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**ISSUE #40**  
**SEPTEMBER 2024**



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The Anaheim Regional Intermodal Transportation Center (ARTIC) is a 67,000-square-foot facility that combines multiple modes of transportation with Metrolink light rail, Amtrak and OCTA buses, and is ready to serve the needs of the California High-Speed Train and Nevada rail connections.

THE FUTURE OF CALIFORNIA'S HIGH-SPEED RAIL PROJECT, WHICH AIMS TO CONNECT LOS ANGELES AND SAN FRANCISCO, RELIES HEAVILY ON THE NEXT U.S. PRESIDENT'S SUPPORT. WITH FEDERAL FUNDING CRUCIAL FOR THE PROJECT'S COMPLETION, THE STATE IS HOPING TO SECURE \$4.7 BILLION TO FINISH THE 171-MILE SEGMENT BETWEEN MERCED AND BAKERSFIELD. THE NEXT ADMINISTRATION WILL PLAY A KEY ROLE IN PROVIDING THE NECESSARY FINANCIAL ASSISTANCE FOR THE PROJECT, WITH PLANS FOR PASSENGER SERVICE TO BEGIN BETWEEN 2030 AND 2033.

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# A MESSAGE FROM THE INCOMING CHAIR:



**CHAD EDISON**

**HS&IPR**  
*Committee & Friends*

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High-speed and intercity passenger rail have entered into one of the most exciting growth periods in many decades, as tens of billions of dollars of state, federal, local and private funds get invested in corridors across the country. These investments will result in many new services opening over the next decade, and also in the replacement and modernization of many aging structures and trains. Just last weekend, new bi-level multiple unit trains began operating in full revenue service on Caltrain's newly electrified corridor between San Francisco and San Jose, a key route segment for future California high-speed rail. And many critical bridge and tunnel projects have entered into construction and contract award on the Northeast Corridor as well.

I am grateful to our immediate past chairman Chris Brady for tirelessly leading this committee in its advocacy for rail in Washington, DC. He has helped us strengthen our communications to both Congressional and federal agency stakeholders. I look forward to continuing to call on members of this committee to build on those strong relationships.

In an effort to deliver even more value to our key federal partners, as well as to those agencies delivering the many capital projects, I continue to call our committee to focus on sharing and documenting key strategies essential to the faster delivery and lower cost of our rail capital projects. Many on our committee have significant project delivery experience on a personal level, and can also call on a deep set of experiences within their organization or company both here in North America and overseas. I would like to take the time to get the best of these concepts written up in a format that can be of great value to those who are trying to make rail projects even stronger investments in the future.

With APTA's TRANSform Conference right around the corner, I would like to encourage you to participate in two sessions of significant interest. On Monday, we will have a panel from USDOT, Amtrak and VIA Rail Canada discussing Prospects and Progress for High-Speed and Intercity Passenger Rail. On Tuesday, we will feature an international panel including UIC, Central Japan Railway, TransLink, Amtrak and California High Speed Rail Authority speaking on the topic, "Are You Future Ready? Planning for Climate and Seismic Resilience." Both of these sessions will provide key insights into the challenges facing us in the present and key strategies we must consider to make further progress.

As Chris Brady previously reminded us two years ago when the Bipartisan Infrastructure Law had just been passed, "Our challenge as leaders in the industry is to prove to the federal government and to the American people that their trust was wisely placed." We need to continue to respond to that challenge and win the on-going support for critical rail investment in the years ahead, as the significant levels of funding will need new legislation to continue and grow.

I look forward to our continued work together, with the help of my fellow officers on the committee as well as our APTA professional staff. Let us do all we can to support successful rail project delivery and make an ever more convincing case for even more investment in rail in the years ahead.

*Chad Edison*





## TRANSPORTATION

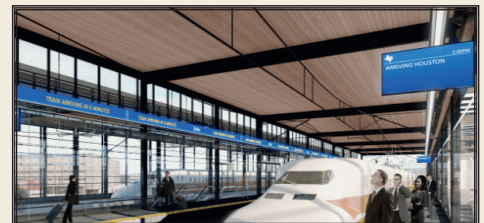
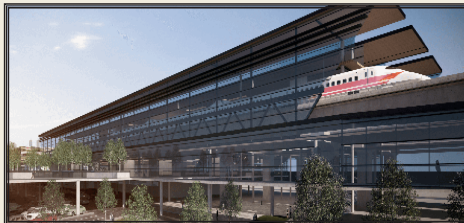
### USA-CONNECTICUT



AMTRAK, STATE, FEDERAL AND LOCAL GOVERNMENTS MET ON SEPTEMBER 5 TO MARK THE START OF CONSTRUCTION ON AMTRAK'S NEW RIVER BRIDGE BETWEEN OLD SAYBROOK AND OLD LYME, CONNECTICUT.

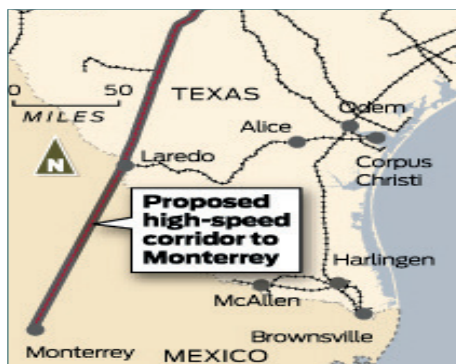
The existing movable bridge, which opens for maritime traffic several times daily in peak boating season, was completed in 1907. It now hosts more than 50 daily Amtrak Northeast Regional and Acela trains, CTrail Shore Line East commuter trains and freight trains. The aging bridge's failure to open and close consistently can result in cascading delays to rail and maritime traffic according to Amtrak. The new moveable bridge will feature a trunnion bascule span design with modern track, signal, catenary, power, communication and other supporting rail infrastructure. It will support a maximum train operating speed of 70 mph, a 55 percent increase from today's maximum speed of 45 mph. Maritime navigation and safety will also improve due to the increased vertical clearance of the new bridge compared to the existing bridge. The \$1.3 billion project is supported by a \$826.64 million Federal-State Partnership for Intercity Passenger Rail grant from the FRA. The remaining portion will be funded by Amtrak and Connecticut. Rail service will remain in service throughout the project, which is expected to conclude by 2031. Earlier this summer, Amtrak awarded the construction contract to O&G / Tutor Perini.

### USA-TEXAS



Amtrak has received a \$63.9 million grant to continue developing the Texas High-Speed Rail project linking Dallas and Houston. The 240-mile route would take under 90 minutes and travel at a top speed of 204 MPH, according to Amtrak. The Dallas – Houston high-speed rail project had been progressing through the early planning and development stages for the past several years but ran into trouble as opposition to the high-speed rail line sidetracked efforts to deliver the project. The project was suspended as investors cut funding. Amtrak has officially taken over the project in partnership with Texas Central. This most recent grant follows the award of a \$500,000 grant to Amtrak in December 2023 for the FRA Corridor Identification Program (Corridor ID). Amtrak was able to use the funds to prepare a Service Development Plan based on prior work completed by Texas Central, which included an Environmental Impact Statement and a Final Rule of Particular Applicability regarding the use of Japanese Shinkansen technology. One of the first things Amtrak did in taking over the project was to undertake research to determine whether the demand is still there post-COVID. The market assessment validated the prior forecasts and suggested that demand for travel in the corridor is very high. With this new federal grant, the project has now progressed into the final step of the Corridor ID program. However, not everyone is in favor of the proposed high-speed rail project, including the organization ReRoute the Route — which was created by “Texas business and civic leaders” to lobby against the project. Citing the federal budget deficit, ReRoute the Route said the nearly \$64 million grant should be spent on something else.

## USA-TEXAS-MEXICO



Texas and Mexico are pushing for a high-speed rail line connecting Austin, San Antonio, and Monterrey to alleviate congestion on I-35. The Texas Passenger Rail Advisory Committee met with Mexican officials to discuss potential routes and benefits of the project. While there is considerable interest from officials in Monterrey and Nuevo Leon, obstacles remain on the Texas side, including Union Pacific's control of the rail line and funding challenges. Texas lawmakers have been resistant to allocating funds for high-speed rail, but with the Infrastructure Investment and Jobs Act setting aside \$66 billion for rail projects, there may be potential for cooperation. The project aims to not only ease traffic but also foster greater international connectivity and economic growth. The push for high-speed rail is part of a larger conversation that has been ongoing for decades, with leaders like Bexar County Judge Peter Sakai and Travis County Judge Andy Brown working to revive the concept of a rail system between San Antonio and Austin.

## CHINA



Photo: Courtesy of State Grid Taizhou Electric Power Company

State Grid Taizhou Electric Power Company successfully completed a power generation operation and live-line work in Taizhou city without any power interruption. The work aimed to ensure a continuous power supply to nine public transformers and facilitate the underground wiring project for the North Yangtze River High-Speed Railway. The railway is a key line in China's high-speed railway network and plays a significant role in the economic development of the region. To minimize the impact on power supply during the construction period, the company adopted a "transfer live-line power generation" approach. Preemptive measures, such as converting load-bearing straight poles into tension poles and installing on-pole switches, were taken to prepare for the live-line work. On the day of construction, medium and low-voltage generators were mobilized to ensure the normal operation of the transformers. This project is crucial for accelerating urban development and improving the regional road network structure.

## MOROCCO



Morocco selected China Railway No.4 Engineering (CREC 4) to build a high-speed rail line between Kenitra and Marrakech for \$348 million. The project includes the construction of a new high-speed line, connections to existing lines, station development, and modernization of infrastructure. ONCF, the national rail agency, aims to create 300,000 jobs and benefit 87 percent of Morocco's population through the project. Morocco's Al Boraq is Africa's only HSR service, with plans to connect major cities and boost economic development. China and India are also making strides in high-speed rail, with China leading the global network with over 40,000 kilometers in operation. India's Mumbai-Ahmedabad corridor is expected to be completed by 2028, allowing trains to reach speeds of up to 320 kph. In Morocco, the 430km high-speed rail line will be completed in time for the 2030 World Cup finals. The project, managed by French engineers and local authorities, includes track laying, station refurbishment, and installation of auxiliary elements. China Railway Rolling Stock Corp. subsidiary offered the lowest bid for the project, focusing on earthworks and infrastructure improvements along the track.

## FLORIDA

Brightline is celebrating its one-year anniversary in Orlando with 2.6 million rides taken between Central and South Florida. SunRail recently completed a three-phase plan to add 17 stations in Central Florida. With a population of over 20 million in Florida, the expansion of passenger rail is crucial. However, the limited operation of Brightline and SunRail may not benefit Central Florida residents as much. SunRail needs to evolve to operate seven days a week and expand geographically through the proposed Sunshine Corridor. The Sunshine Corridor will connect SunRail to the Orlando International Airport, Orange County Convention Center, International Drive, and Disney Springs area. Brightline will operate on the same line as SunRail to connect Orlando to Tampa. FDOT conducted a study that found 80% of survey respondents support the expansion of SunRail and Brightline. Universal Orlando Resort has pledged land for a station at the Orange County Convention Center, and local leaders are working on funding for the corridor. Rail safety remains a concern, with fatalities occurring on both Brightline and SunRail tracks. The Florida Department of Transportation is working on improving rail safety, but it ultimately depends on human behavior. Expanding SunRail to connect to the airport and convention center is a positive step in making commuter rail more reliable for Central Floridians. Local leaders should consider expanding inner-city rail to Tampa and increasing Amtrak service between Tampa and Orlando for better connectivity. Overall, the expansion of passenger rail in Central Florida is seen as a critical first step in improving transportation options in the region.

## EGYPT



The presentation of the first Velaro high-speed train is a significant milestone as we work to deliver sustainable rail travel for the Egyptian people', said Siemens Mobility CEO Michael Peter. 'The Velaro is one of the most advanced high-speed trains in the world, incorporating the operational experience of over three billion kilometres. This Velaro will be one of 41 high speed trains, 94 Desiro regional trains and 41 Vectron locomotives to operate in Egypt as part of creating the sixth largest high-speed network in the world.'



## GERMANY-FRANCE

A new high-speed train service between Paris and Berlin is set to begin in December 2024, aiming to provide a quicker and more efficient alternative to existing routes. The daytime train will take about eight hours, stopping at various cities including Strasbourg and Frankfurt. The service, operated by SNCF and Deutsche Bahn, will offer both first and second-class options, with fares starting at €59. Reservations will open on 16 October, and demand is expected to be high. The new route is seen as a step towards promoting train travel over planes and cars, as well as catering to the growing interest in slow travel. This collaboration between SNCF and Deutsche Bahn began in 2007 and has since expanded to include other popular routes in Europe. The addition of the Berlin-Paris route is highly anticipated and will provide more travel options across the continent. Despite technical difficulties and construction delays affecting existing services, such as the night train between Berlin and Paris, train enthusiasts are hopeful that the new high-speed train will offer a reliable and convenient option for travelers between the two capital cities.

## USA-CALIFORNIA

A pair of labor agreements approved last summer move a planned Southern California high-speed rail link between the Brightline West and California high-speed rail projects closer to reality. The High Desert Corridor Joint Powers Agency approved a community workforce agreement and a Memorandum of Understanding that pledged to use union labor during the construction, operation and maintenance of the Southern California High Desert Corridor high-speed train project. The 54-mile high-speed rail link would serve as a connector between the planned Brightline West Victor Valley Station and the California high-speed rail station in Palmdale, California.

As reported in the last issue of SPEEDLINES, Brightline West awarded a contract to Siemens for the delivery of new high-speed trainsets. However, Alstom Transportation is suing the FRA alleging the agency improperly granted a waiver of the Build America, Buy America Act to the Nevada Department of Transportation. The Build America, Buy America Act requires all FRA-funded projects to be constructed with materials produced in the US. The waiver allowed Siemens to import the first two of 10 train sets from Germany. The FRA noted in its decision that neither Siemens nor Alstom "would be capable of delivering the rolling stock for the FRA-funded project without a waiver based on domestic nonavailability."

Alstom said it stands ready to make high-speed train sets in its Hornell, New York, plant by adapting its Avelia trains, which are the basis for Amtrak's next-generation Acela train sets for the Northeast Corridor. Siemens has a 710,000 square-foot facility in Sacramento, California, where it currently manufactures rolling stock and plans to open a second train manufacturing facility in Lexington, North Carolina later this year.

## USA-CALIFORNIA

### NEW CEO OF CALIFORNIA'S HSR WAS SWORN IN.

Ian Choudri has been appointed as the new CEO of the California High-Speed Rail Authority, succeeding Brian Kelly who retired earlier this year. Choudri brings over 30 years of experience in the transportation sector, having worked on high-speed rail projects in France and Spain. Prior to this role, he served as Senior Vice President for HNTB Corporation. Choudri was officially sworn in on September 16, 2024, after being chosen to lead the ambitious statewide high-speed rail project following a nationwide search.



## USA-NEW YORK

Siemens announced that Horseheads, New York will become home to North America's first high-speed rail production facility. The first-of-its-kind facility in the United States will produce America's first high-speed trains, the American Pioneer 220, which will operate on Brightline West's Las Vegas to Southern California line. Selected for its skilled workforce, industrial history and ability to best meet the needs of Brightline West, Horseheads is located in the southern tier of New York state. Production at the facility is expected to begin in 2026.

When fully operational, the new manufacturing facility will span nearly 300,000 square feet and create around 300 jobs – including electro-mechanical assemblers, quality management, quality control, industrial production and test engineers, project management, supply chain management and logistics employees. Just as New York's rich rail history once helped shape the state, these skilled jobs will help shape high-speed rail production in our country for the very first time. Siemens Mobility also has a memorandum of understanding in place with the International Association of Machinist for union representation at the new site. Siemens brings more than two billion miles of experience across its more than 1,000 high-speed trains. Putting the needs of 21st century American travelers top-of-mind, Siemens engineers designed the next generation of trains, the Siemens American Pioneer 220, featuring the latest digital technologies, including Railigent X, from the Siemens Xcelerator portfolio, unparalleled passenger experience, and safety features to meet FRA requirements.

Brightline selected Siemens Mobility to build train sets for the Brightline West High-Speed Rail project that will connect Las Vegas and Southern California in under two hours. The American Pioneer 220 will be the first true high-speed trainsets to be built in America. Production in Horseheads will begin in 2026.

See story in SPEEDLINES Issue 39. [https://www.apta.com/wp-content/uploads/Speedlines\\_HSIPR\\_Issue\\_39\\_June2024.pdf](https://www.apta.com/wp-content/uploads/Speedlines_HSIPR_Issue_39_June2024.pdf)



## SPAIN

**HYDROGEN-POWERED TRAIN WITH A MAX SPEED OF 160 KPH WAS JOINTLY DEVELOPED BY CRRC CHANGCHUN RAILWAY VEHICLES CO., LTD AND CHENGDU RAIL TRANSIT GROUP CO., LTD.**

Hydrogen-powered railway technology started with Japanese experiments and a U.S. underground mining locomotive using fuel cells to avoid battery charging. Talgo is set to build the first high-speed hydrail trains, marking a significant achievement in the transition to hydrogen-powered railways. The efficiency of hydrail trains is comparable to integrated chips. The main challenge with hydrail is the storage of hydrogen to power the vehicles. Overhead electrified railways (OHC) is proven and durable, but the capital and maintenance costs are high, limiting its widespread adoption. A trackside hydrogen filling station can power the entire line, making it a more cost-effective option. Spain has a relatively low population density, making it an ideal location to develop a zero-carbon, high-speed hydrail service. The U.S. is also moving towards hydrogen-powered trains, with the first hydrogen fuel cell-powered FLIRT train operating between San Bernardino and Redlands, CA, achieving a world-record of 3,000km without refuelling. The efforts of international hydrogen railway pioneers aim to make high-speed hydrail more widely deployed, with the potential to revolutionize the future of rail transportation.



## USA-CALIFORNIA

**\$54M AWARDED FOR MADERA HIGH-SPEED RAIL STATION PROJECT**

The U.S. Department of Transportation is providing funds through the MEGA Program for various infrastructure projects in California. \$166 million will be allocated to complete the northbound I-680 express lane gap and convert existing HOV lanes. Another \$54 million will go towards the Madera High-Speed Rail Station Project, which will include constructing a new high-speed rail station. The station will be relocated eight miles to the southeast in 2025 and will serve as a key component of the Merced-Bakersfield high-speed rail service. Phase 1 of the project is expected to finish in the middle of 2025, while Phase 2 will expand the station to serve high-speed trains. Senator Padilla emphasized that these projects will improve connectivity in the Bay Area and San Joaquin Valley, decongest I-680, and provide better transportation options for residents. Overall, these infrastructure investments will create jobs, improve safety, and enhance transportation efficiency in the region.



# GLOBAL RACE...

## TO A CONNECTED FUTURE

Contributed By: Michele Gesualdi, UIC Rail Transport, High-Speed Rail Advisor

In an era defined by rapid globalization and increasing urbanization, high-speed rail (HSR) has emerged as a transformative force in transportation. From the bustling metropolises of Asia to the historic cities of Europe, HSR is reshaping the way people travel, work, and live.

The International Union of Railways (UIC) has played a pivotal role in driving this revolution, advocating for innovation, sustainability, and interoperability across the globe, shaping the global HSR landscape. By setting standards, promoting technological advancements, and fostering collaboration among rail operators, the UIC has been a cornerstone in the global advancement of high-speed rail (HSR). Through its technical expertise, policy guidance, and global advocacy, the organization's advocacy for open access and interoperability has been particularly influential, enabling passengers to seamlessly travel across borders and choose from a variety of operators.

### ASIA: THE HSR POWERHOUSE

Asia has led the charge in HSR development, first with Japan, and later in China and South Korea boasting some of the most extensive and technologically advanced networks in the world.

China's vast HSR network is now the largest in the world, spanning over 40,000 kilometers, serves roughly 2 billion of passengers annually, revolutionizing domestic travel and boosting economic growth. China's HSR expansion shows no signs of slowing down, with plans to cover every city with a population exceeding 500,000 by 2035.

Japan's Shinkansen, the world's first

high-speed train, continues to set the standard for reliability and efficiency. Today, the network relies on over 3,000 kilometers of HSR tracks and carries 180 million passengers per year. Not least, South Korea, with nearly 900 kilometers of HSR, boasts the densest HSR network globally.

Other Asian countries, such as India (Mumbai – Ahmedabad), Indonesia (Jakarta – Bandung), and Thailand (Bangkok - Nakhon Ratchasima; 3 Airport Link), are also investing heavily in HSR infrastructure, aiming to improve connectivity and reduce travel times between major cities. These ambitious projects are not only transforming domestic transportation but also have the potential to drive regional economic integration.

### EUROPE: A CONTINENT CONNECTED

Europe has a long history of rail innovation in HSR. The continent's extensive network, spanning over 12,000 kilometers, is undergoing a significant expansion (nearly quadruple by 2050) as countries seek to improve connectivity and reduce reliance on air travel. The European Union's Trans-European Transport Network (TEN-T) initiative aims to create a seamless, integrated rail network connecting major cities across Europe.

France's TGV, continues to evolve, with plans to launch the new TGV M by 2025, promising more seats, greater comfort, and 20 percent lower energy consumption.

Spain, home to Europe's most extensive network with about 4,000 kilometers of tracks, is a trailblazer with its open-access policy. This policy has not only reduced



travel costs but has also led to an increase in passenger numbers, with over 30 million passengers annually using the network.

Italy, which boasts of being the first country in the world to open the access to the HSR network to a private operator, back in 2012, is also continuing to expand and increase the modal share on HSR. Not least the development between all other countries, including Germany, Netherlands, Switzerland, Sweden, Austria, Belgium, etc.

Also worth mentioning is the EU funded Baltic Rail project, linking Lithuania, Latvia, and Estonia to the European network.

The Rail Baltica project is the largest infrastructure project in the region in over 100 years and is expected to have a significant impact on the region's economy, transportation, and environment. Rail Baltica will span 870 kilometers, connecting the Baltic capitals of Tallinn, Riga, and Vilnius. With a construction period of 10 years, the project is expected to be completed by 2030. Once operational, Rail Baltica will offer high-speed passenger and freight services, with a maximum speed of 249 km/h for passengers and 120 km/h for freight.

A key feature of Rail Baltica is its commitment to sustainability. Powered by electricity, the project will produce less noise and vibration, reducing its environmental impact. Additionally, Rail Baltica will be part of the EU's North Sea Baltic TEN-T corridor, ensuring seamless integration with the wider European transport network.

The project is expected to create thousands of jobs during construction and operation, boosting local economies and stimulating growth. Moreover, Rail Baltica will enhance connectivity and accessibility, making it easier for businesses to trade, tourists to visit, and people to commute.

With an estimated investment of over €5 billion, Rail Baltica is a significant commitment to the future of the Baltic region.

## THE MIDDLE EAST: A DESERT OASIS

The Middle East, once characterized by vast deserts and limited transportation options, is undergoing a rapid transformation thanks to the development of HSR. Saudi Arabia's Haramain High-Speed Railway, connecting Mecca and Medina, has become a symbol of the region's modernization and commitment to sustainable transportation.

Turkey (with over 1,000 kilometers of high-speed lines), the United Arab Emirates, and other countries in the Middle East are also investing in HSR projects, aiming to improve connectivity, boost tourism, and reduce reliance on fossil fuels. These initiatives have the potential to transform the region's economic landscape and enhance its attractiveness as a global investment destination.

The Gulf Cooperation Council (GCC) is not far behind, with plans to create a unified railway network that will weave through the Arabian Peninsula, connecting all member states. This project, once completed, will be a testament to the region's commitment to modernizing its infrastructure and fostering economic integration.

## AFRICA: A CONTINENT ON THE MOVE

Morocco's Al Boraq line, is the first African high-speed rail project, connecting Tangier to Kenitra at speeds up to 320 km/h, has set the stage for future expansion, including a planned extension to Agadir. This line already serves over 3 million passengers annually, showing the appetite for fast, reliable transport in the region.

Meanwhile, Egypt and other African countries are exploring HSR projects as a means to address infrastructure gaps, promote regional integration, and reduce carbon emissions.

The development of HSR in Africa has the potential to unlock the continent's

economic potential and improve the lives of millions of people.

## THE AMERICAS: A GROWING MARKET

The Americas, while relatively new to the high-speed rail landscape, offer a unique opportunity to leverage the experiences and lessons learned from other regions that have already established extensive HSR networks. By studying the successes and failures of these pioneers, the US can avoid common pitfalls and adopt best practices. For instance, the US can benefit from insights into infrastructure planning, rolling stock procurement, operational efficiency, and passenger experience.

Canada and Mexico are also exploring high-speed rail possibilities. Canada's proposed Quebec City-Windsor corridor would link the country's most populous regions, serving nearly 15 million people. Mexico's proposed high-speed rail projects, including the Mexico City-Querétaro line, aim to alleviate traffic congestion and provide faster, more reliable travel options.

Thereby, the US can leverage the latest technological advancements in HSR, such as advanced signaling systems, energy-efficient trains, and intelligent transportation systems. These innovations can help to ensure that the US HSR network is not only fast but also reliable, sustainable, and passenger friendly.

## CONCLUSION

The global expansion of high-speed rail is a testament to the increasing demand for efficient, sustainable, and interconnected transportation. As the world continues to urbanize and globalize, HSR will undoubtedly play an even more important role in shaping our future.

The UIC's Intercity and High-Speed Committee plays a pivotal role in shaping the future of HSR by developing standards, regulations, and guidelines that ensure the safety, interoperability, and efficiency of high-speed rail systems.

Through its collaborative approach and expertise, the UIC Intercity and High-Speed Committee provides valuable insights and recommendations to rail operators, governments, and industry stakeholders worldwide. By promoting a unified vision for HSR, the UIC helps to create a more interconnected and sustainable global transportation network.

For those interested in exploring the current state of high-speed rail networks worldwide, the UIC offers a valuable resource – the UIC High-Speed Rail Atlas. This comprehensive document, updated annually, provides detailed information about existing high-speed lines, those under construction, and even planned routes for the future. Link: [https://uic.org/IMG/pdf/atlas\\_uic\\_2023.pdf](https://uic.org/IMG/pdf/atlas_uic_2023.pdf)

Furthermore, to stay abreast of the latest advancements and discussions in the high-speed rail industry, consider attending the upcoming UIC World Congress on High-Speed Rail (WCHSR), which brings together leading experts and stakeholders to share knowledge, explore innovative solutions, and chart a course for the future of high-speed rail.

This unmissable event will take place on 8-11 July 2025, in Beijing, China, in two symbolic locations: the China National Convention Center (CNCC) and the National Railway Test Center (NRTC). The congress is being jointly hosted by UIC and CR, in cooperation with all high-speed rail stakeholders around the world.

Researchers, academics, students and railway experts will shortly be invited to submit papers to be presented at the conference. Don't miss this chance to contribute to the future of high-speed rail!

For more information about the **12TH UIC WORLD CONGRESS ON HIGH-SPEED RAIL IN BEIJING** and the call for contributions, please go to [www.uichighspeed.org](http://www.uichighspeed.org), with [www.uichighspeed2025.com](http://www.uichighspeed2025.com) coming soon.

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# JAKARTA-BANDUNG

SOUTHEAST ASIAN HAS ITS FIRST HIGH-SPEED RAILWAY — THE JAKARTA-BANDUNG HIGH-SPEED RAIL. INDONESIA'S AMBITIOUS LEAP INTO THE FUTURE A RECAP OF THE HISTORY, CONCERNS, CHALLENGES, AND BENEFITS THAT MARKED THIS PROJECT.

Contributed By: Wendy Wenner, Speedlines

In a world where high-speed rail networks are the hallmark of economic prowess and technological advancement, Indonesia's Jakarta-Bandung High-Speed Rail (HSR) project stands as a testament to the nation's unwavering determination to carve its place on the global stage. With less than 25 countries boasting such cutting-edge transportation systems, this ambitious endeavor reflects Indonesia's aspiration to become a formidable player in the realm of high-speed rail.

The inauguration of the Jakarta-Bandung HSR on October 17, 2023, marked a significant milestone in the country's history. In the first six months of operation, the sleek, modern trains carried over 2.5 million passengers, averaging around 415,000 a month and 14,000 a day, with a peak travel day of 21,537 passengers. While these figures may not seem staggering for a nation of over 275 million people, they represent a profound shift in the way Indonesians experience transportation.

The high-speed CR EMU train, manufactured by CRRC, operates at speeds up to 350 kilometers per hour (roughly 217 mph) on the 142.3-km high-speed railway between Jakarta and Bandung, reducing travel time to 30-40 minutes. Tickets are available online or at the latest, 30 minutes prior to scheduled departure time. There are 3 seating classes available and pricing changes depending on time and demand. VIP Class - features a configuration of 18 seats per carriage with a 1-2 seating arrangement. The seat design is tailored to create a luxurious and exclusive travel experience for high-speed train passengers. First Class or Business - First class tickets on the high-speed train has 28 seats per carriage with a 2-2 seating arrangement designed to provide additional comfort during the journey. Premium Economy - Second class on the high-speed train offers 555 seats with a 3-2 seating arrangement, suitable for a comfortable and affordable travel experience for many

passengers. These class options ensure there's something for every type of journey.

The HSR, affectionately dubbed "Whoosh" by President Joko Widodo, is more than just a mode of conveyance; it is a symbol of Indonesia's unwavering commitment to modernizing its infrastructure and positioning itself as a regional powerhouse. The project's success has not only transformed the lives of commuters but has also ignited a sense of national pride and a vision for a future where Indonesia's influence extends far beyond its borders. The journey to this momentous achievement has been arduous, marked by challenges and setbacks that would have deterred lesser nations. However, Indonesia's resilience and forward-thinking approach have been the driving forces behind the project's realization.

A notable figure in success of the Whoosh's train-to-ground wireless network is Lai Chaosen, the Vice President of Huawei Indonesia. Chaosen has played a pivotal role in the development and deployment of this solution, leveraging his extensive experience in the telecommunications industry and his deep understanding of the unique challenges faced by the transportation sector.

According to Lai Chaosen, the Whoosh's train-to-ground wireless network is a groundbreaking solution that showcases Huawei's technological prowess. This network, which adopts Huawei's mature solution and employs interleaving in networking, has achieved an impressive 99.99% availability, ensuring the stable transmission of train control signals and the intelligent orchestration and scheduling of train numbers and function numbers.

The data network, which utilizes Huawei's next-generation data communications equipment, guarantees 100% secure networks using native hard pipes. Every link in the network is protected from redundancy,





and the redundancy switchover can be completed within just 35 milliseconds, ensuring uninterrupted service even in the event of a failure.

The transmission network, on the other hand, employs Huawei's Hybrid MSTP equipment, which provides the large bandwidth and high stability required by over 20 high-speed train systems, such as scheduling and command, disaster prevention, video surveillance, passenger ticketing, and power telecontrol systems. This network is also capable of addressing the growth and evolution of these systems, ensuring that it can keep pace with the ever-changing demands of the transportation industry.

The historical context of this innovative solution can be traced back to Huawei's long-standing commitment to developing cutting-edge technologies that address the needs of various industries. As a global leader in information and communications technology (ICT), Huawei has consistently invested in research and development, enabling it to stay at the forefront of technological advancements.

The impact of this innovative network is far-reaching, as it has the potential to revolutionize the way high-speed train systems operate. By ensuring the stable transmission of critical control signals and the intelligent orchestration of train operations, the Whoosh's train-to-ground wireless network can significantly improve the efficiency, reliability, and safety of high-speed rail transportation. The network's ability to address the growth and evolution of the various train systems it supports suggests that it can adapt to the changing needs of the industry, making it a future-proof solution that can

continue to deliver value for years to come.

It is important to note that the deployment of such a complex and technologically advanced network is not without its challenges. Ensuring the seamless integration of the various components, maintaining the high levels of security and redundancy, and addressing any potential vulnerabilities or cybersecurity threats will be crucial for the long-term success of the Whoosh's train-to-ground wireless network. Additionally, the reliance on Huawei's proprietary equipment and solutions may raise concerns about vendor lock-in and the potential for geopolitical tensions to impact the adoption and deployment of the network in certain regions. Despite these potential challenges, the Whoosh's train-to-ground wireless network represents a significant step forward in the evolution of high-speed rail transportation. By leveraging Huawei's technological expertise and innovative solutions, this network has the potential to set new standards for reliability, security, and efficiency in the industry, paving the way for a future where train travel is safer, more reliable, and more responsive to the needs of passengers and operators alike.

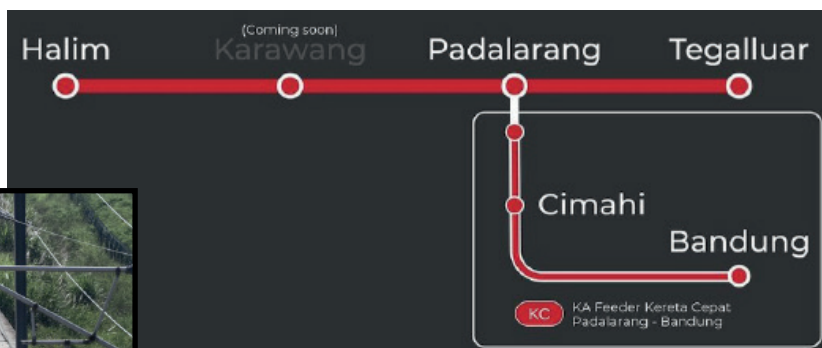
From securing the necessary funding and navigating complex political landscapes to overcoming engineering hurdles and coordinating the efforts of multiple stakeholders, the country has demonstrated its ability to tackle even the most daunting of tasks. At the heart of this endeavor lies a deep-rooted belief that infrastructure development is the key to unlocking Indonesia's true potential.

The Jakarta-Bandung HSR is not merely a transportation project; it is a catalyst for economic growth,



Current Speed: 350km/h

# Whoosh



LEFT: WORKERS AT THE CONSTRUCTION SITE OF JAKARTA-BANDUNG HIGH-SPEED RAILWAY AT TEGALLUAR STATION.ASIA.

social integration, and environmental sustainability. By reducing travel time between the two cities from over three hours to just 40 minutes, the HSR has revolutionized the way Indonesians commute, opening up new opportunities for business, education, and leisure. The impact of the HSR extends far beyond the immediate benefits to passengers. It has also spurred the development of ancillary industries, created thousands of jobs and stimulated local economies along the route. The project has also served as a platform for technological innovation, with Indonesian engineers and technicians working alongside their international counterparts to develop cutting-edge solutions tailored to the country's unique needs.

But the Jakarta-Bandung HSR is just the beginning of Indonesia's high-speed rail ambitions. The government has already set its sights on expanding

the network, with plans to connect other major cities and regions across the archipelago. This visionary approach is not merely about improving transportation; it is about transforming the very fabric of Indonesian society, fostering greater connectivity, and unlocking the country's vast economic potential.

As the world watches with keen interest, Indonesia's success with the Jakarta-Bandung HSR has become a source of inspiration for other developing nations aspiring to join the high-speed rail revolution. The country's ability to overcome challenges and deliver a world-class transportation system has earned it the respect and admiration of the global community, solidifying its position as a rising power in the realm of infrastructure development. The Jakarta-Bandung HSR is more than just a train; it is a symbol of Indonesia's unwavering determination to shape its own destiny. It is a testament to the power of vision, innovation, and perseverance – qualities that will undoubtedly propel the nation towards a future where it stands as a formidable leader in the high-speed rail industry and a beacon of progress for the entire region.

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ABOVE: HALIM STATION COMPLEX SERVES THE JAKARTA-BANDUNG HIGH-SPEED RAILWAY AND THE JABODEBEK LRT BEKASI LINE. THIS HIGH-SPEED TRAIN IS THE FIRST & THE FASTEST IN SOUTHEAST ASIA.



# BUILDING RAIL

## HIGH-SPEED DESIGN STANDARDS

Contributed By: Prof Eric Goldwyn, Program Director, NYU Marron Institute

Building true high-speed rail in the United States is often discussed but has yet to be realized. The appeal of faster travel speeds and shorter travel times has always been self-evident, but the desire and funding to achieve them has been less certain. Earlier this summer, my team at NYU Marron published a report on speeding up domestic high-speed rail project delivery. The report advances five actionable recommendations that can overcome the obstacles to building high-speed rail and nurture the commitment, competence, and constituents necessary to ensure that the 21st century is the century of high-speed rail in the United States.

Before diving into the recommendations, it is worth quickly outlining high-speed rail's manifold benefits and why we should explicitly address project delivery. First, high-speed rail is time and space efficient relative to automobiles and airplanes. It's easy to understand how a train traveling 180 to 220 miles per hour, or even 100 miles per hour, can outperform a car going 60 miles per hour. Planes, obviously, travel much faster, but when one factors in the time it takes to get to and from the airport and through security, it's not hard to see how high-speed rail can provide an attractive alternative to short-haul flights, say less than 500 miles. Second, these travel time benefits combine with lower greenhouse gas emissions vis-à-vis flying and gas-powered automobiles. Third, high-speed rail stations and rights of way are less land-intensive than airports and highway infrastructure, and have the added benefit of becoming centralizing nodes that attract housing, jobs, and commerce. Fourth, high-speed rail on dedicated rights of way is vastly safer than driving in the United States. According to 2021 data from Texas and California, more than 4,000 people died in traffic collisions in each state. Nationally, that number

eclipsed 40,000 deaths in 2021. The Japanese routinely boast that since 1964 there have been zero passenger fatalities on the Shinkansen. Finally, high-speed rail projects like California High-Speed Rail, Texas Central, Brightline West, and Cascadia High-Speed Rail have projected budgets greater than \$10 billion and, in some cases, surpassing \$100 billion. These eye-watering cost estimates demand that we take these projects seriously and do whatever it takes to deliver them quickly and economically.

### FEDERAL DIRECTION; LOCAL EXPERIMENTATION

If high-speed rail provides obvious benefits, why haven't we built it in the US? The first recommendation that we proffer directly addresses this question: There needs to be a full-throated federal commitment to high-speed rail. The United States Department of Transportation needs to commit to building an integrated intercity passenger rail network that includes high-speed services. This means developing and funding a plan. This means supporting widespread electrification projects on existing corridors a la Caltrain. This means upgrading existing rights of way, and building new rights of way. While there have been short-lived plans and enthusiasm to do exactly this, such as the Vision for High-Speed Rail in America (1997) and High Speed Ground Transportation in America (2009), these plans have not been paired with the political agreement and financial muscle needed to deliver high-speed rail.

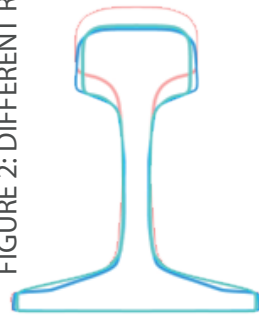
High-speed rail's high capital costs make it difficult for the private sector to take on these projects alone. Thus, there will always be a leading role for the public sector to play. But, projects like Brightline and Brightline West demonstrate that private sector initiative can catalyze momentum





FIGURE 1: STANDARDS OF RAIL

FIGURE 2: DIFFERENT RAIL STANDARDS OVERLAI



for passenger rail. We should encourage states, such as California and private enterprise, to develop and fund projects with their own money, but there will still be a need for the federal government to coordinate and integrate across projects.

### TECHNICAL STANDARDS

Part of the problem is that we have been loath to commit to specific technologies or design standards for fear of closing off opportunities and limiting flexibility. Our second recommendation focuses on high-speed-rail design standards. We argue that the federal government, likely the Federal Railroad Administration, must codify basic design standards that ensure interoperability. We need to commit to signaling systems, standard high-speed rail, platform heights, and so on. Standards send a powerful signal to the marketplace and organize design, manufacturing, and supply chains so

that designers know what to design, manufacturers know what to manufacture, and supply chains can be assembled. Without clear design standards, each project must develop its own internal, bespoke standards, which is time intensive, expensive, and inefficient. This is especially problematic because there are already established standards that have been developed and improved upon over decades that can easily be copied.

The clearest way to visualize how uncoordinated standards create havoc is to take a closer look at the physical rail high-speed trains use. When we looked at standard heavy rail in the United States, standard high-speed rail in Europe, and standard high-speed rail in Japan, we saw that the three rails differed from one another (figures 1 and 2). These differences aren't necessarily insurmountable, but choosing a standard rail now will avoid interoperability challenges and expensive testing in the future.

### STRONGER LINKS TO UNIVERSITIES AND INDUSTRY

Next, we must develop the experts to design, plan, and construct these projects. Without knowledgeable railroad engineers, planners, and craft laborers, we will struggle to find the bodies and brain power necessary to build these projects. Additionally, by training professionals dedicated to rail, we will also develop a constituency that advocates for high-speed rail and organizes around issues critical to its success. The current state of railroad engineering education in the United States is limited, especially when one considers that internationally there are entire universities and research centers dedicated to educating and advancing the high-speed rail industry. Project Management, Procurement, and Risk

Large scale megaprojects have created a cottage industry focused on different procurement methods designed to align incentives and shift risk out of the public sector. In the face of a legacy of cost overruns, change orders, and delays that generate embarrassing headlines, traditional project delivery methods, namely design-bid-build, have lost their appeal. But have alternative methods delivered consistently superior results?

Is the project delivery mechanism even the central problem? We argue that the project delivery method is less relevant than having an informed project sponsor that knows what it wants and is able to manage all of the different contracts needed to complete these projects. There is considerable merit to getting insight and constructability feedback from contractors before finalizing design. The challenge in the US, however, is that project sponsors lack the experience and resources, experienced full-time employees, to deliver these projects; thus, they struggle to define their projects clearly, which leads to scope changes, an over-reliance on outside consultants who are not always well managed, and rounds of design work that fail to advance the project. The California High-Speed Rail Authority learned these lessons the hard way, and, to its credit, has worked hard to address them.

These trends are especially alarming because high-speed rail projects tend to be among the most expensive infrastructure projects in the country. With great costs should come great care, and enough project sponsor capacity to deliver them on time and on budget. Amtrak's decision to hire Andy Byford and revive Texas Central, perhaps, suggests that Amtrak wants to develop the capacity to deliver high-speed rail effectively.

## PERMITTING, THIRD-PARTY AGREEMENTS, AND PLANNING

Finally, because federal funding is central to high-speed rail, the process by which those funds are allocated is critical to project success. Projects that cross multiple jurisdictions are prone to local permitting challenges from individual municipalities, agencies, or utilities that recognize an opportunity to divert a portion of the larger project budget to its specific capital needs. The cure to this permitting problem is clear, unambiguous support for these projects from state legislatures, governors, and/or federal partners. When we examined high-speed rail projects internationally, we discovered that when governments approved high-speed rail projects, they received a special designation, something like a "declaration of public utility" or "project of national significance," that shifted permitting power from local actors to the projects. Sometimes project sponsors received master permitting authority within their proposed right of way, and in other instances governments created a permitting process with clear timelines and a force mechanism that enabled projects to proceed even if

a local authority was unwilling to issue permits after receiving all of the appropriate project documentation.

Without these safeguards in place and the authority to act, projects get mired in contentious lawsuits that slow them down and increase costs without helping projects achieve their immediate goals. The California High-Speed Rail Authority, for instance, agreed to pay for six parallel grade separations in Shafrer, CA for the BNSF that are unrelated to the high-speed rail project to resolve a lawsuit that delayed environmental clearance (figures 3 and 4). Ultimately, the Authority received a \$202 million federal grant to pay for the grade crossings, though the cost estimate for the separations is closer to \$300 million. This small example highlights how megaprojects take on scope increases and additional costs to move their projects forward. This kind of permitting risk is not unique to high-speed rail. In our research on the cost drivers of transit projects, we found that transit agencies routinely pay for out-of-scope betterments in order to satisfy a local jurisdiction rather than risk going to trial.

Over the last 50 years, the United States has been on the verge of inaugurating genuine high-speed rail. This time, however, the facts on the ground are genuinely different and encouraging. Billions of dollars have been mobilized, construction crews have been assigned to construction sites, contracts have been tendered, and some elected leaders have begun to recognize the opportunity in front of us. Rebalancing our transportation policy and priorities begins with leadership at the federal level, national design standards that ensure interoperability, greater emphasis on education and cultivating a robust pipeline to industry, more resources for project sponsors to adequately manage large-scale megaprojects, and a recognition that good planning starts with a focus on constructability rather than forcing project sponsors to jump through arbitrary hoops to satisfy federal processes and entitled third parties.

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# IN THE SPOTLIGHT

YOU SHOULD GET TO KNOW US



**JED POSTER**

**SENIOR DIRECTOR, HIGH-SPEED RAIL**

"Reliable, high-quality intercity rail service is key to a sustainable future – fewer cars, more economic growth, and smarter regional development – and high-speed rail can introduce millions of Americans to train travel. As Amtrak leads the way into a new era of innovation in infrastructure development, it's been a privilege and a pleasure to join the organization that's been getting the job done for decades."

**AMTRAK**



**MELISSA FIGEROA**

**PUBLIC AFFAIRS & COMMUNICATIONS DIRECTOR**

"California's passenger rail network is a critical component of the state's transportation network and economy. Thanks to the Bipartisan Infrastructure Law, we are making generational investments in high-speed rail, which will become the backbone of an integrated public transportation network. I am excited to be part of it."

**SHAW YODER  
ANTWIH  
SCHMELZER &  
LANGE**



**BILL THOMSEN, PE**  
**PRESIDENT & CEO**

"Transportation engineering and program management play a vital role in planning and executing high-speed rail projects. Through working on complex mega programs in New York and nationwide, positive impacts on shaping the future of transportation have been seen. This work improves the quality of life for people, and I am pleased to be part of the innovative transportation solutions for years to come."

**URBAN ENGINEERS  
OF NEW YORK, DPC**



**JULIE WHITE**

**DEPUTY SECRETARY, MULTIMODAL TRANSPORTATION**

"Intercity passenger rail is a travel solution the market is demanding. NC's intercity passenger rail is breaking ridership records because it offers easy travel between cities frequently throughout the day. With the help of the FRA's Corridor ID Program we will link the western and eastern parts of our State into the network and I'm excited to see how passenger rail in rural communities can spark a revitalization of the downtowns and main streets."

**NORTH CAROLINA  
DEPARTMENT  
OF  
TRANSPORTATION**



# TRAVEL BY TRAIN

## MEALS AND DINING ONBOARD AMTRAK

Contributed by: Ken Sislak, Speedlines



"Travel by Train" as the sign on Denver Union Station urges us to do, evokes excitement and a sense of wonder. On a train, the beauty of the ever-changing American landscape passes by from purple mountain majesties above the fruited plain to amber waves of grain from sea to shining sea. The treasured images become imprinted in our shared memories forever. The train not only connects us to the places we are traveling to but to the land that we love and call home. It is the Amtrak long-distance network that ties the country together with its web of welded rail.

Long-distance trains are hotels riding on steel wheels and include several types of railcars, including coaches, sleeping cars, diners, café cars, and sightseer lounge cars. Amtrak is planning to replace its long-distance fleet and is taking this opportunity to improve the long-distance rail experience. In so doing, Amtrak is attempting to serve two distinct travel markets, the premium "land-cruise" vacation and the more economical intercity public transportation segment of the intercity travel market. The premium priced land-cruise

provides Amtrak with greater revenue per passenger mile and helps offset the cost of operating the long-distance trains. But should a taxpayer supported enterprise be in the luxury travel market and use taxpayer funding to acquire, operate and maintain premium class rolling stock and provide luxury services?

### FOOD AND BEVERAGE SERVICE ON TRAINS

One of the best amenities enjoyed by passengers riding trains is the opportunity to get up and walk to a dining car for a sit down freshly prepared meal. A dining car serves meals in the manner of a full-service restaurant. That is why the Europeans call them restaurant cars. Passenger surveys consistently highlight the need for sit down meals in dining cars.

The opportunity for this experience however is not always the case for people riding Amtrak trains in the United States or VIA Rail in Canada. Amtrak and VIA Rail have dining policies that favor first class passengers. Traditional dining services in a dining car generally are not provided to





people traveling more economically by riding in coach class.

Amtrak provides complimentary meal offerings for passengers traveling in private rooms on sleeper cars. Dining cars are assigned to a limited number of long-distance trains. These are mostly the Western trains which include the California Zephyr, Coast Starlight, Empire Builder, Southwest Chief, Sunset Limited, and Texas Eagle (between San Antonio and Los Angeles); and the New York to Florida East Coast trains which include the Auto Train, Silver Meteor, and Silver Star. Reservations are required for the dining car, which has limited hours. Cafe service is available to all customers along these routes, offering a variety of meals, snacks, and beverages for sale.

Prior to 2018, dining cars were available to all ticketed passengers on Amtrak trains. In 2018 Amtrak began reassessing food and beverage services because of Congressional pressure to reduce losses on long-distance trains. The dining cars were removed from the Lake Shore Limited and Capitol Limited and replaced with airline style meal service, now called “flexible dining.” Amtrak later restricted dining car service during COVID for health and safety reasons and to save money as ridership dipped significantly. Until recently, passengers with coach seats were not permitted to use the dining car and were restricted to café car menu offerings. Today, coach class passengers may use the dining car on a “space available” basis at the discretion of the dining car attendant on the Western and Florida trains.

VIA Rail in Canada has similar distinctions. When traveling in Sleeper Plus class, meals are included in the price of the ticket and served in the dining car. Economy class (coach) passengers are provided with a take-out menu, which offers a choice of hot and cold beverages, a selection of snacks, and light meals. It has been likened to having two trains coupled together. One is a first-class train with sit down dining and the other is a more economical train with take-out service.

Amtrak’s Eastern trains feature “flexible dining” service for first class private room passengers aboard the Capitol Limited, Cardinal, City of New Orleans, Crescent, Lake Shore Limited and Texas Eagle (between Chicago and San Antonio). The menu for flexible dining includes hot, ready-to-serve choices for breakfast, lunch, and dinner. There are no pre-determined dining hours requiring reservations in a traditional dining car for flexible dining because there is no dining car on these trains. These trains only have a café car.

Most trains include a café car, which includes



a lounge area where you can dine and socialize with other travelers. Passengers in all classes of service can access the café car and service is available from early morning until late at night. Food offerings are limited but include breakfast sandwiches, hot dogs, hamburgers and cheese trays and other assorted snack foods.

Dining cars are blossoming in Europe. Dining car service is provided on long-distance overnight international trains and on some long-distance trains in the United Kingdom. The Europeans believe it is obligatory to provide food and beverage services on these trains. The restaurant car is open at specific times much like Amtrak and VIA Rail. Freshly prepared meals are of high-quality priced affordably and served in the restaurant cars. Meals are often complimentary for first class passengers. Unlike Amtrak and VIA Rail, the restaurant cars are available to everyone based on seating availability. Dining at your seat is offered on many European trains, especially daytime high-speed trains. Trains equipped with café cars (bistro cars) serve light meals at any time. Sandwiches, snacks, and beverages can be obtained in the café car and are sometimes served at a passenger's seat. Food trolley carts pass through the aisles, which allow passengers to get something light to eat without leaving their seat.

Complaints about food and beverage service on Amtrak trains and the discriminatory policies limiting access to dining cars has been the subject of a Congressional inquiry. The Food and Beverage Working Group was created by Congress as part of 2021's Bipartisan Infrastructure Law to evaluate the onboard food and beverage operation, which is a key amenity of Amtrak service and what helps distinguish it from domestic airlines.

The working group was comprised of Amtrak front-line employees and management, international travel and hospitality

experts, and partners from state-supported services. The group produced more than 30 recommendations to improve onboard food and beverage service. The primary recommendation was to open dining cars on all trains for all passengers regardless of ticketed class. Amtrak is a taxpayer supported enterprise. Discriminatory policies regarding food and beverage services are counter to the egalitarian ethic of most Americans and is not an equitable arrangement. Why should taxpayers subsidize First Class passengers? Amtrak agreed with the working group recommendation and opened the dining cars to coach class passengers on the Western trains. The opening of the dining cars on Western trains to coach passengers increased food and beverage revenue over \$300,000 annually without any increases in on-board train staff. This led to the opening of the dining cars on Florida trains in the East.

## COST OF FOOD AND BEVERAGE SERVICE

Dining cars provide the highest level of service of any railroad food service car. The dining car typically employs multiple servers and kitchen staff. Consequently, they are extremely expensive to operate. For example, in an exhaustive 2005 audit of the financial performance of Amtrak's food and beverage services, the Government Accountability Office (GAO) found that between fiscal years 2002 and 2004, Amtrak lost \$244 million from its food and beverage operations. According to the GAO report, "This means that Amtrak spends about \$2 to earn \$1 in food and beverage revenue." Although this report is now nearly 20 years old, and Amtrak has made significant improvements, food and beverage service losses continue to be a concern expressed by some Congressional budget appropriators.

Over the past 50 years, there has been this dynamic tension between either operating cost-effective public transportation passenger rail service by cutting food



service costs or catering to the needs of its passengers by providing excellent quality food at affordable prices. Over time, Amtrak (and the airlines) concluded that food and beverage service was not a profit center. It is part of the cost of doing business. As noted earlier, Europeans believe food and beverage service is obligatory. Passenger transportation requires catering to the needs of the people it serves, which includes food and beverage for long journeys. Amtrak's passengers want a high-quality dining experience on a long-distance train. This means freshly prepared food in a dining car. Therefore, passengers should be prepared to cover the full cost of their dining experience and not look to the taxpayers to subsidize their meals. In other words, food and beverage prices should cover the cost of providing the meals and service.

This leads to a question, should Amtrak be in the restaurant business? They certainly need to provide space on trains for people to obtain meals on long-distance overnight trains, especially the Western trains that require two nights to complete the journey. Should the passenger railroad be in the food and beverage service business? The state-supported Amtrak corridor routes provide some insight into what is possible unburdened by what has been.

### STATE SUPPORTED CORRIDOR TRAINS

The Downeaster Service is operated by Amtrak with oversight and financial support from the Northern New England Passenger Rail Authority (NNEPRA). Trains run between Brunswick ME and Boston MA. Each train includes a Downeaster Café car that includes a menu of snacks, light meals, soft drinks, and alcoholic beverages available for purchase. The Downeaster Café is independently operated by a third-party vendor NEXDINE. NEXDINE is a hospital-ity food service provider whose approach



to food preparation is fresh, authentic, locally sourced and served with a passion for seasonal and regional flavors.

Amtrak Cascades is a regional passenger rail service that connects 18 cities in Oregon, Washington, and British Columbia, Canada. Amtrak Cascades is operated by Amtrak and funded by the states of Oregon and Washington. One of the most popular amenities offered on Amtrak Cascades trains is food and beverage service. Each train has a Bistro Car where fresh sandwiches, salads, snacks, coffee, soda, beer, wine and spirits, and other items are sold to passengers. The Bistro Car has two coffeemakers, two electric heating elements beneath large pots filled with ready-to-serve oatmeal and chowder, and two microwaves for heating products like packaged hamburgers, hot dogs, and breakfast sandwiches. There are no grills, deep fryers, conventional ovens, espresso machines, toasters, or prep cook stations in the Bistro Car. Amtrak Cascades trains strive to offer a variety of locally sourced products, as well as top-selling national products. Offering local products helps give the trains a "Pacific Northwest vibe" that emphasizes Northwest cuisine and distinguishes Amtrak Cascades as a truly regional brand. Washington State DOT has issued guidelines and protocols for food suppliers wishing to place product on the train. Amtrak manages the food and beverage service under guidelines established by Washington State DOT.

In testimony to Congress in 2013 , former

North Carolina DOT (NCDOT) Rail Director Paul Worley told the story of food and beverage service on the state-supported Piedmont service in North Carolina.

*For the first seven years of Piedmont service, between 1995-2002, NCDOT offered a traditional café style food and beverage service. The NCDOT-owned café car had both lounge and booth seating, a self-service cafeteria-style counter line with display refrigeration units containing prepackaged foods and beverages, and a fully equipped galley for hot meal preparation. The car was staffed with one full-time employee of a private sector contract food and beverage service provider. NCDOT competitively bid the Piedmont food and beverage service over multiple year contracts. The contractor was responsible for provisioning the café car, preparing meals, and providing customer service. NCDOT's private sector train maintenance contractor was responsible for maintaining and cleaning the café car during layover periods.*

*While the original Piedmont food and beverage service was very popular with passengers, it was also very expensive to operate and maintain. Due to the preparation of hot meals – sausage and egg biscuits, grits, barbecue, and the like – on board the car, the North Carolina Department of Health and Human Services ruled that NCDOT's café car was a “rolling restaurant,” and therefore had to comply with all state restaurant regulations and inspections. The restaurant fumigation requirements added costs, mainly by increasing the spare railcar ratio. Food onboard a train requires many “touches,” from distributor, inventory, commissary and on-rain storage, to preparation and serving the customer. A restaurant requires seating and with a ready supply of customers, turnover.*

*The train duty cycle is long and staffing the café car with good reliable employees 7 days a week, 365 days a year was the most challenging aspect of the service. During an average year, the café car service with hot food cost NCDOT approximately \$350,000 after sales revenues were applied to total labor, product, and maintenance costs. The Rail Division determined that this annual food and beverage service loss was not sustainable or justifiable for the type of intra-state passenger service provided by the Piedmont, where the total trip time had been reduced by a full hour to three hours, fifteen minutes.*

*In part due to the reduction in trip time, and the expense of offering hot meal service, food service on the Piedmont was modified to include a limited self-service menu of coffee, complimentary beverages, and snacks. Complimentary items were offered until NCDOT could reevaluate the service, retool equipment and change offerings. After much in-house research and surveying of passengers, NCDOT decided the most cost effective and efficient food and beverage service for the Piedmont would be self-service vending machines.*

Interestingly, dining cars were being removed and replaced by snack cars and vending machine café car service by the railroads when ridership was declining in the 1960s. Amtrak has attempted to find the happy medium of food and beverage offerings by differentiating between long-distance and corridor services.

## AGING DINING CAR FLEET

Amtrak's fleet of dining cars is old. Except for the Viewliner dining cars delivered between 2016 and 2019 for the Eastern long-distance trains, most dining cars are more than 20 years old with most being over 40 years old. Not surprisingly, this

aged equipment is prone to mechanical and electrical failure. Kitchen equipment is unreliable and repair parts are difficult to obtain. Amtrak is planning to replace all the dining cars in the next several years as part of the program to refresh and replace the long-distance fleet. So, let us ask another question: Can Amtrak privatize the entire food service operation including dining, café, and lounge cars?

## CONTRACT FOOD AND BEVERAGE SERVICE PROVIDERS

Prior attempts to privatize food and beverage service on Amtrak trains met with stiff resistance from unionized dining car staff. Privatizing food service on Amtrak trains was proposed over a decade ago. A House GOP proposal introduced in 2012 would have forced Amtrak to privatize operation of its dining and cafe cars -- but the federal government would have been required to pick up part of the tab for any losses incurred by the food and beverage service provider's meal offerings. The legislation's proposed language outlined the limits of what even its proponents thought privatization could accomplish. The proposed legislation stated the federal government would pay out "any portion of appropriations for Amtrak necessary to cover a net loss" from the food and beverage service. So even if the private providers saved Amtrak some money, the federal government would still have been required to cover any losses from the private businesses' operations. It would have a good deal for the food and beverage service provider. This legislation was not passed into law.

Amtrak owns or leases 12 commissaries located around the country. The commissaries are responsible for receiving, warehousing, and stocking food, beverages, and other items for Amtrak's on-board dining and cafe service. From 1971 through 1999, Amtrak ran these commissaries with its own employees. Since then, Amtrak has contracted out the responsibility for the commissaries and for ordering and stocking all food, beverage, and related

items under a managed services contract.

Today, Amtrak has multiple service contractors for food and beverage service, including Aramark, Gate Gourmet, and restaurateur Stephen Starr. Aramark provides commissary services and sources most food items to Sysco. The contract includes auditing and reporting requirements. Gate Gourmet supplies pre-plated meals for Acela first-class service. Aramark launched a partnership with Amtrak and Starr Restaurants as part of an all-new Amtrak Acela First Class dining menu. Starr has developed a fresh new menu to offer Acela First Class passengers an elevated dining experience. Passengers ticketed in Acela First Class can expect dishes made from fresh and local ingredients, with the addition of a new signature entrée each season from one of Starr Restaurant Groups world-renowned, Philadelphia-based eateries.

Some of us still remember the Harvey House chain of restaurants, hotels and businesses located alongside railroads primarily in the Western United States. Fred Harvey migrated to the Midwest and operated a restaurant in Chicago Union Station and the elegant English Oak Room in Cleveland Union Terminal. The English Oak Room was operated by Fred Harvey from 1930 to 1978. When dining cars began to appear on trains, the Atchison, Topeka, and Santa Fe (AT&SF) contracted with the Fred Harvey Company to operate the food service on the dining cars, and all AT&SF advertising proclaimed,





“Fred Harvey Meals All the Way”. The famous Super Chief included dining cars staffed by Fred Harvey personnel as part of the standard passenger car consist right off the outset. The Harvey Company, as well as the company’s close affiliation with AT&SF, lasted until 1968 when the Amfac Corporation of Hawaii purchased it. Amfac was renamed Xanterra Parks & Resorts in 2002. Today the successors of the Fred Harvey Company own and operate the Grand Canyon Railway.

Is there an entrepreneurial restaurateur interested and willing to provide and maintain restaurant cars pulled by Amtrak locomotives and provide the on-board food and beverage service tailored to each of the long-distance markets served by Amtrak? Is there a modern-day Fred Harvey Company that would simply provide the food and beverage service and staff the dining cars? Good questions. In the meantime, let us hope Amtrak buys new dining cars, adds dining cars to all the Eastern trains and opens the dining cars to all ticketed passengers as recommended by the Food and Beverage Working Group.

## SLEEPING CARS

Another feature of long-distance trains is the sleeping car. Sleeping cars on long-distance trains have been around since the mid-19th century. Amtrak inherited the railroad’s heritage fleet of sleeping cars in 1971 when it was launched to take over all intercity passenger rail service in the US. Over time Amtrak overhauled the heritage fleet then retired it as new equipment was purchased with appropriations made by Congress for fleet renewal.

## HISTORY

In the United States, the Pullman Company founded in 1867, owned and operated most sleeping cars in the United States. The Pullman-owned sleeping cars were attached to passenger trains operated by the various railroads. Pullman collected all revenues from sleeping and parlor car ticket sales. If any car failed to gross a net sum to cover its share of

Pullman expenses (porters, linens, maintenance, etc.) and what Pullman called a fair return, Pullman kept the car’s entire sleeping car ticket revenue. If the car earned more than its set fee, Pullman split (usually 50-50) the excess with the railroads at year’s end. Some sleeping cars were owned by the railroad and staffed and operated by Pullman.

In 1943 an anti-trust lawsuit was brought by the United States against Pullman alleging violations of the Sherman Act for monopolizing the manufacture and operation of all sleeping cars in the United States. A verdict was rendered and in 1947 a consortium of railroads bought the Pullman Company from Pullman Incorporated, and subsequently railroads owned and operated Pullman-made sleeping cars themselves. Pullman-Standard continued manufacturing sleeping cars, other passenger railcars and transit cars until 1981. The Amtrak Superliner I cars were the last passenger cars built by Pullman.

In Europe, the Compagnie Internationale des Wagons-Lits first focused on sleeping cars, but later operated whole trains, including the Orient Express, Nord Express, Train Bleu, Golden Arrow, and the Trans-Siberian. Today it specializes in sleeping cars, along with on-board food and beverage catering.

The current Amtrak fleet consists of two main types of sleeping cars: the bi-level Superliner sleeping cars, built from the late 1970s to the mid-1990s, and the single-level Viewliner sleeping cars, built in the mid-1990s. Superliners are used on most Western long-distance routes, while Viewliner are used on most Eastern routes due to tunnel clearance issues in and around New York City and Baltimore.

Passengers traveling in Amtrak sleeping cars have an attendant who provides turndown service, assists with meals, and



helps with luggage. All customers in private rooms receive complimentary lounge access at major stations, priority boarding and complimentary meals onboard trains with dining cars. Amtrak offers a variety of sleeping accommodations on its trains. All sleeper cars include newly upgraded bedding, pillows, towels, and linens. The room types include:

- Roomettes feature two comfortable seats by day transformed to upper and lower beds by night. Each room includes a big picture window, and access to a restroom and shower in your car.
- Bedrooms provide twice the space as a Roomette and feature a sofa and separate chair by day transformed into upper and lower beds by night. Each room includes a big picture window and an in-room sink, restroom and shower.
- Bedrooms Suites combine two adjoining Bedrooms—featuring two sofas and two separate chairs by day transformed into four beds by night. Each suite includes two big picture windows, two in-room sinks, and restrooms and showers.
- Family Rooms span the width of the car with ample space for two adults and two children (ages 2-12). Each room features seating for four by day transformed into two upper and two lower beds by night, plus two big picture windows.
- Accessible Bedrooms are located on the

entry level of the train and offer ample space for a wheelchair. Each room features seating by day transformed into upper and lower beds by night, plus a big picture window, and an accessible in-room sink.

## FLEET REPLACEMENT

Amtrak is planning to renew its entire fleet of long-distance train rolling stock. In December 2023, Amtrak released a Request for Proposal (RFP) to potential manufacturers of the new equipment. Through Freedom of Information Act (FOIA) requests, the RFP was posted on X (Twitter) and Reddit. The RFP is very prescriptive and detailed. It is over 1,000 pages in length. In contrast, European train operators write performance specifications that are no more than 50-70 pages long. The Europeans ask manufacturers to design railcars to meet high-level performance requirements. American practice is to design the trains, forcing manufacturers to build custom trains to meet their specified requirements. This often leads to higher prices because manufacturers cannot adapt existing designs to satisfy the unique requirements of the American railroad environment.

Amtrak seems to have decided that they will keep the Eastern Fleet as single-level equipment and the Western Fleet as bi-levels. The new Western long-distance trains will be modeled after the successful Superliner car style with an upper and lower deck. Amtrak is addressing accessibility. The new trains will allow wheelchair users to access the upper level on a lift. Once they are on the upper deck, they can access all public areas via 32-inch aisles and 40-inch open gangways between cars.

Amtrak is taking this opportunity to update the overnight long-distance rail experience very seriously. They are emphasizing comfort, convenience and elegance for “First-Class” passengers while providing



excellent value for economy class passengers. There are three types of railcars being procured: sleepers, food service (as discussed previously) and coaches.

### SLEEPERS

The sleeping cars will have several cabin categories, most of them new and slightly different from today's arrangement:

- SoloSuites, a category below today's existing "roomettes," which allow solo passengers to travel in privacy without paying for two beds. To save space, they use footwells like lie-flat business class airline seats.
- Roomettes, the two-passenger economy compartments, will continue to be offered. These are Amtrak's most popular and economical sleeper accommodation today.
- Club Bedrooms will replace today's "Bedroom" category. Like the Bedrooms, they feature an ensuite bathroom/shower. Unlike today's Bedrooms, they can accommodate up to four people. They feature two couches that convert to two 48-inch-wide beds. It will be tight for a family of four and lux for a couple. But small children do not take up much room!
- Premium Bedrooms are the most spacious accommodation, taking advantage of the whole ten-foot width of the train. They feature separate queen bed, two seats, a writing desk, windows on both sides, and

a separated shower and bathroom. Think land cruise accommodation and a price to match.

Accessible twin, double, and premium compartments will have larger doors and bathrooms, and they will match the luxury level of the roomette, club, and premium accommodations.

### COACHES

Amtrak is introducing a distinction between standard coach, with 2x2 seating and 43-inches of seat pitch, and premium coach, with 48-inches of seat pitch and two-by-one seating. Standard coach will be a downgrade from today's Superliner coach cars, which have a very generous 50-inch seat pitch. Premium coach could be better than today if Amtrak insists on seats designed for sleeping like airline Business Class seats on international flights.

### PRIVATIZATION

Notwithstanding the anti-trust lawsuit against the Pullman Company, is there an opportunity for Amtrak to get out of the hotel business and contract out the sleeping car services? Would Compagnie Internationale des Wagons-Lits or American Orient Express be interested in providing the services to staff and maintain the sleeping cars through a public-private partnership, wherein Amtrak buys the rolling stock, and the private company staffs the sleeper cars? You can add in food and beverage service as noted earlier. Amtrak simply buys, operates, and maintains trains while privately-owned managed service providers provide on-board services. A new business model? Something to think about.

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# WHAT ABOUT AIPRO?

## THE FUTURE OF PASSENGER RAIL

Contributed By: Ray B. Chambers, President

The Association for Independent Passenger Rail Operations (AIPRO) was founded in 2010 to promote innovation in the expansion of American passenger railroading. In the first decade we went quietly about our work promoting a competitive passenger rail marketplace. We reformed our group in 2020, changing our name to the Association for Innovative Passenger Rail Operations—still AIPRO. We expanded our membership to include rail labor, contractors, and consulting groups. Today our members are Keolis, RATPDev, Transdev, Herzog, Brotherhood of Maintenance of Way, Brotherhood of Railroad Signalmen; MaxAccel, Direx and McGrath rail. Our operating companies run twenty-six properties from Coast to Coast. In America, we operate everything from buses to streetcars to commuter to intercity passenger rail corridors. Our four railroads carry approximately sixty million passengers each year in the United States. Internationally we carry 2.6 billion passengers a year. We are an association with unparalleled depth of experience for expansion of US passenger rail service.

We believe service can become world class through the Federal Railroad Administration (FRA) design of a network under current law. We believe the significant federal funding commitment must continue through the next authorization. We believe competition for service between the world's leading operators must be injected into the program. The point of this article is to offer that experience to the states and authorities that will sponsor and financially support an expanding national intercity passenger rail network now being designed by the FRA.

The Bipartisan Infrastructure Law (BIL-Public Law 117-58) signed by President Biden on November 15, 2021, appropriated more money for passenger rail expansion than in the last half century put together. BIL included our AIPRO request to give the Federal Railroad Administration direct authority over intercity corridor expansion through a

new Corridor Identification and Development (CID) program. The new Law is specifically agnostic as to who the service and operating provider should be. Thus, it maximizes the potential for private sector stakeholders to partner in this new enterprise. This program is roughly analogous to the historic Interstate Highway Program. It:

1. Makes the FRA responsible for developing the intercity passenger network outside the Northeast Corridor. CID creates a dedicated funding pipeline in three stages-- 1) Scoping & Program Initiation (100% federal grant); 2) Service Development Planning (10 percent local match); 3) Project Development (20 percent local match). FRA is a full partner with the sponsoring states/authorities in the creation of a new and improved rail network.
2. Provides significant grant funding directly to the states and local rail authorities for the first time. Through the grant programs states and local entities now have direct access to more than \$66 billion over five years. The Build America Bureau innovative financing provides access to about \$50 billion more in additional funding opportunities. Through the Federal-State Partners Program, the FRA is now directly investing \$1.8 billion as seed money for the Corridor ID rollout.
3. Provides options for the states and local authorities to choose operators in the emerging corridors under 750 miles (all of which they must subsidize). First, of course, they can deploy Traditional Amtrak Model and keep Amtrak as the exclusive partner. Or, under BIL sponsors have the option to choose corridor service providers competitively as their operating partners. In many cases, given the long history, Amtrak will be the logical partner. Amtrak will have a continuing critical role in the future of intercity passenger development. But- there will be circumstances, particularly on the CID New Conventional Rail Routes as well as High-Speed Rail Routes where the Competitive Model will yield great benefits. Implementation of

the developing Competitive Model will be the sweet spot for AIPRO and our policy partners such as RAILCET, an organization of thirty rail construction contractors and their Building Trades Unions.

Thus, our AIPRO focus today is the CID program. FRA has provided scoping grants to sixty-nine projects in forty-four states to prepare them for the CID funding pipeline. AIPRO and our ally RAILCET have funded a study that identified thirty-one projects that could be open to the competition model. Through Freedom of Information Act Requests (FOIAs) we have received applications for these projects which we are putting through Strength-Weakness-Opportunity-Threat (SWOT) analysis. The key for each interested project sponsor will be a platform to implement the alternative model that permits competition. Working with a class one host railroad and a local Passenger Rail Authority we have helped create a new Direct Access Model for implementing projects through commercially negotiated agreements. This is the alternative to the Amtrak Traditional Model that relies on statutory preferences and regulatory enforcement. It puts all parties on a level playing field. The Traditional Model, which has evolved over a half century, treats Amtrak as a sole operating partner with monopoly-like advantages.

The Direct Access Model allows all operators, including Amtrak, to price and demonstrate how they would operate the service through a competitive procurement process. Only through this kind of head-to-head competition can sponsoring agencies get transparency. Further, for the Host Railroad under the Traditional Model, statutory access at incremental cost with regulatory enforcement cannot be sidestepped. This may cause the Host to demand extensive upfront capital improvement.

Why? Because they must protect against future performance demands over which they have no control. Within the negotiated Direct Access Model there is more flexibility for the Host to get concessions, including the lease of extra capacity, which will require less capital investment as the project is rolled out in an expedited manner. All parties become equal partners in the negotiated transaction. There will need to be a solid arbitration mechanism, but this is common in commuter world deals. Thus, we argue the Direct Access Model will create equal partners and inevitably result in happier, more cost-effective operations.

AIPRO is now engaging corridor sponsors in conversation on how the Direct Access Model can best work. We

are interested in dialogue with any sponsoring state/authority that wants to explore the Direct Access Model. Time is critical as this initial evaluation needs to be accomplished in the FRA Scoping Stage prior to the Stage 2 Project Development. Under any circumstances there are critical matters that need to be addressed quickly. An AIPRO Market Sounding instrument has been designed to speed resolution of the matters that must be confronted in Scoping. Market Sounding is a formal process to quickly address issues of track access, metrics and standards including on-time-performance, equipment, and liability/indemnification. It can save hundreds of thousands in consulting costs and be accomplished in an abbreviated time. Beyond the Market Soundings, within AIPRO membership there is in-depth experience in implementing innovative solutions across a wide range of issues. For example, our members have international commercial experience in the acquisition of rolling stock with purchase and lease options. We also operate many commuter services and an intercity service where all agreements were reached through commercial agreement and competition.

Thus, with the implementation of the Bipartisan Infrastructure Law, AIPRO is ready to engage the stakeholders that are the foundation of the CID expansion. Currently we are working with FRA, STB, State DOTs, Local Rail Authorities, Host Railroads and Congress to further advance the idea of competition within the Corridor ID (CID) program through a Direct Access Model. In many circumstances, due to a long history, the Traditional Amtrak Model will be used. However, in the emerging new corridors the Direct Access Model can bring great benefits to the states. The sponsor will put up the matching grants and pay the subsidy. It will not be in the interest of the state/authority sponsors to deal with only one operator when there are significant alternative options readily available.

It will certainly be a win for AIPRO companies and employees including rail labor organizations if allowed to become operating partners with the sponsoring entity. It will be a win for the Host Railroads that have been frustrated with the Traditional Model statutory preferences and regulatory enforcement. While Amtrak may disagree, we submit this will be a win for Amtrak who will be more efficient and much more transparent in their dealings with states. It will put host railroads on a level playing field with a stake in success and become a "win win win" for all parties.

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# STUDY RESULTS

## 'SUBSTANTIAL AND CERTAIN' PENALTIES FOR EXTRA-LONG TRAINS

Contribution By: Jim Mathews, President & CEO, Rail Passengers Association

*JIM MATHEWS SERVES AS PRESIDENT & CEO OF THE RAIL PASSENGERS ASSOCIATION, LEADING EFFORTS TO IMPROVE TRANSIT AND INTERCITY RAIL CHOICES FOR AMERICAN RAIL TRAVELERS. HE OVERSEES STRATEGY, POLICY FORMATION, LEGISLATIVE EFFORTS, AND BUSINESS OPERATIONS.*

A long-awaited [National Academies study](#) on the problems created by extra-long freight trains this week called on regulators to impose “substantial and certain” financial penalties on freight host railroads whose unwillingness to build sidings long enough to match their ever-growing freight trains routinely delays Amtrak passengers.

The study says Congress should direct and empower the Federal Railroad Administration to enforce the preference clause with financial penalties “substantial and certain enough to deter this practice and to motivate solutions, including the rightsizing of freight trains to sidings and investments by host railroads in longer sidings.”

When it comes to the decades-long problem of extra-long, extra-slow freight trains delaying passenger trains, creating safety hazards, or even being implicated in serious rail disasters that hurt small communities where they happened, the freight host railroads have always said taking action was premature. “Wait for the data,” they said.

Well, the data are here. And they’re pretty unequivocal: when freight trains get past about a mile and

a half long, derailment risks are higher, train handling is harder, braking is more challenging, infrastructure is strained, Amtrak service is degraded, and public safety is at higher risk. While stopping short of defining just how long is “too long,” the National Academies of Sciences, Engineering, and Medicine study released this week really would seem to be the definitive report on very long freight trains, with findings similar to – but more expansive than – [those published in May in the journal Risk Analysis](#).

The National Academies’ study zeroed in on risk-reduction strategies, blocked-crossing problems, and the effects on Amtrak trains and their fare-paying passengers.

The National Academies’ report concludes that the Federal Railroad Administration should beef up its requirements for risk-reduction programs, mandating that railroads identify, analyze, and address risks arising from all major operational changes, including issues created by running longer manifest trains.

The report also called on Congress to direct FRA to step in aggressively on blocked crossings, outlining a

program to “obtain and publicly share data on blocked crossings, build a network-level understanding of the issue, and then negotiate with railroads to find solutions to the most problematic blockage sites.” This is a step your Association has pressed for many years, and this recommendation is especially welcome.

And of course in the part of the report the host railroads may find the most irritating, the National Academies confirmed that despite the nearly half-century law on the books giving Amtrak trains the right to preferential dispatch, freight railroads do, nonetheless, run trains on routes where the train’s length exceeds the length of available sidings – where trains can briefly pull aside to clear the main track – preventing passing and causing Amtrak trains to be delayed behind slower freight trains.

Ever since earlier this summer when the Justice Dept. moved to haul Norfolk Southern before a Federal district court alleging preference violations that degrade Amtrak service and hurt the fare-paying public, we’ve seen a spate of articles claiming fault on all sides. The National Academies’ report this week puts the blame squarely where it deserves to be, on host railroads running trains too long



for the infrastructure they own and maintain – a business practice that has been impermissible by Federal statute for nearly half a century.

The recommendation is worth quoting in its entirety:

“Recommendation 4: Congress should direct and empower the Federal Railroad Administration (FRA) to enforce the performance of host freight railroads in giving preference to Amtrak passenger trains on single-track route segments where there is a mismatch between the length of freight trains being operated and the infrastructure available on the route segment to accommodate them without delaying Amtrak trains. Under these circumstances, when an Amtrak train experiences delays because of an inability to meet or pass a freight train, the host railroad should be subject to financial penalties. The penalties should be substantial and certain enough to deter this practice and to motivate solutions, including the right-sizing of freight trains to sidings and investments by host railroads in longer sidings. This FRA function would need to be allied with the Surface Transportation Board’s jurisdiction over railroad practices and service. This FRA function would need to be allied with the Surface Transportation Board’s jurisdiction over railroads practices and service.”

Across its 86 pages, the study identified many factors that make extra-long freight trains problematic.

The report points to significant operational risks, noting that as freight trains exceed 7,500 feet (about 1.5 miles), the risks associated with train handling, braking, and in-train forces increase. This is particularly true for



manifest trains, which carry mixed cargo. These risks become more complex as train length grows, especially with diverse car types, weights, and sizes.

The Federal Railroad Administration (FRA) and the National Transportation Safety Board (TSB) also raise safety issues that come with running trains longer than 7,500 feet, pointing out that derailments, difficult in-train forces, and challenges with distributed power units are more prevalent in longer trains, making length a critical safety factor.

And then there are the infrastructure limitations. Trains longer than available sidings (designed for shorter trains) can cause significant delays to both freight and passenger trains, particularly on single-track segments. Freight trains that can’t fit into sidings block other trains, especially passenger services like Amtrak, leading to operational bottlenecks.

There are also the myriad ways in which the communities through which these trains pass suffer. The report points to the problems stemming from long trains blocking highway-rail grade crossings, leading to delays for emergency vehicles and public safety risks. As is true for the other effects, this problem, too, worsens as train lengths increase.

Apologists will point to the National Academies report’s explicit failure to define an upper limit for train length. This is true. However, the report authors spent the bulk of the report discussing the risks and complexity of operating longer trains, suggesting that today’s freight railroads spend too little time assessing the variables which drive the appropriateness of a train’s length – things like the terrain, the available infrastructure, and the specific operational conditions. So even though the report did not declare that trains beyond a certain length should not be run, the data and the recommendations in the study make it clear that when train lengths exceed 7,500 feet they introduce significant challenges that need to be carefully managed in a way that they are not managed today.

That was the charge the report’s authors gave to Congress, the Federal Railroad Administration, and the host railroads. Your Association is eager to see these recommendations put into action, and will work in every available venue – Congress, FRA hearings and rulemakings, and at the Surface Transportation Board – to see them made into reality. shape, redefining transportation in the UK.

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# GATEWAY PROGRAM

AN AMBITIOUS PLAN FOR THE FUTURE OF THE NORTHEAST CORRIDOR

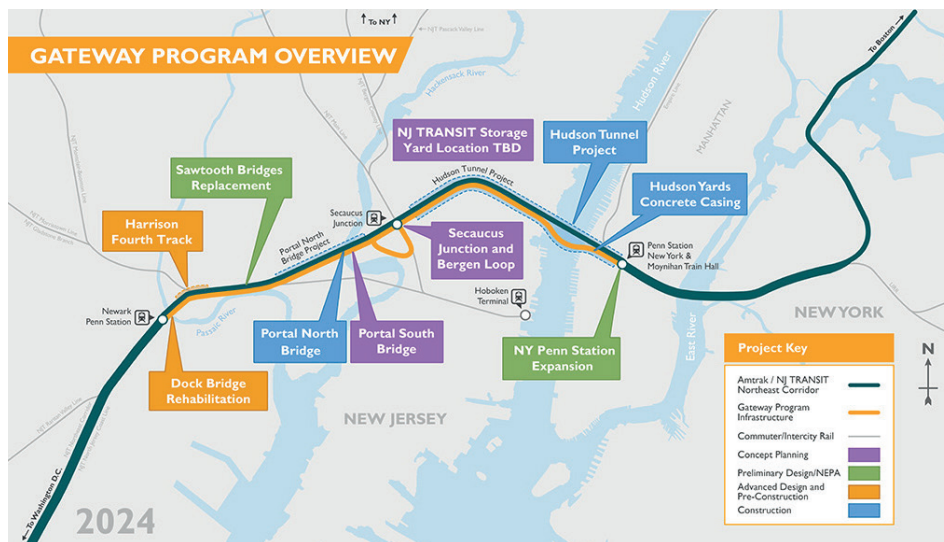
Contribution By: Thomas Davidenko, Amtrak, Government Affairs

The most urgent infrastructure project in America is under construction and proceeding on schedule. The Gateway Program is more than a series of rail infrastructure projects; it is a vision for the future backed by an unprecedented partnership among Amtrak, the States of New York and New Jersey, the bi-State Gateway Development Commission (GDC), NJ TRANSIT, the Metropolitan Transportation Authority (MTA), the Port Authority of New York/New Jersey (PANYNJ), and other regional stakeholders.

The Program will roughly double rail capacity in a critical 10-mile stretch of the Northeast Corridor (NEC). It will improve reliability by renovating and/or replacing aged and obsolete systems and encourage more people to shift from cars to trains, promoting sustainable travel. Thanks to billions of dollars in federal grants through the Infrastructure Investment & Jobs Act, Amtrak and our partners are hard at work turning ambitious plans, decades in the making, into reality.

The scale of what the Gateway Program seeks to achieve for the NEC is massive. Nowhere else in the world has an infrastructure owner or operator sought to double service and infrastructure capacity, while simultaneously running an intense mix of intercity and commuter rail services on a shared set of century-old tracks in a constrained geographic territory.

Between Washington, DC and Boston, most of the 457-mile NEC has at least four tracks. The 10-mile segment between Newark Penn Station and New York Penn Station, however – the most heavily trafficked rail corridor in the United States – relies upon just two tracks built over

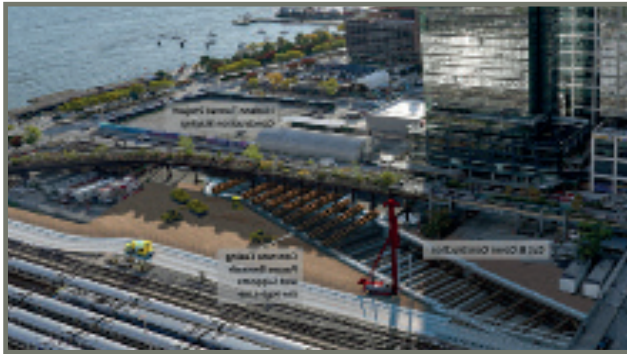


100 years ago by the Pennsylvania Railroad. Roughly 450 daily trains

and 200,00 daily passenger trips are made in the New York / New Jersey metropolitan area, helping generate 10% of the country's economic output. The Gateway Program will renew, modernize and expand this two-track railroad to four tracks, doubling service capacity.

One of the core elements of the Gateway Program is the Hudson Tunnel Project, which will construct a new tunnel under the Hudson River and rehabilitate the existing North River Tunnel (NRT), which opened in 1910. The NRT consists of two, single-track, electrified tubes, which serve as the only rail connections between New York City, New Jersey, and the rest of the NEC. In October 2012, the tunnel was inundated with millions of gallons of salt water during Superstorm Sandy, leaving behind corrosive chemicals which continue to degrade the concrete tunnel liner, benchwalls, and other systems that support Amtrak and NJ TRANSIT operations.

Led by the Gateway Development Commission as project sponsor, construction on the Hudson Tunnel Project is now officially underway. When complete, the project will add needed resiliency, enabling the NEC to better withstand the effects of climate change; improve reliability by creating a four-track alignment under the Hudson River, installing all new components, and bringing century-old infrastructure to a state-of-good-repair; and generate \$19.6 billion in economic activity while creating approximately



ABOVE: A CONCRETE CASING IS BEING CONSTRUCTED BENEATH THE LONG ISLAND RAIL ROAD'S WEST SIDE STORAGE YARD TO CARRY THE NEW TUNNEL UNDER MANHATTAN AND INTO PENN STATION.

95,000 jobs during construction.

This summer, officials signed the largest-ever rail transit grant in U.S. history, committing \$6.88 billion in Capital Investment Grant (CIG) funds to the project. Along with billions of dollars in contributions from the States of New York and New Jersey and the Port Authority, the \$16 billion project is now fully funded with a Federal share (70%) larger than originally planned, thanks in large part to the support of Senator Chuck Schumer, the New York and New Jersey Congressional delegations, and the Bipartisan Infrastructure Law.

In addition to the Hudson Tunnel Project, the Gateway Program includes the replacement of the Portal Bridge, a century-old moveable swing bridge in Kearny, NJ. Built by the Pennsylvania Railroad at the same time as the North River Tunnel, the existing bridge is a critical link in the congested territory between Newark, NJ and New York. The two-track, moveable span is a major bottleneck and source of delay, particularly when the aging bridge malfunctions when opening and closing for maritime traffic.

Amtrak and NJ TRANSIT are working together to build a new, two-track Portal North Bridge which will replace this outdated relic with a modern, high-level fixed span that does not need to open or close due to its increased height and vertical clearance, eliminating the movable components and risk of malfunction. Led by NJ TRANSIT as the project sponsor, the Portal North Bridge project, which you can see from the train between Newark and New York, is approximately 70% complete, on schedule and on budget.



ABOVE: THE NEW PORTAL NORTH BRIDGE WILL RISE MORE THAN 50 FEET OVER THE HACKENSACK RIVER, NEGATING THE NEED TO OPEN AND CLOSE FOR RIVER TRAFFIC.



ABOVE: CONSTRUCTION IS APPROXIMATELY 70% COMPLETE ON THE PORTAL NORTH BRIDGE IN KEARNY, NEW JERSEY.

These projects demonstrate the ambition of the Gateway Program and their progress is a reminder that by working together and leveraging partnerships agencies can drive successful project outcomes.

Portal North Bridge and the Hudson Tunnel Project represent the first phase of the Gateway Program and focus on eliminating single points of failure on the NEC. Later stages of the Pro-



gram, including an expansion of capacity at New York Penn Station, will enable a dramatic increase in rail service between New York and New Jersey. This is crucial for meeting the growing demand for commuter and intercity rail services, and making rail travel a more attractive and viable option that is both energy-efficient and environmentally friendly for commuters and travelers. This is particularly important in a region where road traffic congestion is a significant problem, contributing to lost productivity, increased fuel consumption, and higher greenhouse gas emissions.

Additional components of the Gateway Program that will transform this critical section of the NEC from a two-track railroad to a four-track right-of-way include:

- Dock Bridge Rehabilitation
- Harrison Fourth Track
- Sawtooth Bridges Replacement
- Portal South Bridge
- A new NJ TRANSIT rail yard in New Jersey
- Secaucus Junction Improvements & Bergen Loop
- Penn Station Capacity Expansion

Several of these projects have received funding to advance planning, design or construction through the IIJA's Fed-State Partnership Grant Program. Others are included on the FRA's NEC Project Inventory and can be expected to receive priority consideration for future applications.

The Impact on Ridership once Gateway is Complete  
Once the full Gateway Program is built, the tunnels under the Hudson River will be able to accommodate 48 trains per hour (TPH) and much of the infrastructure Amtrak and NJ TRANSIT will need to run twice the level of service will be in place. Instead of 450 trains per day and 200,00 daily passenger trips, the post-Gateway plan accommodates some 900 trains per day and nearly a half million daily passenger trips. That translates to more frequent departures for commuters, and the added reliability of all new infrastructure that helps make rail a more attractive option, encouraging people to get out of their cars and choose the train.

#### BEFORE

In the current service pattern, NJ TRANSIT operates 20 trains per hour (TPH) across the Hudson during the peak and Amtrak operates four, for a total of 24 TPH in the peak direction.

#### AFTER

The Gateway service plan will allow NJ TRANSIT to increase to 42 TPH and Amtrak to increase to 6 TPH, for a total of 48 TPH in the peak direction.

#### IMPACT

This translates to a 110% increase (more than double) the number of trains in one hour for NJ TRANSIT and a 50% increase for Amtrak.

#### MASSIVE INVESTMENT WITH A HUGE PAYOFF

The Gateway Program is a massive undertaking that will cost billions of dollars to deliver. It is an unprecedented investment in the nation's rail infrastructure that is necessary to overcome decades of underinvestment. This substantial financial commitment reflects the critical importance of the NEC to the regional and national economy. The Corridor serves as a backbone for commerce, connecting major cities from Boston to Washington, D.C., and facilitating the movement of people and goods – an economic artery for the region. Investing in its modernization is essential for maintaining global economic competitiveness and supporting future growth. The economic benefits of the Gateway Program will be significant. Improved rail service will enhance connectivity and make the region more attractive to businesses and workers, spurring economic development, increasing property values, and creating jobs both during and after construction. In addition, the Program's emphasis on sustainability and resilience will contribute to long-term economic stability by reducing the risks associated with infrastructure failures and climate change.

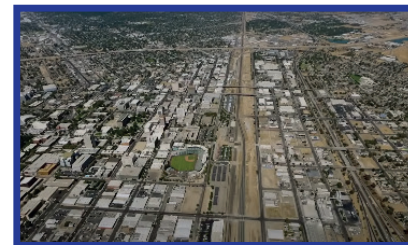
#### CONCLUSION

The Gateway Program is a bold and visionary project to transform the Northeast Corridor by doubling rail capacity, enhancing reliability, and promoting sustainable transportation. By modernizing and expanding a vital transportation artery, the Gateway Program will help ensure that the NEC remains a vibrant and competitive hub for commerce and travel in the 21st century.

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<https://www.amtrak.com/gateway-program>  
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# CALIFORNIA



## BALANCING ENVIRONMENTAL CONCERNS

Contributed By: Wendy Wenner, Speedlines

The California High-Speed Rail Project has been a topic of significant interest and debate in recent years. The latest settlement agreement between the California High-Speed Rail Authority and several entities in the Grassland Ecological Area marks a significant milestone in the project's progress, paving the way for the much-anticipated Los Angeles-to-San Francisco route.

The settlement agreement is a testament to the collaborative efforts of state and local agencies to ensure that the project's environmental impact is minimized. By incorporating wildlife crossings, avian enclosures, and sound barriers, the authority has demonstrated a commitment to protecting the local ecology during the construction and operation of the high-speed rail line. This is a crucial step in addressing the concerns of environmental advocates who have been closely monitoring the project's development.

The Grassland Ecological Area, Coyote Valley, and Pacheco Pass are all ecologically sensitive regions that are home to a diverse array of plant and animal species. The settlement agreement's focus on safeguarding these areas reflects the growing recognition that infrastructure projects must be designed and implemented with a keen eye on environmental preservation. This approach not only benefits the local ecosystems but also aligns with the broader goal of promoting sustainable transportation solutions that reduce our collective carbon footprint.

One of the key figures instrumental in this settlement agreement is Brian Kelly, the former CEO of the California High-Speed Rail Authority. Kelly's statement emphasizes the importance of balancing the public's need for modern, clean transportation with the imperative to protect natural resources. This delicate balance is at the heart of the high-speed rail project, and the settlement agreement represents a significant step forward in navigating this complex landscape.

The progress made in the Central Valley is undoubtedly a relief for many who have been closely following the project's development. The high-speed rail line has the potential to transform transportation in California, offering a more efficient and environmentally friendly alternative to traditional modes of travel. However, the project has also faced its fair share of challenges, including funding issues, political opposition, and concerns about the impact on local communities.

As the project moves forward, it will be crucial to continue engaging with stakeholders, including environmental groups, local residents, and transportation experts, to ensure that the concerns of all parties are addressed. This may involve further negotiations, compromises, and innovative solutions that prioritize both the environmental and the transportation needs of the state.

Moreover, the success of the California High-Speed Rail project could have broader implications for the future of transportation infrastructure in the United States. As the country grapples with the pressing challenges of climate change and the need for sustainable mobility solutions, the lessons learned from this project could inform the development of similar high-speed rail initiatives in other regions.

The settlement agreement between the California High-Speed Rail Authority and the entities in the Grassland Ecological Area represents a significant step forward in the project's progress. By prioritizing environmental safeguards and incorporating measures to protect local ecosystems, the authority has demonstrated a commitment to balancing the transportation needs of the state with the imperative to preserve its natural resources. As the project continues to evolve, it will be essential to maintain this delicate balance and engage with all stakeholders to ensure the long-term success and sustainability of the California High-Speed Rail project.

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# NEW ROADMAP

## HOW TO LAUNCH HIGH-SPEED RAIL PROJECTS

Contributed By: Bernard Cohen

Even as the prospects for high-speed rail (HSR) in the United States are looking brighter, one of the big unknowns looming over the planning process is how to successfully launch a brand-new project. In the beginning, a high-speed rail proposal may not be much more than a vision advanced by enthusiastic advocates, be they civic leaders, business organizations, elected officials or transportation professionals. Turning vision into a going project is the subject of a new, first of its kind, project initiation Roadmap for Advocates, published in May by the U.S. High Speed Rail Coalition in conjunction with its annual conference in Washington, DC.

“High-speed rail lines are complex megaprojects with unique challenges,” said Bernard Cohen, Senior Advisor for Planning and Operations at Alternate Concepts Inc., former Massachusetts Secretary of Transportation, and the principal author of the roadmap. “The Coalition has created a practical guide that demystifies what’s involved in launching a new high-speed rail project.”

The Roadmap defines project initiation as the critical incubation period of visioning, initial planning and advocacy. It is the time when HSR proponents need to get organized, determine preliminary project feasibility, build partnerships, assess risks, cultivate political support and develop strategies for both short-term and long-term funding. It is a highly labor-intensive and often improvisational phase that can take six or more years. Successful initiation, however, will set the HSR project up nicely for smooth entry into the more prescriptive, federally regulated project development, final design, construction and operations pipeline.

To convert uncharted territory into a Roadmap, the report identifies five crucial building blocks for

success: organization, technical planning, strategic engagement, project funding and compelling communications. Each of the building blocks is explored in detail in order to provide practical advice, relevant data, and real-world examples of how to advance the process on multiple fronts. While not a “manual” per se, it attempts to place critical tasks in a rough logical sequence, recognizing that the building blocks are interactive and ever evolving.

Some of the project initiation touchpoints explored in the Roadmap include the need for:

- *Credible leadership*
- *A well-defined problem statement*
- *A vision for how HSR could benefit the region as the backbone of a network*
- *Active stakeholder and public engagement leading to a support coalition*
- *Strong political support*
- *Effective communication and media relations*
- *A preliminary feasibility study*
- *Risk analysis and opposition strategies*
- *Coordination with owners of connecting corridors and shared facilities*
- *Short and long-term fundraising*

The Roadmap emphasizes the need for a high-profile champion who has the ability to bring the right people to the table. It identifies the groups that would be good candidates for a support coalition as well as potential foes. Strategies to protect HSR project initiation in the face of political turnover and new priorities are explored along with a long list of HSR benefits (e.g. mobility, environmental, safety, etc.) taken from projects around the world that can be part of an advocacy campaign. Taking the time to get it right even in the face of external pressure to expedite project initiation planning is one of the key messages in order to avoid the temptation to offer cost and benefit projections before risks and challenges have been fully evaluated.



High-speed trains are needed to effect a sweeping transformation of the transportation sector – making train travel competitive with flying and driving and moving millions of passengers out of cars and airplanes.



The significant boost in federal funding for both high-speed and intercity passenger rail since 2021 paired with several recent public policy polls showing popular support for high-speed rail in the U.S. has created a unique opportunity. The Coalition hopes that the Roadmap will help to take advantage of the moment to build a grass roots movement for a national high-speed rail network. “We’re really trying to get this into the hands of local leaders who care about their regions and understand that this could be perhaps one of the most transformative things that’s happened since the interstate highway system,” said Ezra Silk, political director of the Coalition.

#### FURTHER READING:

[Beyond Speed: Five Key Lessons Learned from High-Speed Rail Projects](#)  
WSP  
2023

[Guidance on Development and Implementation of Railroad Capital Projects](#)  
Federal Railroad Administration  
2023

[Guidebook for Intercity Passenger Rail Service and Development](#)  
Transportation Research Board  
Cooperative Rail Research Program  
2016

[Keeping it On the Tracks: High-Speed Rail Success and Lessons Learned](#)  
Mobility Innovation Center  
University of Washington  
2023

[From Vision to Reality: A New High-Speed Rail Playbook](#)  
AECOM  
2024

[An Inventory of the Criticisms of High-Speed Rail: With Suggested Responses and Counterpoints](#)  
American Public Transportation Association  
2012

[How Big things Get Done](#)  
Bent Flyvbjerg and Dan Gardner  
Penguin Random House LLC  
2023

[Defining U.S. Megaregions](#)  
Regional Plan Association  
2009

[National Survey Results](#)  
Public Policy Polling  
U.S. High Speed Rail Coalition  
2024

[Getting on the Right Track: Navigating the Future of Intercity Passenger Rail in America](#)  
Committee on Transportation and Infrastructure Hearing  
U.S. House of Representatives  
2023

[Seizing the Moment: Fulfilling the New Era for Intercity Passenger Rail](#)  
American Public Transportation Association Webinar  
2024

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A 10-car train has the same carrying capacity as 9 airplanes or 10 additional highway lanes, according to AECOM.