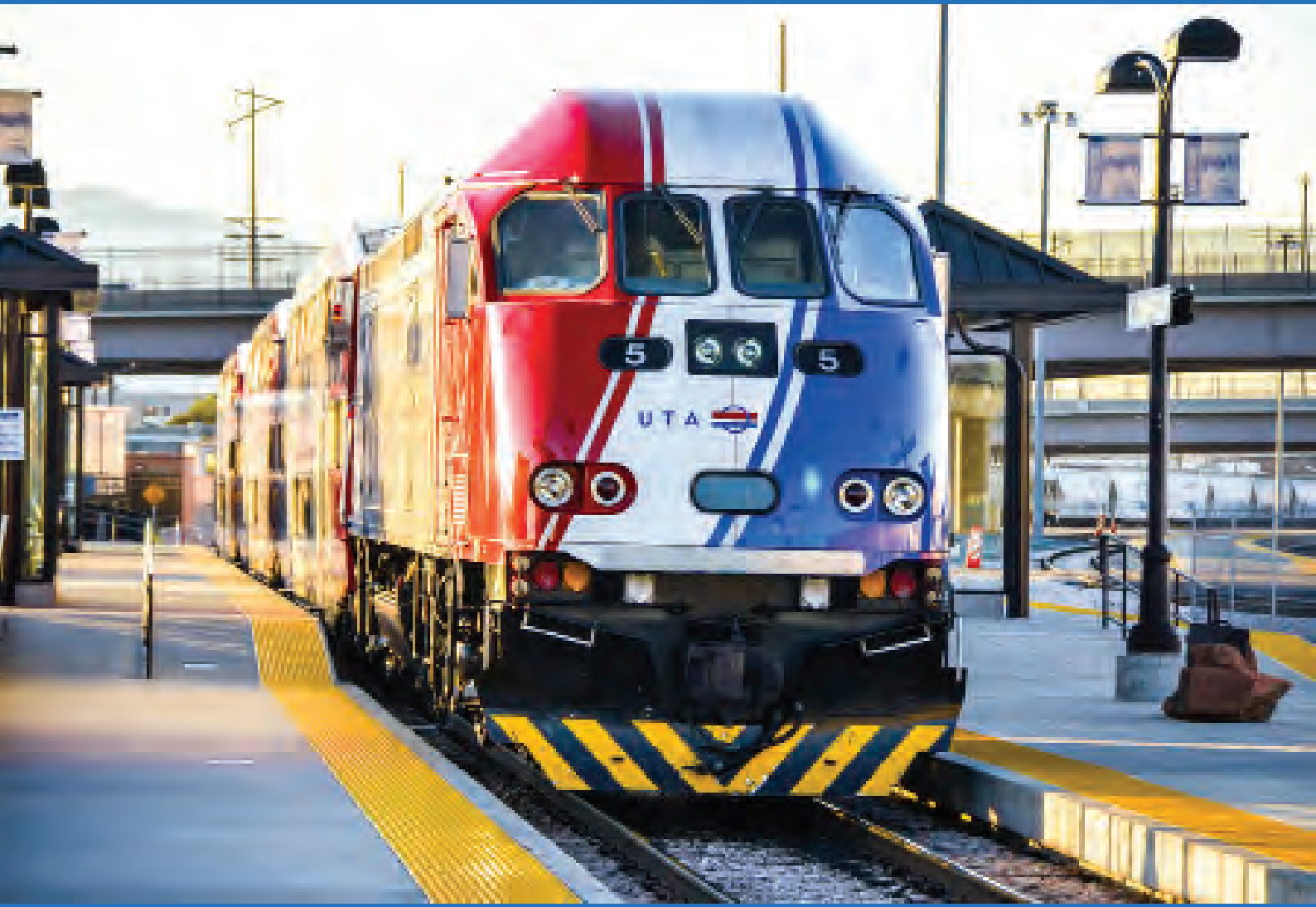
Other regions are undertaking similar programs. California broke ground in January with the largest infrastructure project in state history, a massive high-speed rail line that will connect the state's two largest metropolitan areas of San Francisco and Los Angeles. The rail project has an estimated cost of \$68 billion over the next 14 years, and once completed it will allow average trip times of under three hours between these two points.

Illinois is moving in the right direction with high-speed rail as a resolution was passed in June by Illinois State Senate urging Congress to invest \$2.5 billion in high-speed rail, as well as instructing the Illinois DOT to conduct a ridership analysis. In doing so, the region's master planning efforts will meet the demand for fast, frequent and dependable trains linking Midwestern communities.

The Obama administration's High-Speed Intercity Passenger Rail Program has made \$10.1 billion available to projects across the U.S., so far investing in more than 150 projects to advance high-speed plans. These investments in rail are critical in addressing traffic congestion and supporting the state's population growth and the demands for diverse modes of transportation, as well as the need to move goods throughout the U.S.

Despite all these efforts, however, there is still no permanent fix for the nation's dwindling transportation fund; with nearly 99% allocated. By not resolving this issue, critical investments in rail will likely be stalled making it harder for the country to remain globally competitive. We need to invest in our nation's rail infrastructure.





FrontRunner at Salt Lake Central

As part of the FrontLines 2015 project, the commuter rail corridor has been expanded south 44 miles (71 km) to Provo.

The FrontLines 2015 program is a group of five UTA rail projects that will all be in operation by the year 2015 and will add 70 miles to UTA's existing 64-mile rail network. These projects are designed to provide Wasatch Front residents with transportation options and to enhance mobility for non-riders by decreasing traffic congestion.