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## ENO TRANSPORTATION WEEKLY

# The Future of the Northeast Corridor

By admin

Passenger Rail Amtrak Rail Northeast Corridor

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**BY: RICHARD J. LOBRON**

CHIEF, NEC INFRASTRUCTURE AND INVESTMENT DEVELOPMENT

AMTRAK

The National Passenger Railroad Corporation (Amtrak), the nation's congressionally-chartered national passenger railroad, operates 310 daily intercity trains on a 21,200 mile system serving 528 stations across the country. In Fiscal Year 2012, Amtrak enjoyed record-setting levels of ridership and ticket revenue across its national network with 31.2 million riders and more than \$2 billion in ticket revenue. Amtrak covers over 88 percent of its operating expenses through fares, a significantly higher farebox ratio than all other public transportation services in the United States.

While 70 percent of Amtrak's national train miles run on track owned by other railroads, the majority of its operations run along the Northeast Corridor (NEC) – the main rail artery between Washington, D.C. and Boston, Mass. (this includes branches to Harrisburg, Penn., Springfield, Mass., Albany, NY and Richmond, Va.). The NEC is an incredibly intricate railroad system as one of the most complex and congested railroad territories in the world. With over 260 million trips per year, the NEC carries approximately 750,000 riders every day on over 2,200 trains operated by Amtrak, eight commuter rail operators and several Class 1 and regional freight railroads. On the total NEC territory, Amtrak owns and operates over 546 track miles and is responsible for the maintenance and usage of the infrastructure, including 17 tunnels and over 1,000 bridges.

Unfortunately, much of the Northeast Corridor is in dire need of rehabilitation and is approaching the limits of its capacity. Initially constructed by the Pennsylvania Railroad over 100 years ago, many of the major structural components of the infrastructure are delivering extraordinary levels of service with little capital improvement. Amtrak currently faces a more than \$5 billion State of Good Repair (SOGR) backlog that requires attention to ensure continued reliable service on the NEC. These rail assets, as well as the entire NEC, are in need of redesign and replacement in order for the nation to enjoy reliable high-speed rail service into the next century.

Financing the future of the NEC has been a topic of concern for all affected users. In 2008, Congress promulgated the Passenger Rail Investment and Improvement Act (PRIIA) which put in place a process for substantially amending the current structure for funding Corridor operations and capital improvements. PRIIA established the Northeast Corridor Infrastructure and Operations Advisory Commission (NEC Commission), a collaborative body representing the interests of the various users of the NEC, including states, commuter agencies and freight railroads. This legislation mandated that commuter agencies and Amtrak be responsible for a proportionate share of the operating and capital costs, ultimately contributing to the rehabilitation of the Corridor for the benefit of their service. This concept of cost sharing is a significant departure to historic practices as it seeks a common basis for users to contribute to shared operating costs and capital investment – rather than the current practice of negotiating bilateral cost sharing agreements between the infrastructure owners and users, which results in an inconsistent level of contribution across users. Amtrak, alongside the NEC Commission, is in development of a complex cost sharing structure to be implemented by 2014.

While confronting the challenge of maintaining and rehabilitating the aging infrastructure, there is also a fundamental economic need for long-term reinvestment to address capacity expansion options in the Corridor. The Northeast

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mega-region is a powerhouse of economic output for the United States. While occupying only 2 percent of the nation's land area, the Northeast is home to 17 percent of the nation's population and produces 20 percent of the nation's GDP representing a \$2.6 trillion economy.<sup>[1]</sup> From 2010 to 2040, the Northeast population is projected to add approximately 6.7 million residents (13 percent growth)<sup>[2]</sup> and intercity travel is conservatively projected to grow 45 percent, from 161 million annual trips to 230 million by 2040.<sup>[3]</sup> With these impending demographic shifts, passenger rail investment will only become more critical as a dramatically modernized infrastructure system will be required to stimulate economic development and preserve overall quality of life in Northeast. The economic competitiveness of the Northeast and the U.S. as a whole is at stake and there is a definitive need for sustainable transportation alternatives in the region.

Despite this clear demand for transportation alternatives, the ability to rely on modes of transportation other than rail to meet future demand is grim. For example, New York area airports already account for half of the nation's flight delays and air carriers are reducing service within the NEC to focus on more profitable long-distance flights. Regional highways are already overburdened with nearly half of the nation's 40 "most congested" highway segments located between Washington, D.C. and Boston. Interstate 95, the primary interstate system along the NEC, encompasses 1,917 total miles along the eastern seaboard from Maine to Florida and delivers 35 percent of the nation's vehicle miles traveled. Average daily traffic counts on I-95 total more than 72,000 vehicles with peak daily traffic reaching 300,000 vehicles. Without further improvements, by 2035 the average daily traffic on the highway is projected to exceed 133,000 vehicles daily, with 100 percent of urban segments under heavy congestion and 55 percent of non-urban segments seeing increased congestion as well.<sup>[4]</sup> Although intercity bus offers the public another mode of transportation along the Corridor, buses offer limited appeal for travel due to the obvious limitations of highway congestion, including often lengthy and variable trip times. Furthermore, curbside buses only exacerbate center city traffic congestion.

Alternatively, railroad infrastructure provides the Northeastern United States with an extremely sustainable transportation growth model. Trains consume less energy than other modes – 17 percent less energy per passenger mile than airlines and 34 percent less than automobiles. Railroads also consume less land for development needs. The right-of-way width of a typical two-track high-speed rail line is about 82 feet – one-third the width of a standard six-lane highway (246 feet). This difference in land use amounts to a savings of 24.3 acres per mile of high-speed rail.<sup>[5]</sup>

In an ongoing trend, rail travel continues to attract travelers from other modes, particularly aviation, as Amtrak currently carries three times more travelers between Washington, D.C. and New York than all airplanes combined. Further, rail's value has been demonstrated in other nations as high-speed rail operations in France and Japan enjoy significant patronage above other modes in their respective nations. The benefits of a strong railroad network to meet the future transportation needs of the Northeastern U.S. are clear, however the nation cannot rely solely on 100 year-old infrastructure to meet these core economic needs.

To address rail operations beyond the state of good repair, extensive planning efforts are underway to confront the long-term challenges of the current infrastructure limitations. These recommendations are detailed in "The Amtrak Vision for the Northeast Corridor" published in two reports in 2010 and 2012. These reports outline Amtrak's phased implementation strategy for the future development of the Northeast Corridor. Phase 1, known as the NEC Upgrade Plan (NEC-UP), seeks to deliver significant improvements to the existing Northeast Corridor for the purpose of creating desperately needed additional capacity and raising top speeds while reducing trip times. Spanning the entire Corridor, NEC-UP will achieve state of good repair on the railroad as well as the delivery of Master Planning station improvements to enhance service. NEC-UP will also focus on the need to increase rail capacity between New York and New Jersey through the Gateway program, a comprehensive set of improvements from Newark, NJ, to Manhattan, NY, including new tunnels under the Hudson River, additional bridge capacity and station improvements in New York.

Phase 2 of Amtrak's plan, the Next-Generation High-Speed Rail Program (NextGen HSR), is a program dedicated to the development and advancement of high-speed rail services as part of an integrated NEC network. This program will augment the existing NEC with a new high-capacity, high-speed rail system including a new dedicated two-track alignment, 220 mph top speeds, up to 12 high-speed rail trains per hour in each direction, and 40 percent to 60 percent travel time reductions in key markets. The NextGen HSR program will also include new station development to be fully integrated with the new alignments to maximize network growth, ensure additional capacity and improve overall reliability. Following the completion of the NextGen HSR activities in anticipated in 2040, it is expected that travel times between Washington, D.C. and Boston will be reduced by nearly three hours from 6 hours, 30 minutes to 3 hours, 20 minutes. The Washington, D.C. to New York trip would shave an hour off the current travel time of 2 hours, 42 minutes.

Implementation of the NextGen HSR program will provide sufficient growth capacity for the century ahead, allowing high-speed rail to carry an even higher market share of the NEC's intercity travel. The program will reshape urban geography, induce demand and create economic gains for the whole region. The shift of high-speed trains onto primarily dedicated infrastructure will create additional capacity on the existing NEC and improve reliability and performance for all users.

Amtrak has already begun to implement several aspects of the NextGen HSR program. Master planning efforts are underway in Washington, D.C., Baltimore, Philadelphia, New York and Boston to ensure major station facilities are maximized for intermodal connectivity, capacity and passenger experience. Furthermore, Amtrak is commencing the first phases of the Gateway program in New York with the construction of an 800-foot concrete casing under the

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Hudson Yards development in Manhattan. This will protect the right of way of the new tunnels emerging from the Hudson River and connecting to Penn Station – a critical component to unlocking capacity limitations for future rail expansion.

Amtrak is also pursuing additional avenues to garner support for the ongoing development of the Northeast Corridor. The corporation is actively participating in the concurrent efforts of the Federal Railroad Administration’s NEC Future study, an environmental assessment of future high-speed rail alignments; Amtrak continues to work alongside the NEC Commission, its NEC users and all stakeholders to pursue a collaborative realization of high-speed rail systems. Future opportunities to establish private sector engagement and advance funding and financing options as near-term improvements are initiated are also being explored.

The next few years will be an exciting and critical time for railroad development in the Northeastern United States. The demand and necessity for success is clear and Amtrak is proceeding toward defining and delivering the necessary solutions for our nation’s transportation needs of the 21<sup>st</sup> century.

*Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of The Eno Center for Transportation.*

[1] U.S. Department of Transportation Federal Railroad Administration, 2012, NEC Future: A Rail Investment Plan for the Northeast Corridor: Scoping Package, p. 4, [http://www.necfuture.com/pdfs/scoping\\_package\\_0612.pdf](http://www.necfuture.com/pdfs/scoping_package_0612.pdf)

[2] *ibid.*

[3] Amtrak, 2012, A Vision for High-Speed Rail in the Northeast Corridor.

[4] I95 Coalition, 2013, <http://www.i95coalition.org/i95/Home/I95CorridorFacts/tabid/173/Default.aspx>

[5] Petra Todorovich, Daniel Schned, and Robert Lane, High-Speed Rail International Lessons for U.S. Policy Makers, 2011 by Lincoln Institute of Land Policy, page 16.

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