AMTRAK Connects US

MORE TRAINS. MORE CITIES.
Better Service.

Amtrak's Vision for Improving Transportation Across America | June 2021

National Railroad Passenger Corporation
1 Massachusetts Avenue NW
Washington, DC 20001
Amtrak.com

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01

Executive Summary

OVERVIEW

As Amtrak celebrates 50 years of service to America, we are focused on the future and are pleased to present this comprehensive plan to develop and expand our nation's transportation infrastructure, enhance mobility, drive economic growth and meaningfully contribute to reducing greenhouse gas (GHG) emissions. With our seventeen state partners we provide service to forty-six states, linking urban and rural areas from coast to coast. But there is so much more to be done, from providing transportation choices in more locations to reducing highway and air traffic congestion to addressing longstanding economic and social inequities. This report describes how.

To achieve this vision, Amtrak proposes that the federal government invest $75 billion over fifteen years to develop and expand intercity passenger rail corridors around the nation in collaboration with our existing and new state partners. Key elements of Amtrak's proposal include:

Sustained and Flexible Funding Paths

Amtrak proposes a combination of funding mechanisms, including direct federal funding to Amtrak for corridor development and operation, and discretionary grants available to states, Amtrak and others for corridor development. This vision does not propose to replace existing grant programs. Rather, it would augment them with dedicated and reliable funding from an intercity passenger rail trust fund, as proposed in our surface transportation reauthorization proposal, or other source needed to execute on a long term vision.

Federal Investment Leadership

Following the successful models used to develop the nation's Interstate Highway System and our aviation infrastructure, Amtrak proposes significant Federal financial leadership to drive the development and growth of the Amtrak system, in recognition of the interstate commerce and national benefits that derive from an expanded network. Amtrak proposes that federal funding to Amtrak could allow Amtrak to cover up to 100% of the initial capital investments for corridor growth and improvement, and early operational costs. After tapered reductions in Federal operating financial support during the first five years of service, states would then continue services under the Amtrak-state cost sharing structure developed under Section 209 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), as Amtrak and its state partners may revise it.

Build Upon Success

This vision builds on the accomplishments of Amtrak's seventeen state partners in planning, funding, establishing, and growing state-supported corridors around the nation over the preceding decades. The proposed federal funding could be used not only to help establish new corridors, but also to improve, upgrade, and add frequencies to existing state-supported corridors to help Amtrak and states fulfill their objectives. Amtrak offers a full menu of skills and resources to realize this vision: states with the capability and desire to lead implementation can do so, while Amtrak can handle some or all aspects of implementation for states that desire it. To ensure mutual agreement on these and other topics, each project will require an agreement between Amtrak and the state in advance. This vision won't happen unilaterally, by Amtrak or any single party—it will require a team effort among Amtrak, the federal government, state and local governments, and host railroads.

This vision does not propose eliminating or restructuring any long distance or other trains, but is additive to Amtrak's pre-COVID-19 route network.

Efficient Host Railroad Access

To deploy the proposed new federal funding effectively in a timely fashion, Amtrak proposes improved enforcement of existing Federal laws regarding network expansion and dispatching preference on host railroads. While Amtrak favors reaching negotiated agreements with host railroads for expansion, the presence of significant Federal funding for needed capital improvements and an effective, fast dispute resolution mechanism at the Surface Transportation Board (STB) should help the parties reach agreements. If not, the STB can quickly determine required investments so implementation can proceed.

An Evolutionary Plan

The corridors described here by Amtrak and shown on the map in Figure 6 reflect coordination with states and their state rail plans and are an initial view of where Amtrak believes intercity passenger rail can and should do more in the coming years. However, this is not a final proposal and it does not lay out a specific order or prioritization for development, since many factors including available funding levels, post-pandemic travel demand, state interest, host railroad conditions, and equipment availability must be further and continually assessed in order to determine final implementation plans for this vision. In other words, if a corridor is not mentioned in this vision, that does not indicate that Amtrak opposes it; conversely, if a corridor is included, that does not indicate it is certain to be implemented. The corridors proposed here are intended to be additive to Amtrak's pre-COVID-19 route network.

Supporting Development of Complementary High Speed Rail

Amtrak supports the development of high-speed rail (HSR) in appropriate corridors. State- or privately-operated high-speed services have been proposed in some of the corridors identified here. These proposed services generally operate via different routes, and they may not serve intermediate markets. In such cases and given the many years HSR corridors typically require for planning, permitting and construction, Amtrak is proposing to implement conventional service in the near-term that would create or expand initial markers for intercity passenger rail service and then feed complementary HSR services once built. This approach is common around the world. Additionally, Amtrak stands ready to build partnerships to develop high-speed corridors, including increasing speeds on the corridors described here, using various network assets and its established experience operating the high-speed trains in the Northeast Corridor (NEC).

Key Benefits From Investment in Intercity Passenger Rail Expansion

Mobility Impact

Amtrak believes that the intercity passenger rail corridors described in this vision could be introduced or expanded over the next fifteen years to provide a valuable and necessary travel alternative, adding service in communities large and small to Amtrak's pre-COVID-19 route network. In particular, Amtrak sees an opportunity to grow and provide needed transportation services in regions of the country where population has grown, but Amtrak service has not.

Economic Impact

The net economic benefit of this investment from operations is expected to reach $8 billion annually by 2035, with an additional $195 billion in economic activity generated by additional capital investments during 2021-2035. Over 26,000 ongoing permanent jobs, plus 616,000 person-years of temporary employment supported by capital investments during 2021-2035, will be created or supported by this effort. If left unaddressed, the frustrating congestion drivers experience on urban interstates today, where 47% of highway miles are congested during peak periods, will become the norm between major cities as well. A reduction in traffic congestion from expanded intercity rail will lead to enhanced productivity.

Environmental Impact

There is a significant opportunity to reduce carbon emissions. **Travel on Amtrak trains outside the NEC emits up to 55% fewer GHGs than driving alone, and up to 30% fewer than flying.** These benefits would scale with corridor expansion. Amtrak trains are energy-efficient and will grow even more efficient with our latest generation of Charger locomotives being delivered now, which are 10% more fuel-efficient than our current diesels. **Across Amtrak's national system, traveling by Amtrak is 46% more energy efficient than driving, and 34% more efficient than flying.**

Diversity and Inclusion Impact

Amtrak is comprised of diverse people serving diverse people. Forty-two percent of our experienced, capable workforce are members of minority populations. Further, the envisioned expansion of Amtrak corridor service to the South and the Southwest means a significant proportion of the newly-served population will include Black, Indigenous, and people of color communities. Expansion of corridor passenger rail service will improve mobility for these underserved areas of the country.

02

Introduction

America's leaders must address an aging infrastructure and transportation network inadequate for our growing population, demonstrate leadership in sustainability, and empower an economy centered on major metropolitan areas and their surrounding regions. As we look to the future, the United States has the opportunity to make use of an unparalleled asset—our railway infrastructure, the world's largest by mileage—to support an expanded network of low-carbon, high-capacity intercity passenger rail routes that can materially enhance our economy, improve communities, and create opportunities for travelers and workers alike.

Amtrak has a vision to better serve the nation by working with states and localities to add new routes and frequencies to connect a greater number of people in more places, without resorting to costly investments in tapped-out highway and aviation systems.

Over the past five decades, Amtrak has teamed with multiple states to operate short-distance corridor services which generally connect one or more major metropolitan areas with nearby cities and towns over routes of fewer than 500 miles. As of today, we have seventeen state partners supporting such services. Amtrak proposes to accelerate the growth of this network to ripe corridors across the country through an infusion of federal funding and improvements to key statutory provisions. Amtrak has been working to identify the opportunities it believes could be realized through a partnership among Amtrak, the federal government, states, local leaders, and host railroads. We have identified city pairs within America's "megaregions"[1] that meet criteria that have in the past been indicative of potential for intercity passenger rail corridor success.

In many markets, such as the NEC and its connecting corridors, plus California, the Pacific Northwest, and the Midwest, intercity passenger rail is already an essential part of the national multimodal transportation network. Elsewhere in the U.S. however, large increases in population and travel demand, demographic shifts, congestion, and changing travel preferences mean that Amtrak's legacy route network of once-a-day services do not fully meet the changing needs of the traveling public.

1. "Megaregions are networks of metropolitan areas, connected by travel patterns, economic links, shared natural resources, and social and historical commonalities." "America 2050: An Infrastructure Vision for 21st Century America," Regional Plan Association, 2008. http://libraryarchives.metro.net/DPGTL/harvested/2008-America-2050-an-infrastructure-vision-for-21st-century-America.pdf

Amtrak's 15 Year Vision

- ✓ **Add service to 160 new communities,** large and small, while retaining the existing Amtrak network serving over 525 locations.
- ✓ **Provide intercity passenger rail service** to the 50 largest metropolitan areas (by population).
- ✓ **Serve 47 of the 48 contiguous states,** expanding corridor passenger rail service in 20 states and bringing new corridor passenger rail service to 16 states.
- ✓ **Add 39 new routes, and enhance 25 routes.**
- ✓ **Introduce new stations in over half of U.S. states.**
- ✓ **Expand or improve rail service for 20 million more riders annually**—which would double the amount that the state-supported routes carried in fiscal year (FY) 2019.*
- ✓ **Provide $800 million in total Amtrak revenue growth versus FY 2019.**

*Amtrak's fiscal year runs from September through October.

Benefits of Amtrak's Corridor Vision

- ✓ **Reductions in car accidents and the accompanying injuries and fatalities.**
- ✓ **Reduction in carbon emissions.**
- ✓ **Increased energy efficiency** of trains versus other forms of transportation.
- ✓ **A form of travel that appeals to and is being demanded by Millennials,** the largest generation in America, and also a younger cohort of travelers, Gen Z.
- ✓ **Billions of dollars in economic growth** across the country.
- ✓ **An estimated 26,000 permanent jobs and 616,000 person-years of temporary employment** from the increased economic activity that more Amtrak service creates.

Amtrak's vision also has a dedicated focus on diversity and inclusion

In addition to expanding service to regions of the country with significant diverse populations, the economic growth centered around Amtrak facilities is often located in and around underserved communities. The economic growth that Amtrak itself generates will also benefit Small Business (SB) concerns and Disadvantaged Business Enterprises (DBEs), minority and women-owned businesses, veteran and service-disabled veteran owned businesses and Labor Surplus Area firms through our Annual Supplier Diversity Goals. Amtrak Contracting Agents make it a part of their routine in the formal and informal solicitation process to provide opportunities directly to SBs and DBEs.

Amtrak trains don't just benefit riders, they benefit every American

They lift up large and small businesses in local communities, reduce the carbon footprint of travel, and provide national economic benefits. It's time to invest in America's future and demonstrate global leadership in carbon reduction with Amtrak.

A Once-in-a-Generation Opportunity

America's leaders have a generational opportunity to improve an aging infrastructure and transportation network that is clearly inadequate for our growing population, demonstrate leadership in sustainability, and empower an economy increasingly centered on major metropolitan areas and their surrounding regions. It will take a team and a nation to build this expanded Amtrak network.

REQUIREMENTS FOR IMPLEMENTATION

To achieve the goals outlined above, Amtrak will need the following:

$75 Billion Investment

We will need reliable federal funding programs that provide sustained investment levels to Amtrak, states and others to undertake the multi-year planning, development and construction efforts necessary to support this vision. The estimated cost for stations, cars, locomotives, and infrastructure to implement this vision is approximately $75 billion over fifteen years.

Preference Enforcement

Implementation of our Corridor Vision will require stronger preference enforcement under existing Federal law. The law states that Amtrak receives preference over freight transportation when operating over host railroad tracks. Amtrak lacks an effective means to ensure compliance with this law.

Host Railroad Access

Amtrak needs efficient access to host railroads for new service. Federal law needs to be clarified and updated to ensure that the access to all railroad lines granted to Amtrak by statute and so vital for Amtrak's growth and expansion is not hindered as it often is today.

> **Keeping our future on track will require a national investment— and a renewed commitment— to innovation, infrastructure, and ensuring access to dependable, modern rail.**

A TEAM EFFORT

Congress is developing vital surface transportation legislation to help plan and fund the country's transportation system. We need policy changes and investments so Amtrak can better support mobility, access, and opportunity for more people, in more places across the country.

Amtrak has national reach, currently serving 46 of the 48 contiguous United States. With adequate funding, Amtrak could cost-effectively expand our network by leveraging our existing facilities and back-office functions. This would help more Americans to enjoy an expanding nationwide set of intercity passenger rail corridors providing better and more frequent regional travel options, combined with access to other regions through connection to Amtrak's Long Distance train network.

Across our network and particularly in travel markets of 500 or fewer miles where Amtrak and its state and Federal partners have chosen to invest in reliable, frequent, and competitive rail service, **the public has responded, embracing the opportunity to use intercity passenger trains when they're available.** This comes as no surprise, as Americans everywhere report support for passenger train service in their communities.

Throughout 2019 and 2020, **Amtrak conducted outreach and site visits with numerous stakeholders representing more than 25 states** to discuss Amtrak's vision for corridor development. Amtrak officials met with state departments of transportation (DOTs), Governors' offices, Joint Powers Authorities, and state legislators, as well as with mayors, city council members, chambers of commerce, and the general public. Amtrak shared our vision in route maps and illustrative schedules, discussed possible station locations, and explained how proposed federal programs could assist in getting these new corridors up and running. In 2021, Amtrak worked with states to coordinate this vision with existing state rail plans and identified potential corridors to its host railroad partners. Many of the state and local officials provided vital feedback, and Amtrak plans to continue to work closely with these stakeholders, including host railroads whose tracks Amtrak uses, to understand how Amtrak can best connect underserved communities to the nation's transportation network.

This vision foresees improving, expanding, and initiating **approximately sixty intercity passenger rail corridors across the continental U.S.** We envision a horizon of fifteen years for this development, as it is clear that so many corridors cannot all be funded and implemented simultaneously. This vision does not identify which go first: that will be determined by the interest and engagement of our partners in different regions of the country. **Implementing corridors will require a team effort among Amtrak, the federal government, state and local governments, and host railroads.** Subject to Congress putting the necessary funding and policy elements in place, Amtrak stands ready to engage with state partners who wish to begin to implement this vision.

03

The Challenges Expansion Will Address

Although growth in intercity travel demand in America temporarily subsided due to COVID-19, the underlying forces that have driven that growth over the past decades remain unchanged, and the capacity of the nation's transportation system to support that growth continues to fall behind. Before the pandemic, the nation's congested highways and overtaxed air travel network were struggling to meet the transportation requirements of a modern economy. Land use limitations and community opposition effectively prevent the development of bigger airports and wider highways, as concerns about noise, neighborhood displacement, and other environmental impacts—plus funding challenges—curtail the continuation of decades of expansion in these travel modes.

While the pandemic persists, these issues are somewhat, but not entirely, mitigated by reduction in demand. When the pandemic ends, demand is generally expected to return, driven by a resumption of economic growth plus a population increase of roughly 1.5 million inhabitants each year, and we will confront the same basic impediments that will limit our ability to expand airport and highway capacity. Unconstrained growth in these modes has reached its end—so to restore and sustain economic growth, the U.S. must pursue different solutions to provide expanded intercity transportation capacity.

STRENGTHENING THE ECONOMY

America faces great challenges in this new period of renewal. As a nation we must ensure economic prosperity in a responsible manner that does not come at the expense of the environment. We need to bring people together as families, communities, and as entire regions to make better, more meaningful and lasting connections. Amtrak, America's passenger railroad, stands ready to address these challenges in the near-term aftermath of COVID-19, and for decades to come. Amtrak is ready to power America forward towards a brighter horizon with our vision to improve transportation across the nation.

Cities and towns with access to intercity passenger rail corridors on Amtrak's national network can leverage this access to attract new generations of Americans, who tend to travel more frequently and gravitate towards trains and transit options. Similarly, these corridors can also benefit older generations who are less comfortable driving than they once were. The pattern of significant growth on Amtrak-served corridors over the last two decades points the way toward a future where targeted federal investments in Amtrak and our state and local partners will provide new and better travel options and promote economic growth in America. As the pandemic recedes, people will return to work and travel in new ways—and when they do, it will be important to plan for a future where we can leverage intercity passenger rail's advantages to improve our transportation system and build a stronger and more resilient economy.

Over the past several decades, other advanced economies have opted for a different mix of transportation investments when confronted by similar capacity constraints, embracing more environmentally friendly and accessible mobility alternatives including modern, comprehensive passenger rail networks. By contrast, America's passenger rail network has received relatively modest investments, sufficient only to begin to address a decades-long backlog of recapitalization needs and supporting only incremental improvements. As a result, many dense travel corridors and even several major cities and regions entirely lack intercity passenger rail service. Today's Amtrak network consists of state-supported rail corridor services augmenting the legacy framework of interregional long-distance trains that Amtrak has operated since its founding. Amtrak long-distance trains continue to provide daily (in some cases, three times a week) service to most of Amtrak's national network of more than 525 stations.

To assess the scale of employment and economic impacts, Amtrak has commissioned a preliminary study of the economic impacts of our corridor development vision. In Table 1, the benefits and impacts to the larger economy of Amtrak's vision are compared to continued operation of the existing Amtrak system. All dollars are in 2020 levels. The economic benefits of service expansion are clear.

Table 1. Benefits from Corridor Development

	Annual User and External Benefits (2035)	Annual Economic Activity Generated by Operations (2035)	Annual Service Driven Employment (2035)	Economic Activity Generated by Additional Capital Investments (2021-2035)	Jobs Supported by Additional Capital Investments (Person-years) (2021-2035)
Existing Network	$2.4 billion	$9.3 billion	36,000	N/A	N/A
Network Vision	$3.5 billion	$16.2 billion	62,000	$195 billion	616,000
Net Benefit of Network Vision	$1.1 billion annually	$6.9 billion annually	26,000 annually	$195 billion	616,000 through 2035

Note: All monetary values in 2020 dollars. Source: Steer, Amtrak National Network Plan - Economic Impact Analysis, May 2021

Economic Impacts

The categories of economic impacts that were assessed are comprehensive and include the following:

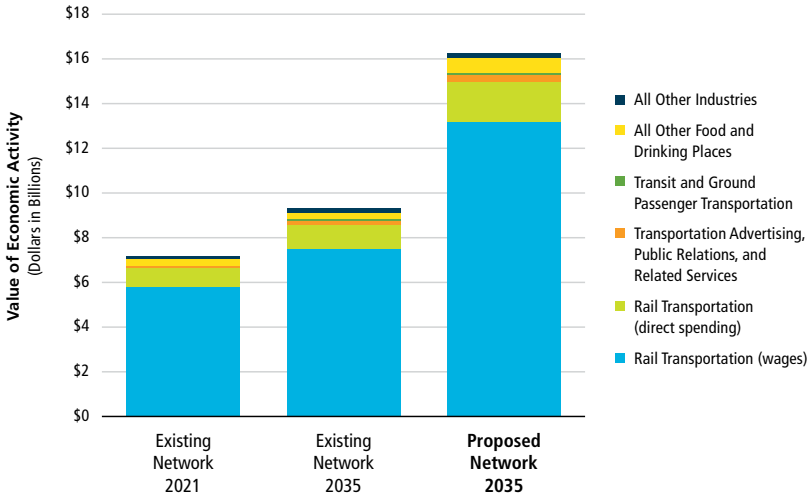
- **Expenditure impacts** attributable to the construction and operation of the various services. These are impacts measured in terms of employment, wages and output generated throughout the economy from the spending associated with building and operating the services contained in the envisioned network.
- **User benefits** associated with the services themselves. These include primarily the benefits to passengers who use or will use Amtrak in terms of travel time, reliability, comfort and convenience.
- **External benefits** that flow from the use of the services, including increased safety for passengers opting for rail over auto travel as well as the lessened auto emissions and their associated public health costs.

An important benefit of any transportation investment, whether construction or operation, is the economic impact attributable to the expenditures. This spending generates measurable direct, indirect and induced impacts in terms of output, income and employment on a region's economy. These results across the U.S. economy for this corridor vision are illustrated in Figures 1 and 2.

Employment impacts refer to the associated effect of the expenditures across all industries. Employment impacts occur when these expenditures (either in the form of direct spending to buy goods and services, or through wages being spent) create additional demand within the industry causing firms and companies to hire more labor to produce and eventually meet the additional demand.

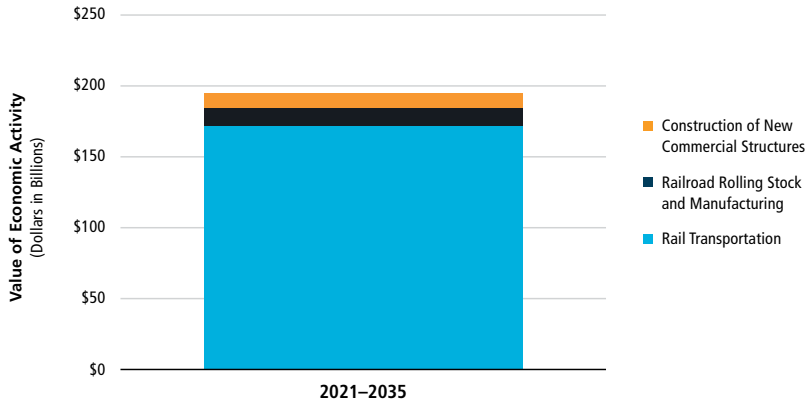
The value of economic activity in other sectors generated by the operation of the corridor vision is substantial, assuming a ramp-up over fifteen years.

Figure 1. Value of Economic Activity Generated by Operating Cost Expenditures



The impacts from capital investments to construct improvements and equip the new network are even more substantial during an assumed build-out phase.

Figure 2. Value of Economic Activity Generated by Capital Cost Expenditures



Source: Steer, Amtrak National Network Plan - Economic Impact Analysis, May 2021

CONNECTING COMMUNITIES

Differing population growth in different regions, shifting travel preferences, congestion on other modes, and concern over impacts of climate change all combine to underscore the importance of a new vision for how intercity rail can serve the nation's transportation needs. Amtrak sees an opportunity to link population centers separated by fewer than 500 miles with intercity passenger rail service to deliver unique benefits, not just to the inhabitants of the population centers, but to the people who inhabit the cities, towns, and communities between or near them.

Amtrak's solution is designed specifically to provide more Americans with a wider range of travel options so that they can affordably expand their personal mobility. Over the fifteen-year period foreseen to implement this vision, Amtrak would add trains in more markets to serve a growing and changing population with fast, modern, efficient, and enjoyable rail transportation with a smaller environmental footprint. Where Amtrak service has been a reasonably available and competitive option, Americans have embraced intercity passenger rail as a greener, faster, and safer intercity travel alternative to congested highways and confining airplanes—not just on the NEC, but in corridors in nearly every region of the country. Amtrak's vision for strategic, high-value investments in partnership with state, federal, and local governments will increase and improve the train service available in the nation's fastest-growing regions—many of which are not served adequately or at all by Amtrak's current legacy national network.

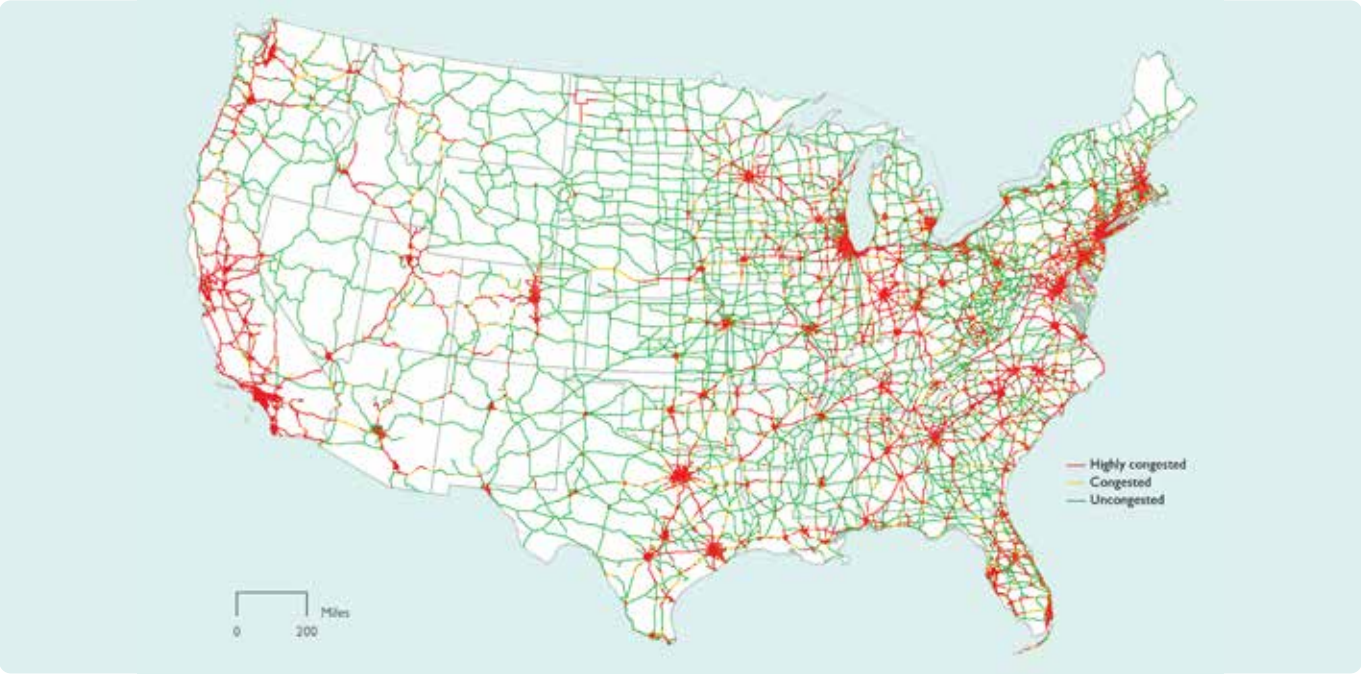
Amtrak, which began operations in 1971, is the United States' intercity passenger rail operator. With safety as the highest priority, Amtrak's goal is to provide efficient and effective intercity passenger rail mobility with modern trains that offer friendly, high-quality service that is trip-time competitive with other intercity travel options.

In the meantime, the congestion and delays experienced by automobile and air travelers today will only get worse. Amtrak trains do not just benefit train riders; they can help relieve congestion for all travelers. To many Americans, highway congestion is the most noticeable of all transportation problems because most of us experience it daily. This problem is exacerbated by the failure to build out capacity in the urban areas where demand is highest. As of 2015, more than 13% of highway bridges were classified as 'functionally obsolete' (meaning that they lack adequate lane widths, shoulder widths, or vertical clearances to serve current traffic demand); almost half of those bridges were in urban areas.[2] Conversely, building more roads can induce more people to drive, and can make congestion worse.[3]

2. Bureau of Transportation Statistics, National Transportation Statistics 2018, Table 1-28, page 57.

3. "Expanding highways and building more roads actually makes traffic worse," Curbed.com, https://archive.curbed.com/2020/3/6/21166655/highway-traffic-congestion-induced-demand.

Figure 3. Projected highway congestion at peak periods, 2045



While our infrastructure may be standing still, traffic has continued to grow. Travel on the nation's Interstate highways is increasing at a rate nearly triple the rate that new lane capacity is being added. Between the turn of the century and 2016, total highway vehicle-miles traveled (VMT) have increased more than 15%.[4] That means the frustrating congestion drivers experience on urban interstates today, where 47% of highway miles are congested during peak periods, will become the norm between major cities as well.[5] The increases are heavily concentrated in urban areas, where VMTs grew more than 33% between 2000 and 2016, further straining the transportation infrastructure at the point where capacity increases were most limited.[6] The Federal Highway Administration projects that vehicle miles traveled on U.S. highways will increase 22% above 2019 levels by 2037[7], an increase that will translate into greater emissions and higher costs to consumers—who will derive no corresponding benefit from sitting in traffic. While autonomous vehicles are on the horizon, they're unlikely to have a material impact on highway congestion in a world where travel demand continues to grow and additional road capacity is limited. Amtrak will continue to study and review this topic.

In the aviation sector, the picture of projected growth combined with static or falling capacity is very similar. The Federal Aviation Administration projects that the number of domestic airline passengers will grow 56% above 2019 levels by 2040[8]. However, although domestic air travel has been growing overall, the number of short-distance flights has fallen. There are fewer passengers and fewer flights in most short distance city pairs due to the unfavorable economics of short distance flights and the disproportionate impact of enhanced security screening and other delays on shorter trips.

A study by aircraft manufacturer Bombardier found that air passenger trips in city pairs separated by fewer than 500 miles fell 30% from 2000 to 2016. By contrast, when offered frequent, efficient rail service, travelers have shown they prefer it. During the 2000-2015 period, ridership on Amtrak's state-supported short distance trains increased 70%. During 2019, Amtrak carried more than three times as many riders between Washington, DC, and New York City than all of the airlines combined, and Amtrak carried more riders between New York City and Boston than all of the airlines combined. Continued capacity constraints and delays are likely to accelerate this trend, resulting in less air service and higher airfares in short-distance markets.

4. https://tripnet.org/wp-content/uploads/2020/07/TRIP_Interstate_Report_2020.pdf

5. Bureau of Transportation Statistics, National Transportation Statistics 2018, Table 1-35, page 65.

6. Ibid Table 1-36, page 67.

7. https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm

8. https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/FY2020-40_FAA_Aerospace_Forecast.pdf

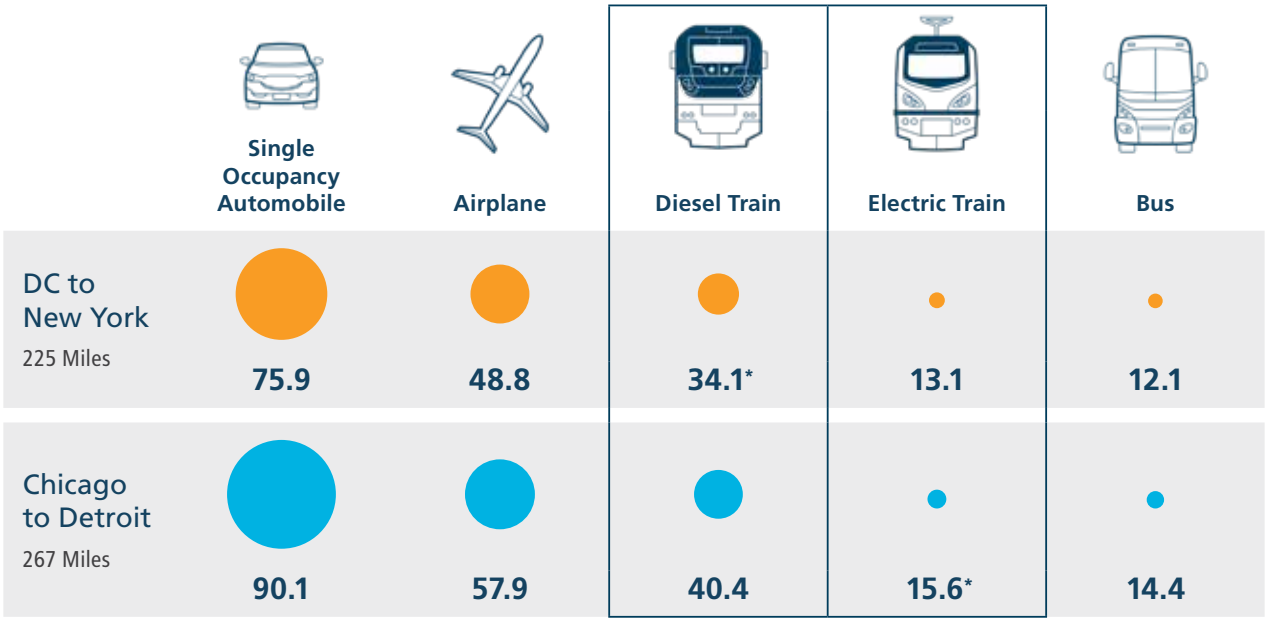
ADVANCING SUSTAINABILITY

Intercity passenger rail service travel offers benefits like speed, comfort and convenience that rival or exceed competing modes like the automobile and commercial air service but with smaller environmental and community impacts. Most passenger rail lines run to the centers of cities, where existing stations allow downtown access and (in many cases) convenient connectivity to buses, subways, and/or commuter trains. More so than other modes of travel, trains are an efficient, safe, and low-emission solution. Wi-Fi and other amenities allow travelers to work onboard or relax in comfort during their journey.

The environmental benefits of intercity passenger rail are clear, and are demonstrated by Amtrak's accomplishments documented in our FY 2019 Sustainability Report, including:

- **Travel on Amtrak electrified train operations on the NEC emits 83% fewer GHGs than driving alone, and up to 73% fewer than flying.**
- **Across Amtrak's national system, traveling by Amtrak is 46% more energy efficient than driving, and 34% more efficient than flying.**
- **Amtrak has reduced its GHG emissions by 20% since 2010 and lowered its emission by 4% in FY 2019 alone.** Amtrak is now targeting a 40% emissions reduction by 2030.
- The new *Acela* trainsets used in Amtrak's NEC service now under construction will be **40% more energy-efficient than the current Acelas.**

Figure 4. Greenhouse Gas Emissions from Passenger Transport (Total kg CO_2e per Passenger by Mode)



Calculations use EPA's Emission Factors for Greenhouse Gas Inventories [March 2020] and the IPCC Fifth Assessment Report's global warming potential values for CO_2, CH_4, and N_2O. These figures are based on Amtrak's FY19 national network operations and are not route specific. By 2026, Amtrak will be operating Charger locomotives that are 10% more fuel efficient— further reducing Amtrak's GHG emissions. *Not an option for this route; data only for comparison.

FY19 Sustainability Progress

Decreased electricity use by 4.4% at our 40 largest facilities (better than our goal of a 1% reduction); electricity use has decreased 14.5% since 2010.

Decreased diesel fuel consumption by 2.8% (better than our goal of a 1% reduction); diesel fuel use has decreased 11.3% since 2010.

Reduced GHG emissions by nearly 4% (better than our goal of a 1% reduction); GHG emissions have decreased 20.3% since 2010.

Met our FY2019 goal of diverting 15% of our trash away from landfills.

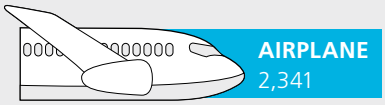
The individual automobile is, on a per-passenger mile basis, one of the least efficient types of transportation. Amtrak, by contrast, uses just 54% of the energy a car requires to move one passenger one mile.[9] To get a sense of what this means for the national environmental picture, it is important to remember that highway transportation comprised more than 82% of total energy use for the transportation sector in 2017.[10] Electric vehicles are available, but the adoption rate is slow, particularly for intercity travel where availability of charging stations remains uncertain. Even if those issues were resolved, highway capacity remains a limiting factor when combined with economic and population growth. The rail alternative is still required.

Traveling with Amtrak generates a smaller carbon footprint relative to other modes of transportation which is evident in the EPA's emission factor comparison of emissions per passenger mile per modal type. By taking Amtrak instead of flying, our Washington, DC to New York City riders avoided emitting over 250 million pounds of GHGs.[11] Also in FY 2019, by taking Amtrak instead of driving alone between Los Angeles and San Diego, our riders avoided emitting 64 million pounds of GHGs. Similarly, by taking Amtrak instead of driving alone in FY 2019, our riders avoided emitting 35 million pounds of GHGs between Chicago and St. Louis and another 35 million pounds between Seattle and Portland. The list goes on and on. Continuing a modal shift to rail will only increase emissions savings.

Intercity passenger rail represents an energy efficient and low-emission travel alternative.

Figure 5. Energy Use by Mode, Measured in British Thermal Units Per Passenger Mile (BTU/PM)

Amtrak is 34% more energy efficient than traveling by airplane...



... 46% more efficient than traveling by car...

... and 53% more efficient than traveling by truck.

Nationwide, Amtrak trains consume less energy on a per passenger mile basis than other modes.

Source: Transportation Energy Data Book, Edition 39, 2021

9. Oak Ridge National Laboratory, *Transportation Energy Data Book*, 39th Edition, Table 2.13, page 2-18.

10. Ibid, Table 2.8, page 2-13.

11. Using EPA emission factors for Amtrak and Short Haul Air Travel. Emissions in this paragraph are calculated using the EPA emissions factors available at: https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf

04

The Solution is Passenger Rail

A FIFTEEN YEAR VISION

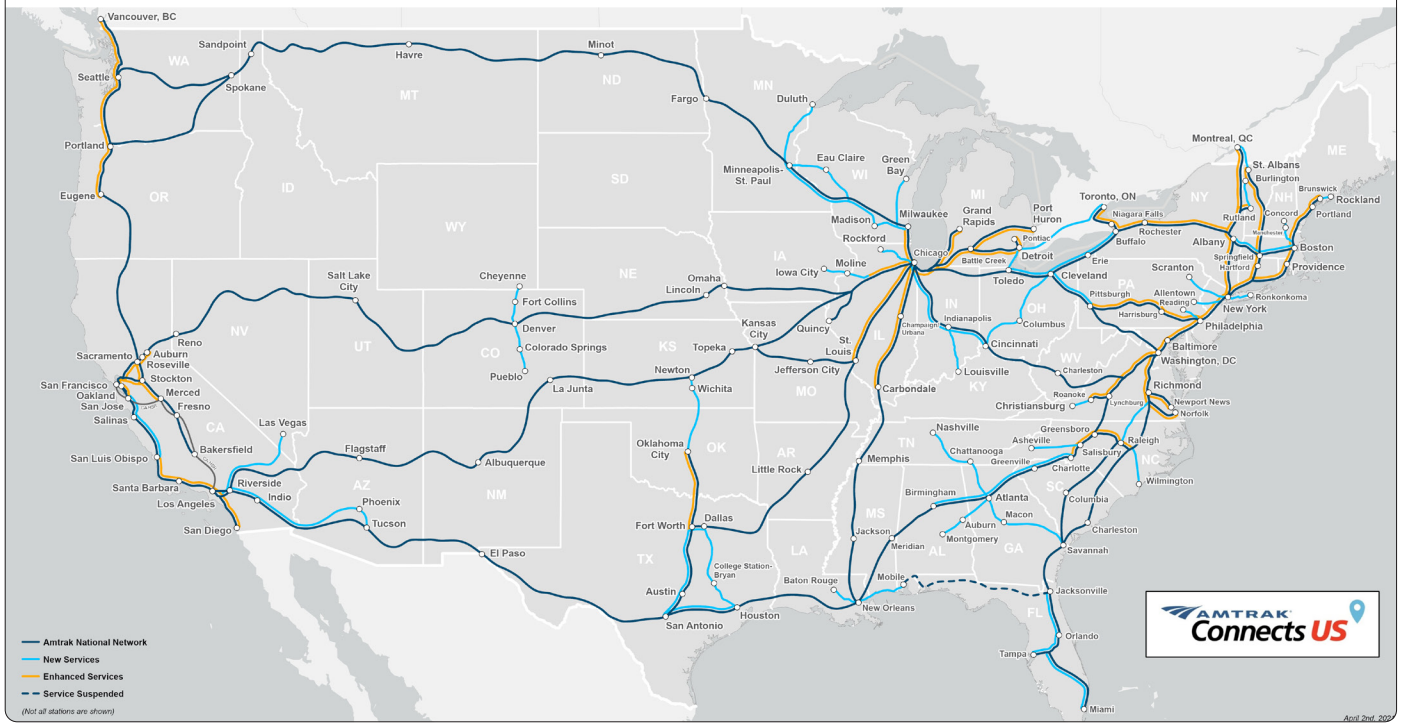
If fully built out within fifteen years, Amtrak's vision would increase Amtrak state-supported corridor ridership nationwide by 120%. Forty-eight of the top fifty U.S. metropolitan areas by population would have corridor intercity passenger rail service (the other two have long distance service), compared to only twenty-seven today.

- **39 new routes,** and **enhancements to 25 routes**, bringing service to **160 new stations.**
- **Provide intercity passenger rail service to the top 50 population metropolitan areas.**
- **Expand corridor passenger rail service in 20 states and bring new corridor passenger rail service to 16 states.**
- **New stations in over half of U.S. states.**
- **Expand or improve rail service for 20 million more riders annually—** which would double the amount that the state-supported routes carried in FY19.
- **$800 million** in total Amtrak revenue growth versus FY19.
- **Add an estimated 26,000 permanent jobs and 616,000 person-years of temporary employment** from the increased economic activity that more Amtrak service creates.

To accomplish this, Amtrak plans to leverage its unique nationwide portfolio of major fixed assets including stations, fleet, car and locomotive maintenance facilities, crew and supply bases, along with its technology and skilled workforce, to support expanded services in major markets. We will make this effort in partnership with states and localities around the nation, and, in places where our presence and footprint provide a solid starting point, we can help partners avoid the cost and delay of developing these support networks from scratch. Service can be expanded on existing routes, and new routes could be developed on rail lines from existing hubs to expand Amtrak's service footprint quickly and cost-effectively.

Figure 6. Amtrak's Corridor Vision

This map reflects coordination with state rail plans but is not a final proposal.



Florida, for example, currently hosts major Amtrak assets—car and locomotive maintenance facilities, crew bases, and more—to support existing long-distance services which are also available as bases for new intra-state corridors. Amtrak's presence is much smaller today in major urban areas such as Atlanta, Denver and the Dallas-Houston-San Antonio "Texas Triangle". New bases of operations will provide a platform for new corridors serving portions of these markets and for future rounds of expansion intended to develop a comprehensive set of regional corridors providing fast, convenient and environmentally-sustainable mobility.

Amtrak also envisions collaborating with privately and publicly funded and operated high-speed and conventional passenger rail projects under development around the country. These would generally operate via different routes and/or not serve intermediate markets accessed by the corridors Amtrak envisions in this document. Amtrak sees these projects as complementary opportunities to enhance mobility and to exchange passengers; Amtrak already has a joint-ticketing agreement in place with one high-speed rail project. Services described in this vision will be reevaluated in this light if and when other services are initiated. Amtrak would plan to increase speeds on the corridors described here as demand and funding warrant.

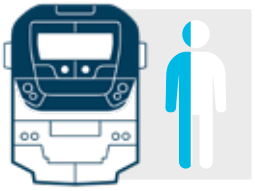
ADDITIONAL BENEFITS

The benefits to individual travelers are a significant and important portion of the appeal of intercity passenger rail. Rail continues to deliver transportation with comfort and convenience, offering easy boarding in often centrally-located facilities, and travel in a safe, spacious, and relaxing environment, with amenities such as food and beverage service and ample legroom. The ability to work onboard, with electric power and wi-fi, is increasingly important to travelers, who can make productive use of transit time that is otherwise lost during air or auto travel. Investment in rail is an investment in services that enjoy broad popular support, and will be utilized if modern, frequent and reliable service is made available.

Importantly, this vision also helps reduce both racial and economic inequities. Many locations within the United States that have significant minority populations, particularly in the South, are underserved by Amtrak's current intercity passenger rail network. This vision's focus on adding service to these communities and regions will help address that inequality with service and economic opportunity. Adding more Amtrak service will help ensure that more taxpayers have access to the quality intercity passenger rail service that they help fund. In addition to the geographic expansion to areas with large Black, Indigenous, and People of Color (BIPOC) communities, Amtrak's commitment to small business, particularly minority owned enterprises, will be a significant factor in diversity and inclusion as well.

These investments will also further public policy objectives that enjoy general public support, such as reductions in car accidents and the accompanying injuries and fatalities, and reductions in air pollution/GHG emissions as travelers shift from auto to rail. Intercity passenger rail is also a safe mode of transportation, with a passenger death rate per billion passenger miles less than 6% that of the automobile.

Figure 7. Fatality Rates per Billion Passenger Miles, By Mode (2000–2009)



Train

0.43

Automobile

7.30

Source: Steer, Amtrak Net 2.0 Economic Impact Analysis, November 2019.

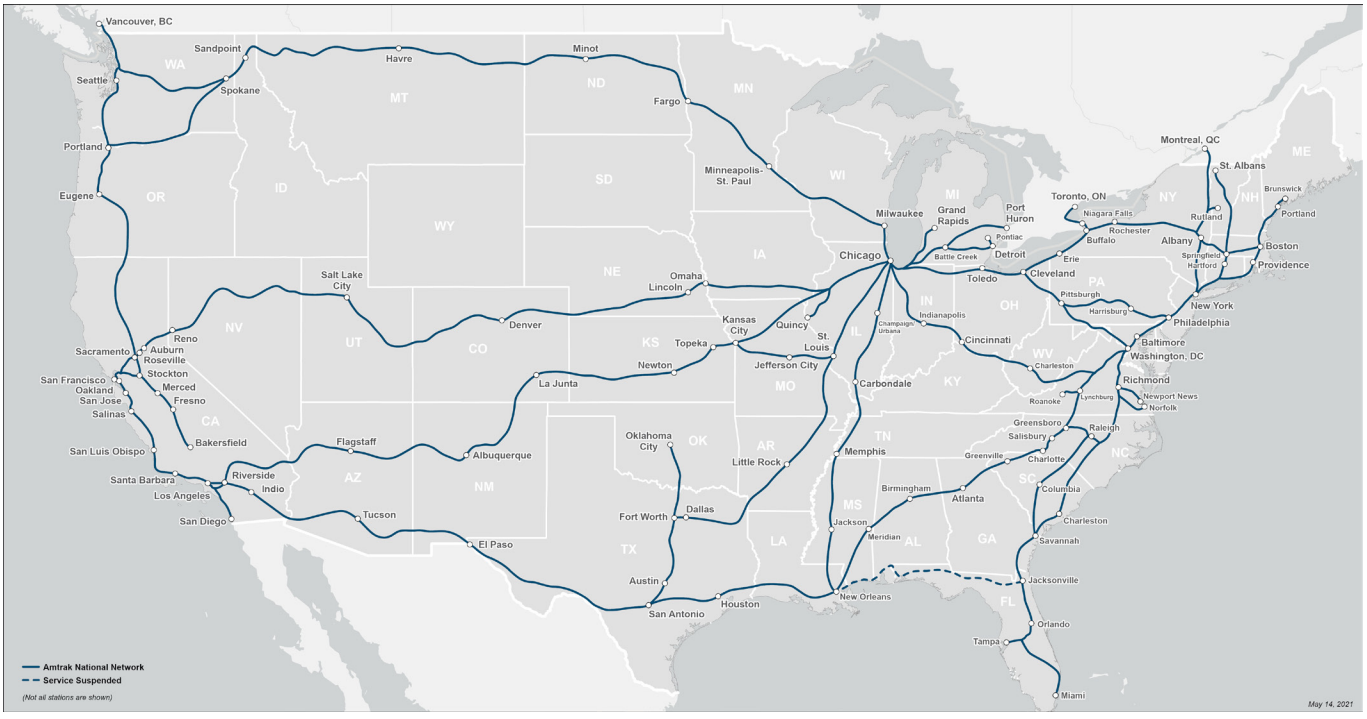
05

The Right Conditions for Expansion

TODAY'S AMTRAK SYSTEM

Amtrak was created by Congress in 1970 to take over intercity passenger rail services previously operated by private railroad companies in the United States. Following decades of public investment in highways and air transportation modes, the private rail carriers had been operating their passenger services at an increasing financial loss. Amtrak's operations began fifty years ago, on May 1, 1971, and today Amtrak serves 46 states, the District of Columbia, and three Canadian provinces via more than 21,400 route miles. Reflective of the national railroad passenger network at its inception, Amtrak's route structure and service frequencies remain focused on the northeast states, a Chicago hub, and operations in California and the Pacific Northwest. With the exception of significant state-sponsored service expansion in certain states, the national route system has remained essentially unchanged despite five decades of population growth and shifts in travel demand in other areas of the country.

Figure 8. Amtrak's National Network in 2021



Amtrak's most successful routes offer multiple daily trains through fast growing megaregions with trip times that are competitive with driving and flying.

Investment in infrastructure, stations and fleet serving the NEC has enabled Amtrak to offer an extensive schedule of high-speed Acela and Northeast Regional services which have captured a significant volume of the commercial intercity travel market along this route. The only Amtrak service that consistently provides a net operating surplus, NEC revenues have been vital to Amtrak's corporate finances which, pre-pandemic, were approaching a positive operating surplus for the first time in the company's history. The NEC provides an example of the demand that exists for high quality, frequent intercity passenger rail service, and demonstrates that investment in intercity passenger rail is a proven method to provide mobility and boost local economies.

Similar opportunities exist in other corridors across the country. In addition to the NEC, Amtrak operates more than 220 state-supported trains each weekday on 28 short-distance corridors in cooperation with seventeen states. In addition, Amtrak continues to provide service along fifteen legacy long-distance routes, which (until the pandemic) accounted for 14% of total Amtrak ridership. Amtrak's network of state-supported, long-distance, and NEC services is depicted on page 24.

STATE PARTNERSHIPS

Amtrak works with seventeen state partners to develop successful short-distance corridors that have attracted significant ridership. As a result, state-supported ridership increased 70% between 2000 and 2015. By 2019, five corridors were each serving more than one million riders annually, and another five were each serving more than half a million travelers annually.

In FY 2019, state-supported corridors carried 15.4 million riders, 47% of Amtrak's total ridership. They generated $572.2 million in passenger revenues, and states provided $234.2 million in operating support. With $864.3 million of fully allocated operating expenses, this resulted in a cost recovery, including state operating payments, of 93%.

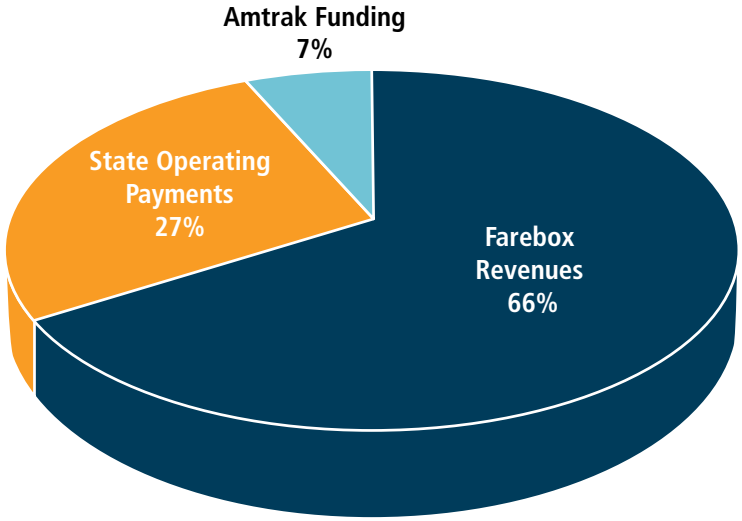
Thus, Amtrak's state-supported services require relatively low public funding for the benefits they produce because they cover most of their operating costs from farebox revenues. State Supported routes' farebox recovery of 66% is double the 33% average for transit services.

The value of these services to both our partner states and the nation is clear: In addition to providing mobility, they boost the overall economy through the share of Amtrak's capital expenditures that benefit state-supported services, which amounted to $237 million in FY 2019. Amtrak's federally-funded investments have leveraged additional state capital expenditures for state-owned equipment, in stations, and on state-supported corridors' infrastructure. Additionally, Amtrak and its state partners are collaborating on a review and revision of Passenger Rail Investment and Improvement Act (PRIIA) Section 209 state-supported corridor funding formulas.

Virginia and North Carolina are examples of states helping lead the way in partnering with Amtrak to develop successful intercity passenger rail service. Thanks to extensive programs of investment, ridership over the last decade (pre-pandemic) more than doubled on state-supported corridors in Virginia and more than tripled on the state-supported Piedmont corridor in North Carolina.

State Supported services provide cost-effective solutions for regional mobility.

Figure 9. State Supported Services - FY 2019 Operating Revenue Sources



Source: Amtrak

Building partnerships like these to grow and expand state corridors is the cornerstone of Amtrak's vision to improve mobility nationwide.

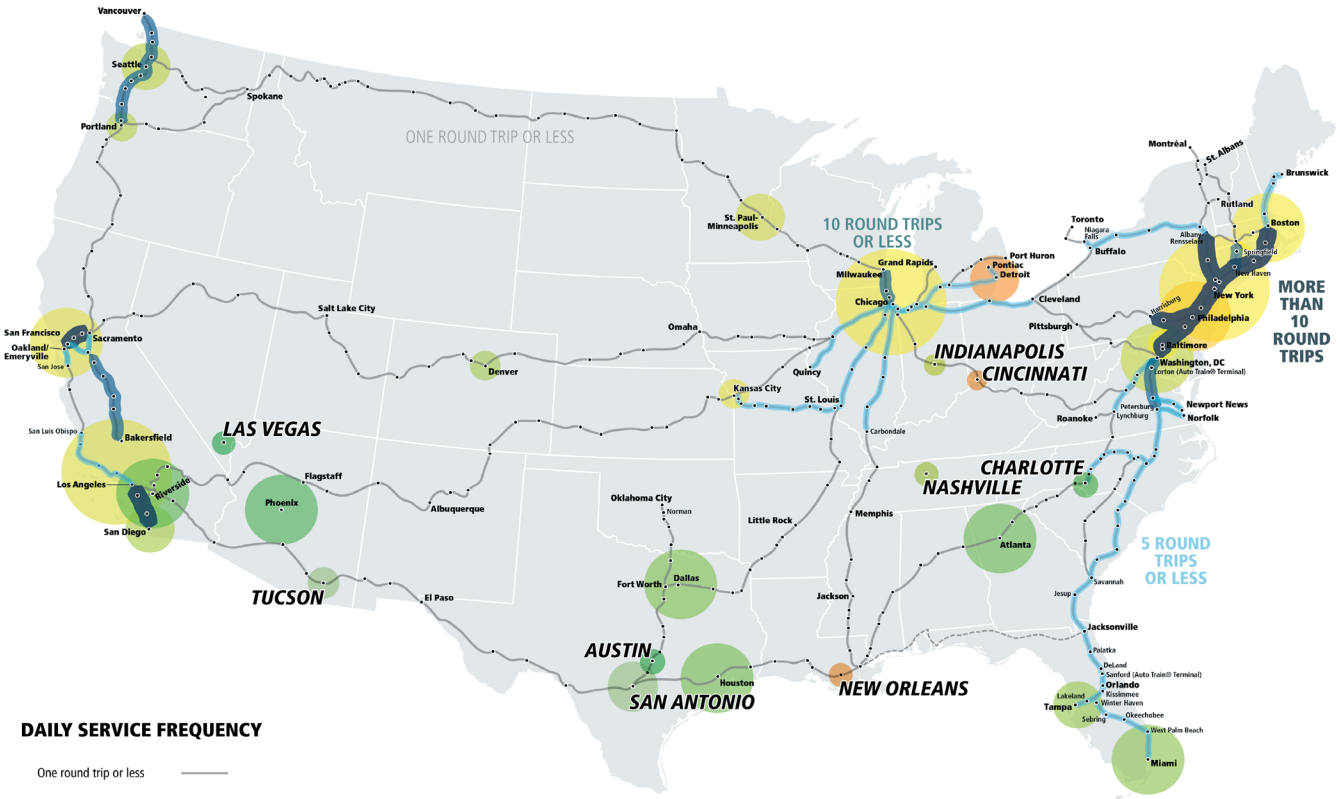
OPPORTUNITIES TO TRANSPORT THE NATION

The U.S. has grown by nearly 130 million people in the half century since Amtrak began operations, but much of that population growth has been concentrated in cities and megaregions in the Sunbelt and West, where Amtrak currently offers limited service.

Texas and Florida, the nation's second and third most populous states, have a combined population of just over 50 million, but each is served by just six Amtrak trains, some of which do not even operate every day. In contrast, on the NEC Amtrak offers more than 100 weekday trains. Houston, TX, the fifth largest metropolitan area in the nation, and Phoenix, Arizona, the 11th largest, have Amtrak service just three days per week, and the nearest station to Phoenix is actually in Maricopa, 36 miles from downtown. Atlanta, Georgia, the tenth-largest metropolitan area in the nation, is served by just a single daily long-distance train in each direction. Similarly, Denver, Colorado, the 19th most populous metropolitan area, and the center of the growing Front Range region, is served by a single daily train traveling east and west, with no service north and south along the rapidly growing axis of the Front Range. Major cities such as Cleveland and Cincinnati, Ohio, are served exclusively during the middle of the night. With the proper levels of investment, these are examples of the opportunities for Amtrak to improve regional mobility around the nation.

Phoenix, Arizona

Figure 10. Daily Train Service v. Population Growth



DAILY SERVICE FREQUENCY

- One round trip or less
- Five round trips or less
- Ten round trips or less
- More than 10 round trips
- Suspended Service

POPULATION CHANGE %

from 1971 to 2018

400% 150% 100% 0%

2018 POPULATION

in millions of people

1 | 10.0+ million
2 | 5.0 to 9.9 million
3 | 3.0 to 4.9 million
4 | 2.0 to 2.9 million

POPULATION FAST FACTS

207 million in 1970 → 333 million today → 389 million by 2050[12]

11 megaregions are home to 70% of Americans*

- Arizona Sun Corridor
- Cascadia
- Florida
- Front Range
- Great Lakes
- Gulf Coast
- Northeast
- Northern California
- Piedmont Atlantic
- Southern California
- Texas Triangle

*Source: America 2050

12. "A Changing Nation: Population Projections Under Alternative Immigration Scenarios," ww.census.gov, https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1146.pdf

CHANGING TRAVEL PREFERENCES FAVOR RAIL

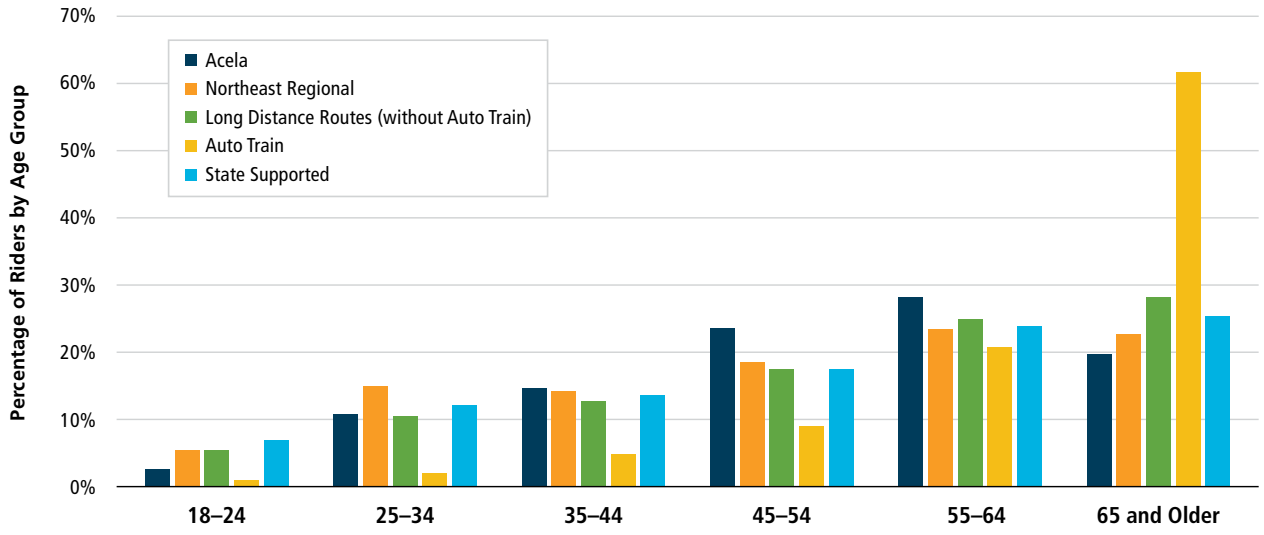
Fueling population growth is the millennial generation—those born between 1981 and 1996, who make up the nation's largest age cohort. Members of this group travel more frequently and spend more on travel than any other age group.[13] They also drive less frequently than do preceding generations. Despite this, millennials are significantly underrepresented among Amtrak travelers, as indicated in the box below, because Amtrak service is negligible in most of the cities and regions where the millennial population is growing the fastest.

- **Almost 90% of millennials live in urban areas according to the Pew Research Center.[14]**
- **Millennials prefer to arrange travel with a smartphone app:** 55% of urban 18 to 29-year-olds have used an app-based ridesharing service, according to the Pew Research Center.
- **They expect good Wi-Fi:** in a Forbes survey, 97% of millennials said they had used social media while traveling.[15]
- **In a OnePoll survey, 77% of 18- to 29-year-olds said sustainability influences their travel decisions.[16]**

Aging populations would also benefit from the availability of rail options as driving becomes more difficult for them. The number of Americans aged 65 and older is projected to nearly double from 53 million in 2018 to 95 million by 2060.[17] Passengers over 65 make up 24% of all Amtrak riders.

Intercity passenger rail is an important mobility choice for an aging population.

Figure 11. Amtrak Ridership Demographics by Age Group, 2019



Source: Amtrak

13. https://www.bhtp.com/blog/millennial-travel#:~:text=Millennials%20are%20spending%20and%20traveling,to%20%243%2C300%20for%20Baby%20Boomers.
14. https://www.pewsocialtrends.org/2018/05/22/demographic-and-economic-trends-in-urban-suburban-and-rural-communities/
15. https://www.forbes.com/sites/jefffromm/2018/07/31/how-are-millennials-using-travel-technology/?sh=703abee7132d
16. https://www.travelagentcentral.com/running-your-business/stats-90-millennials-consider-company-ethics-when-booking-travel
17. Population Reference Bureau

INTERCITY PASSENGER RAIL IS A PROVEN SOLUTION

While demographics are a vital component of demand for intercity passenger rail options, the nation's pattern of urbanization and the congestion in competing modes has increased the relevance of rail as a travel option. Megaregions are generally arrayed along linear corridors or radiate out like spokes from a major urban hub. They are often along rail lines that provided the original trace for regional settlement a century or more ago with little space available to build or expand highway or air facilities. Rail stations tend to be located in city centers with connectivity to local transit, which multiplies the convenience and the perceived value of the rail option. And unlike aircraft, a single train can directly serve multiple city pairs, as well as suburban and airport stops.

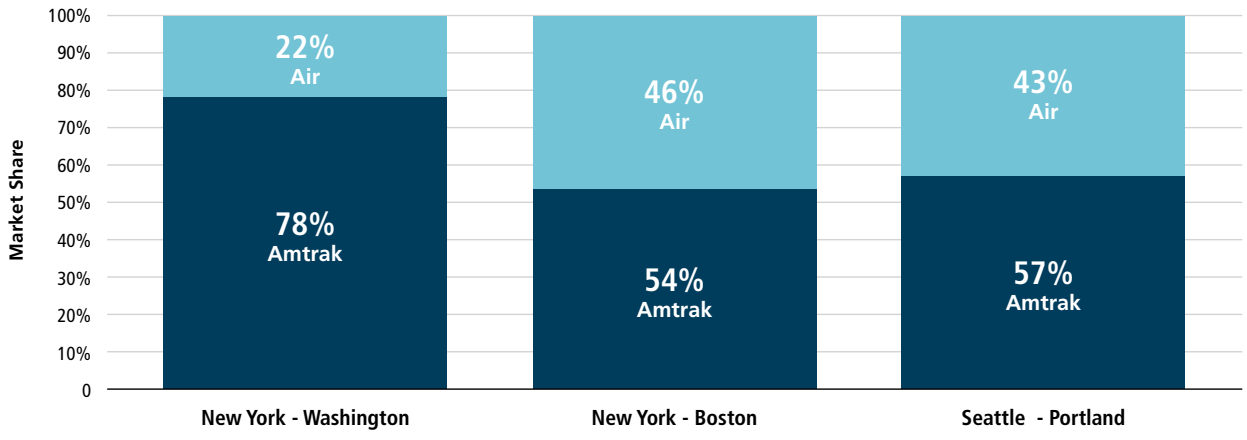
Moreover, travel trends highlight an increasing need for a rail travel option in short distance corridors. As previously observed, even before the pandemic, airlines were reducing service in short distance city pair markets—a trend that is projected to continue or accelerate—and provides an opportunity for rail to provide an efficient alternative for travelers. The success rail has demonstrated in seizing a majority of the endpoint-to-endpoint travel share from airlines in corridors as different as the New York-Washington-Boston NEC and the Seattle to Portland Amtrak Cascades Corridor illustrates the serious demand that exists for a new and better travel choice.

The message is clear: There is demand and a strong perceived value among the traveling public for rail service in short distance corridors throughout the U.S.

Amtrak aims to satisfy the demand for rail service in short distance corridors, both by providing additional frequencies along portions of existing routes and by establishing new routes between city pairs.

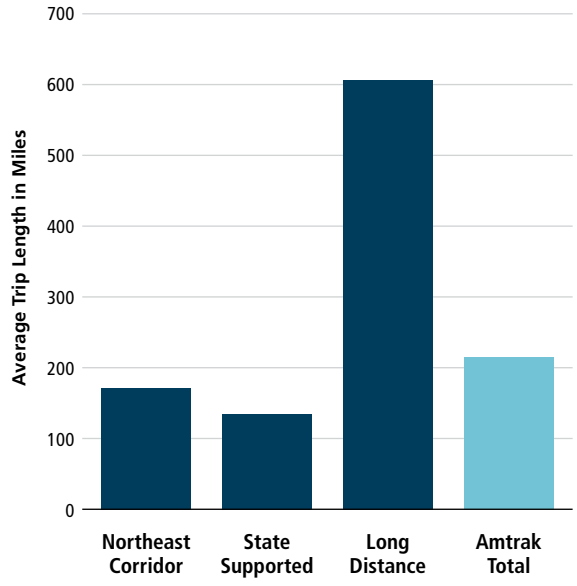
In some key travel markets, rail now carries a significantly larger share than competing air services.

Figure 12. FY 2019 Air-Rail Travel Shares in Key Corridors



Source: Amtrak

Figure 13. Average Amtrak trip lengths (by business line and systemwide)



Source: Amtrak

While major stations are significant generators of ridership, one of the benefits of Amtrak service is the ability to reach a wide range of destinations large and small in the vicinity surrounding and between megaregions. Most trips on Amtrak are fewer than 250 miles in length—highlighting the importance of both the shorter distance corridors to Amtrak's future, and the ability to serve the communities between the major metropolitan areas that provide our riders with a wide range of travel choices.

If intercity passenger rail services were expanded to serve the growth in corridors of fewer than 500 miles, the result would be a tremendous benefit not only for the country—which would reduce its emissions and fuel consumption—but for individual travelers, who would reap the benefits of more capacity and less wasteful travel in the marketplace even if they do not use the trains.

By simply maintaining the status quo, our nation would miss out on enormous opportunities to connect communities across America. The present Amtrak legacy network is a great resource—but it should be improved and expanded to better meet America's changing travel needs, now and in the future. With strategic investment in Amtrak's portfolio of existing and projected routes, new and expanded market-focused intercity passenger rail corridors could efficiently be established around the nation.

06

Analysis Supporting Amtrak's Corridor Development Vision

Amtrak thoroughly analyzed population centers and travel markets for the vision's technical framework. Drawing on existing work in the field and our own expertise, we identified approximately 60 passenger rail markets for initiation or expansion. These potential corridors would, if they were developed, help address the needs of currently underserved population centers and rural areas, provide travelers with convenient travel alternatives, and alleviate congestion on America's highways and aviation system. More intercity passenger rail service is a winning proposition by growing construction and operations jobs, creating economic activity, as well as meeting people and community needs.

Under Amtrak's vision, the complete set of corridors would be implemented over fifteen years. While high-speed rail service may be right for certain corridors, current state-supported Amtrak services such as the *Pacific Surfliner* and the *Hiawatha* show that intercity passenger rail can be successful with conventional operating speeds. As corridors which begin at conventional speeds build ridership and demand, they can be considered for future conversion to high-speed service.

Cleveland, Ohio

METHODOLOGY

Preliminary City Pair Selection

From its unique position as America's only coast-to-coast rail passenger operator, Amtrak undertook a data-driven nationwide analysis, unconstrained by state borders or other limitations, to develop a comprehensive list of city pairs with potential for intercity passenger rail viability. Several techniques provided lists of candidate corridors:

RESEARCH

- Examined commercially underserved existing short-distance markets.
- Identified candidate rail corridors in population megaregions (the Regional Plan Association (RPA) "America 2050: High Speed Rail In America" report[18]).

DEMOGRAPHIC DATA ANALYSIS

- Assembled population-distance relationships ("gravity model").
- Analysis of "America 2050" and other data to identify corridors predicted to have the greatest ridership demand based on population size, economic activity, transit connections, existing travel markets and urban density.

AMTRAK ANALYSIS AND MARKET JUDGEMENTS

- Combine the top-ranking city pairs from the gravity model analysis and the America 2050 synthesis to create a list of about 50 high-potential new passenger rail corridors, plus about 20 additional state initiatives, to advance for further analysis.
- Use the Federal Railroad Administration (FRA) CONNECT model, which forecasts demand and costs at a very high level, to initially screen candidate corridors, benchmark them, and provide initial estimates for new corridors not served by Amtrak.

FINANCIAL ANALYSIS

- Calculate high-level financial performance estimates for each corridor based on operating cost estimates plus ridership and revenue forecasts.
- Develop conceptual schedules.
- Forecast demand-model output, and utilize existing and historical ridership data, where available, to validate the baseline conditions.
- Estimate the public operating funding cost for each corridor, advancing the best scoring corridors. These include entirely new corridors, as well as extensions and increased train frequencies on existing corridors.

CAPITAL

- Estimate capital needs by assessing infrastructure conditions and capacity through already completed studies (when available) or assembling corridor data from various sources and quantitatively assessing probable costs.
- Develop equipment and facility requirements for individual corridors, combining resources on adjoining corridors where practical.
- Identify potential new stations.

COMPILATION

- Active state-sponsored passenger rail projects where Amtrak is an active participant were merged into this list.
- About sixty corridors came from the merged state-initiative list and Amtrak analysis.

A more detailed description of Amtrak's analysis can be found in the Appendix.

18. America 2050, "High Speed Rail In America, 2011." https://s3.us-east-1.amazonaws.com/rpa-org/pdfs/2050-High-Speed-Rail-in-America.pdf

At this stage, Amtrak shared its analysis with its state funding partners and aligned our analysis with state rail plans. **It should be noted that decisions for implementation, including project initiation, level of service, and stations served, will be collaboratively agreed to by states, Amtrak, and other partners before moving forward.**

Amtrak looks forward to discussing the details of each corridor with stakeholders as part of reaching agreement prior to commencing implementation. Stakeholder agreements address complex sets of issues and these choices are mutually determined.

The following tables summarize the geography and projected performance measures of these new and expanded corridors shown in the map in Figure 6. The summaries of the envisioned corridors are based on the analytical elements as previously described.

Figure 14. Data/Icon Legend for Tables 2-6

Public Operating Funding per New Passenger	$ Up to $25		$$ $25 - $50	$$$ Over $50
New Passengers (000s)	Up to 100	100 - 200	200 - 300	Over 300
Infrastructure Cost Per New Passenger for Full Buildout	$0 - $250		$250 - $500	Over $500


EMERGENCY EXIT

WESTERN CORRIDORS

Prior to initiating any new corridor service, Amtrak will collaborate with stakeholders on schedules, trip frequencies, infrastructure and equipment needs, station facilities, funding, implementation roles, and contractual agreements.

Capitol Corridor

Auburn – Sacramento – Oakland – San Jose

The California State Rail Plan has been adopted for the vision:

- **Expand from 7 to 24 round trips between San Jose – Oakland**
- **Expand from 15 to 20 round trips between Oakland – Sacramento with 10 round trips extending to Roseville from Sacramento, including one to Auburn**

Most trips run end-to-end San Jose – Sacramento/Roseville for seamless travel within the corridor.

San Joaquins

Central Valley – Oakland/Sacramento

The vision reflects Amtrak connections to the California High Speed Rail (CAHSR) Central Valley initial operating segment, which includes:

- **6 round trips between Merced – Sacramento**
- **5 round trips between Merced – Martinez for *Capitol Corridor* connection to the Bay Area**

This route restructuring complements CAHSR's initial Central Valley operating segment between Merced and Bakersfield with efficient connections. In addition, the Amtrak Thruway network will continue to leverage the passenger rail assets to serve communities and provide transportation options between Bakersfield and the Los Angeles area.

Central Coast

San Luis Obispo – Salinas – San Jose

The California State Rail Plan has been adopted for the vision:

- **3 new round trips between San Luis Obispo – San Jose augmented by Amtrak's *Coast Starlight* and Thruway service**

This new corridor connects with *Surfliners* to Southern California, *Capitol Corridor* to the east Bay area and Sacramento, and Caltrain to San Francisco. Amtrak will collaborate with stakeholders on plans for Caltrain initiating many frequencies between Salinas – Gilroy – San Jose – San Francisco.

Pacific Surfliner

San Luis Obispo – Los Angeles – San Diego

The California State Rail Plan has been adopted for the vision:

- **Expand from 13 to 33 round trips between San Diego – Los Angeles**
- **Expand from 5 to 17 round trips between Los Angeles – Goleta with 8 round trips extending to San Luis Obispo from Goleta**

Most trips to/from Goleta will run through Los Angles to/from San Diego for seamless travel within the corridor.

Las Vegas

Las Vegas – Los Angeles

Amtrak proposes a new corridor to serve this heavily-traveled route; the vision includes:

- **2 round trips between Las Vegas – Los Angeles**

This new corridor links Las Vegas with the extensive California and Amtrak passenger rail network at various locations including Los Angeles Union Station, Fullerton, and San Bernardino.

Coachella Valley

Los Angeles – Palm Springs – Indio

The Riverside County Transportation Commission, Caltrans, and the FRA alternative analysis study proposed service; the vision includes:

- **4 round trips between Coachella Valley – Los Angeles**

This new corridor links Coachella Valley with the extensive California and Amtrak passenger rail network at Los Angeles Union Station.

WESTERN CORRIDORS, CONTINUED

Los Angeles – Phoenix – Tucson

Phoenix and Tucson are large metropolitan areas and popular destinations with minimal passenger rail service today; the vision includes:

- **1 round trip between Tucson – Phoenix – Los Angeles**

This new daytime corridor links the rapidly growing Phoenix and Tucson areas to Los Angeles with daily service, in addition to Amtrak long distance service on the *Sunset Limited* which currently bypasses Phoenix. Before proceeding, Amtrak will collaborate with various stakeholders to analyze restoration of the Union Pacific Phoenix West Line to resume access to Phoenix.

Buckeye – Phoenix – Tucson

Amtrak proposes this route to serve this rapidly emerging region; the vision includes:

- **3 round trips between Tucson – Phoenix – Buckeye**

This new daytime corridor links the rapidly growing Phoenix and Tucson areas with daily multi-frequency service between downtown Tucson through Phoenix to the western suburb of Buckeye.

Amtrak Cascades

Vancouver – Seattle – Portland – Eugene

The Washington State Rail Plan and Oregon Environmental Impact Study for the Cascade Corridor list service improvements; the vision includes:

- **Expand from 4 to 13 round trips between Seattle – Portland, OR**
- **Expand from 2 to 6 round trips between Portland – Eugene, OR**
- **Expand from 2 to 4 round trips between Seattle – Vancouver, BC**

This emerging corridor has already captured significant Seattle-Portland passenger market share due in part to previous infrastructure improvements. Interest exists to support development of a dedicated high-speed rail corridor between Vancouver, Seattle, and Portland.

Figure 15. Western Corridors

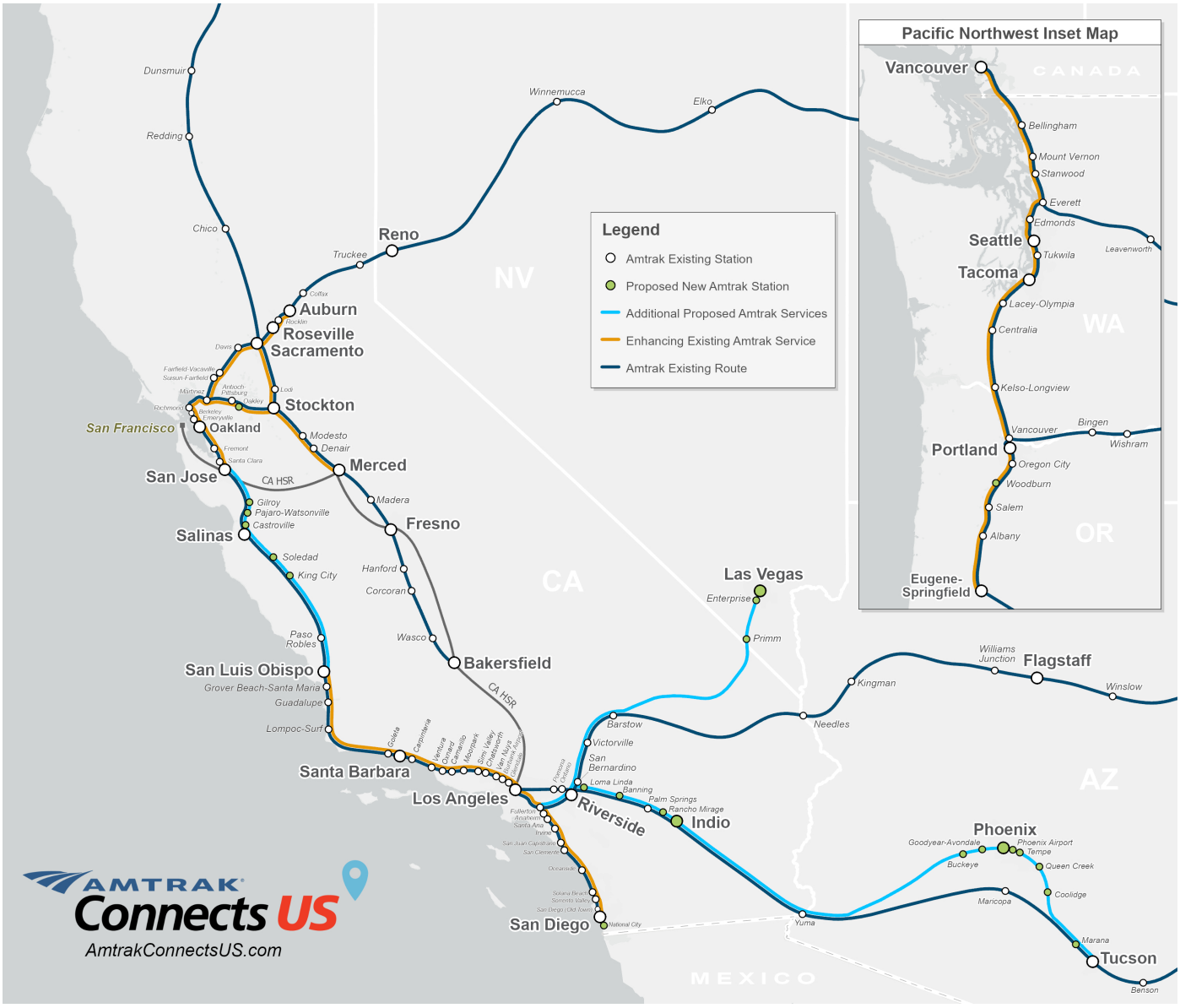


Table 2. Western Corridors Details

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation Existing Service / No Service
Northern California					
Capitol Corridor *Auburn/Roseville - Sacramento - Oakland - San Jose*	168	3:50	**2:52** Sacramento - Oakland - San Jose	PCJPB, UP	15 RTs between Sacramento-Oakland • 7 RTs extend to San Jose from Oakland • 1 RT extends to Auburn from Sacramento
San Joaquins *Merced - Martinez/Sacramento*	114	2:18	**2:18** Merced-Sacramento	BNSF, UP	5 RTs to Oakland-Bakersfield 2 RTs to Sacramento-Bakersfield
Central Coast *San Jose - Salinas - San Luis Obispo*	203	4:48	**4:48** San Jose - San Luis Obispo	PCJPB, UP	
Southern California					
Pacific Surfliner *San Diego - Los Angeles - San Luis Obispo*	359	8:20	**3:05** San Diego - Los Angeles	BNSF, NCTD, SCRRA, UP	13 RTs Los Angeles - San Diego • 5 RTs extend to Goleta from Los Angeles • 2 RTs extend to San Luis Obispo from Goleta (augmented with 1 RT Los Angeles - San Jose - Seattle)
Las Vegas *Los Angeles - Las Vegas*	334	6:45	**6:45** Los Angeles - Las Vegas	BNSF, SCRRA, UP	
Coachella Valley *Los Angeles - Indio*	140	3:12	**3:12** Los Angeles - Indio	BNSF, SCRRA, UP	
Arizona					
LA - Phoenix/Tucson *Los Angeles - Phoenix - Tucson*	559	10:11	**7:43** Los Angeles - Phoenix	BNSF, SCRRA, UP	
Phoenix-Tucson *Buckeye - Phoenix - Tucson*	154	3:05	**2:25** Phoenix - Tucson	UP	
Washington, Oregon and British Columbia					
Cascades *Vancouver - Seattle - Portland - Eugene*	461	9:18	**2:30** Seattle - Portland	BNSF, UP, Sound Transit	4 RTs between Seattle and Portland 2 RTs extend to Vancouver from Seattle 2 RTs extend to Eugene from Portland

Table 2. Western Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$			Northern California
Expand to 20 RTs Sacramento - Oakland • Extend 10 RTs to Roseville from Sacramento Expand to 24 RTs San Jose - Oakland	$$$			Capitol Corridor
5 RTs to Martinez (Oakland) - Merced (CAHSR Bakersfield) 6 RTs to Sacramento - Merced (CAHSR Bakersfield)	$			San Joaquins
Initiate 3 RTs San Luis Obispo-San Jose	$$$			Central Coast
	$$$			Southern California
Expand to 33 RTs Los Angeles - San Diego • Extend 17 RTs to Goleta from Los Angeles • Extend 8 RTs to San Luis Obispo from Goleta (augmented with 1 RT Los Angeles - San Jose - beyond)	$$$			Pacific Surfliner
Initiate 2 RTs Los Angeles-Las Vegas	$$$			Las Vegas
Initiate 4 RTs Los Angeles-Indio	$			Coachella Valley
	$$$			Arizona
Initiate 1 RT Los Angeles-Tucson	$$$			Los Angeles - Phoenix/Tucson
Initiate 3 RTs Phoenix-Tucson • Extend 3 RTs to Buckeye from Phoenix (augmented with Los Angeles-Tucson-New Orleans)	$$$			Phoenix - Tucson
	$$			WA, OR, B.C.
Expand to 13 RTs Seattle-Portland Expand to 4 RTs extensions to Vancouver from Seattle Expand to 6 RTs extensions to Eugene from Portland	$$			Cascades

CENTRAL CORRIDORS

Prior to initiating any new corridor service, Amtrak will collaborate with stakeholders on schedules, trip frequencies, infrastructure and equipment needs, station facilities, funding, implementation roles, and contractual agreements.

Denver Union Station

Front Range

Pueblo – Colorado Springs – Denver – Fort Collins – Cheyenne

Amtrak proposes this route to serve this rapidly emerging region; the vision includes:

- **3 initial round trips between Pueblo – Fort Collins with 1 round trip extending to Cheyenne**

Many combinations of investment, frequency, and trip time are possible. This new corridor provides Colorado Front Range residents with increased mobility options with Denver as the midpoint anchor.

Texas Triangle

Houston – Dallas – Fort Worth – Austin – San Antonio

These corridors link four of the largest 31 metropolitan areas; the vision includes:

- **3 round trips between Houston – Dallas/Fort Worth**
- **3 round trips between Houston – San Antonio**
- **2 round trips between Dallas/Fort Worth – Austin – San Antonio**

These new corridors provide Texas residents with increased mobility options among Texas's largest cities. The potential development of a new high-speed rail corridor between Dallas and Houston will be considered when determining the prioritization and development of these corridors.

Heartland Flyer

Dallas/Fort Worth – Oklahoma City – Newton

This corridor extends the existing Heartland Flyer to link to Amtrak's *Southwest Chief*; the vision includes:

- **Expand from 1 to 3 round trips between Oklahoma City – Fort Worth, connecting with Texas Triangle services to Dallas, Houston, Austin, and San Antonio**
- **Extend 1 Fort Worth – Oklahoma City round trip to Newton, KS for a connection with Amtrak's *Southwest Chief***

This new corridor provides Texas and Oklahoma residents with increased mobility options between their states, as well as improved connections with Amtrak's national network.

Figure 16. Central Corridors

Table 3. Central Corridors Details

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation
					Existing Service / No Service
Texas					
Texas Triangle *San Antonio - Fort Worth - Dallas*	310	7:02	**6:00** San Antonio - Fort Worth	BNSF, TRE, UP	
Texas Triangle *Houston - Dallas - Fort Worth*	297	5:33	**4:30** Houston - Dallas	TRE, UP	
Texas Triangle *San Antonio - Houston*	210	4:45	**4:45** San Antonio - Houston	UP	
Colorado, Oklahoma, and Kansas					
Front Range *Pueblo - Denver - Cheyenne*	240	5:34	**2:43** Pueblo - Denver	BNSF, UP	
Heartland Flyer *Fort Worth - Oklahoma City - Newton, KS*	404	9:04	**4:02** Fort Worth - Oklahoma City	BNSF	1 RT Fort Worth - Oklahoma City

Table 3. Central Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$$	👥	🛠	Texas
Initiate 2 RTs Dallas/Fort Worth - San Antonio (augmented with 1 RT Chicago - San Antonio)	$	👥👥	🛠	Texas Triangle
Initiate 3 RTs Houston - Dallas/Fort Worth	$$	👥👥	🛠🛠	Texas Triangle
Initiate 3 RTs Houston - San Antonio	$$	👥	🛠	Texas Triangle
	$$$	👥	🛠🛠	CO, OK, KS
Initiate 3 RTs Fort Collins - Denver - Pueblo • Extend 1 RT to Cheyenne from Fort Collins	$$$	👥	🛠🛠	Front Range
Expand to 3 RTs Fort Worth - Oklahoma City • Extend 1 RT to Newton from Oklahoma City to connect with Amtrak's Chicago - Los Angeles *Southwest Chief*	$$$	🧍	🛠🛠🛠	Heartland Flyer

MIDWESTERN CORRIDORS

Prior to initiating any new corridor service, Amtrak will collaborate with stakeholders on schedules, trip frequencies, infrastructure and equipment needs, station facilities, funding, implementation roles, and contractual agreements.

Hiawatha Corridor

Chicago – Milwaukee

Already the Midwest's highest volume route, the Wisconsin and Illinois Departments of Transportation are planning frequency increases; the vision includes:

- **Expand from 7 to 10 round trips Chicago – Milwaukee**

This expanded corridor provides Wisconsin residents with increased mobility options between the state's largest city and Chicago, including connections with many other Midwest routes.

Madison Hiawatha Extension

Madison – Milwaukee – Chicago

The vision to extend the successful *Hiawatha* corridor west includes:

- **Extend 4 Chicago – Milwaukee *Hiawatha* round trips to Madison**

This new corridor provides Dane County residents, businesses and visitors with increased mobility options between the state's capital and its largest city, as well as service to Chicago.

Green Bay Hiawatha Extension

Green Bay – Milwaukee – Chicago

The vision to extend the successful *Hiawatha* corridor north includes:

- **Extend 3 Chicago – Milwaukee round trips to Green Bay**

This new corridor provides Green Bay and Fox Valley residents with increased mobility options to the state's largest city, as well as service to Chicago.

MIDWESTERN CORRIDORS, CONTINUED

TCMC

Twin Cities (Minneapolis – St. Paul) – Milwaukee – Chicago

The Wisconsin and Minnesota Departments of Transportation jointly envision an additional daily frequency between the Twin Cities of Minneapolis and St. Paul, Milwaukee, and Chicago. Additional frequencies are described in the Wisconsin State Rail Plan; the vision includes:

- **Extend 3 Chicago – Milwaukee *Hiawatha* round trips to Minneapolis – St. Paul. Trips are split between two routes, one via La Crosse, WI, the other via Eau Claire, WI**
- **Amtrak's *Empire Builder* provides a fourth daily trip via the existing La Crosse route**

This new corridor provides central Wisconsin residents with increased mobility options among the region's largest cities.

Northern Lights Express/NLX

Duluth – Superior – Minneapolis

The Minnesota Department of Transportation proposes this service; the vision includes:

- **4 round trips between Duluth – Superior – Minneapolis**

This new corridor provides residents of the Twin Ports of Duluth/Superior with increased mobility options to and from the state's largest metropolitan area.

Lincoln Service

Chicago – St. Louis

The Illinois Department of Transportation is implementing speed increases to 110 mph; the vision includes:

- **4 round trips between Chicago – St. Louis with speeds up to 110 mph**
- **1 round trip runs through to Kansas City in the *Missouri River Runner* service**

The *Lincoln Service* vision is for better-than-car trip-times to grow market share and increase mobility options among Chicago, St. Louis, and downstate Illinois communities.

Quad Cities

Iowa City – Moline – Chicago

The Illinois and Iowa Departments of Transportation are proposing this corridor; the vision includes:

- **2 round trips between Iowa City – Moline – Chicago**

This new corridor increases mobility options for Western Illinois and Eastern Iowa to link with Chicago and other Midwest corridors.

Rockford

Rockford – Chicago

The Illinois Department of Transportation has funding to start this rail passenger service in the next few years; the vision includes:

- **2 round trips between Rockford – Chicago**

This new corridor increases mobility options for Northern Illinois communities to link with Chicago and other Midwest corridors.

Illini/Saluki

Carbondale – Champaign – Chicago

The Illinois Department of Transportation has funding to improve performance in the next few years; the vision includes:

- **Reduce trip times on 2 existing round trips between Carbondale – Chicago**
- **1 new round trip Champaign – Chicago**

Better corridor service increases mobility options for Eastern and Southern Illinois to link with Chicago and other Midwest corridors.

Cleveland – Detroit

Cleveland – Toledo – Detroit

This is a new interstate corridor; the vision includes:

- **3 round trips between Cleveland – Toledo – Detroit**

This new corridor connects large Midwest cities, connects with proposed and new corridor services in Cleveland and Detroit, and ties to long distance rail service across northern Ohio.

MIDWESTERN CORRIDORS, CONTINUED

3C+D

Cleveland – Columbus – Cincinnati

The vision for this new corridor includes:

- **3 round trips between Cleveland – Columbus – Cincinnati**

This new corridor links Ohio's largest cities as well as connecting to other proposed corridor services in Cleveland and Cincinnati.

Wolverine

Chicago – Detroit/Pontiac

The Michigan Department of Transportation is implementing speed increases to 110 mph in this interstate corridor; the vision includes:

- **Expand from 3 to 6 round trips between Chicago – Detroit with speeds up to 110 mph**

The *Wolverine* vision is for better-than-car trip-times to grow market share and increase mobility options among several Michigan communities, Detroit, and Chicago.

Toronto – Chicago

Toronto – Detroit – Chicago

Amtrak proposes this international route to connect large North American metropolitan areas; the vision includes:

- **Extend 1 *Wolverine* round trip to Toronto using a newly redeveloped Michigan Central Terminal**

This new corridor links large urban areas across the international border where today there are two disconnected passenger rail routes. Infrastructure, station, and routing challenges will need to be overcome; along with potential partnership opportunities exist with VIA Rail Canada.

Pere Marquette

Chicago – Grand Rapids

The vision for this interstate corridor includes:

- **Expand from 1 to 3 round trips between Chicago – Grand Rapids, MI**

The *Pere Marquette* vision is to increase mobility options for Western Michigan.

Blue Water

Chicago – Port Huron

Amtrak proposes to expand service across Michigan; the vision includes:

- **Expand from 1 to 2 round trips between Chicago – Port Huron, MI**

The *Blue Water* vision is to increase mobility options for Michigan, including for the state capital.

Chicago – Cincinnati

Chicago – Indianapolis – Cincinnati

Chicago – Louisville

Chicago – Indianapolis – Louisville

These two interstate corridors share a common segment between Chicago and Indianapolis, IN; the vision includes:

- **4 round trips between Chicago – Indianapolis – Cincinnati**
- **4 round trips between Chicago – Indianapolis – Louisville**

These new corridors deliver travel market benefits with better-than-car trip-times due to 110 mph speeds the for eight round trips between Chicago and Indianapolis as well as benefits to the Cincinnati and Louisville extensions.

Figure 17. Midwestern Corridors

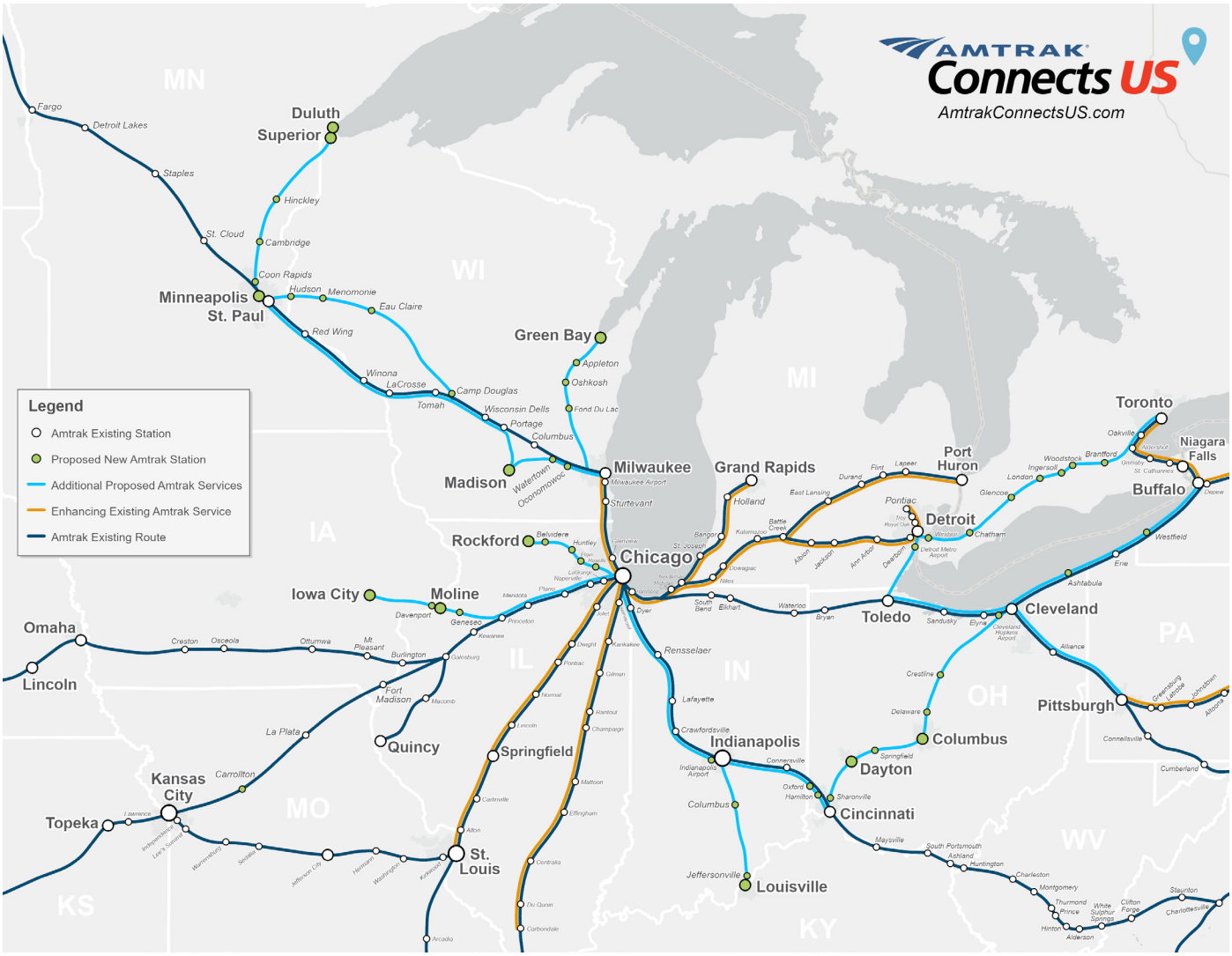


Table 4. Midwestern Corridors Details

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation
					Existing Service / No Service
Wisconsin					
Hiawatha *Chicago - Milwaukee*	86	1:30	**1:30** Chicago - Milwaukee	CP, Metra	7 RTs Chicago - Milwaukee
Madison *Chicago - Milwaukee - Madison*	168	3:18	**1:48** Milwaukee - Madison	CP, WSOR	
Green Bay *Chicago - Milwaukee - Green Bay*	225	4:20	**2:50** Milwaukee - Green Bay	CP, CN	
Minnesota					
TCMC *Chicago - Milwaukee - Madison - St. Paul - Minneapolis*	444	8:36	**6:45** Milwaukee - St. Paul	CP, Metra, WSOR, MC	
Northern Lights Express *Minneapolis - Duluth*	148	2:35	**2:35** Minneapolis - Duluth	BNSF	
Illinois					
Lincoln *Chicago - St. Louis*	287	4:30	**4:30** Chicago - St. Louis	Amtrak, Metra, KCS, TRRA, UP	4 RTs Chicago - St. Louis (augmented with 1 RT Chicago - San Antonio)
Quad Cities *Chicago - Moline - Iowa City*	218	3:59	**2:57** Chicago - Moline	BNSF, IAIS	
Rockford *Chicago - Rockford*	88	1:51	**1:51** Chicago - Rockford	Metra, UP	
Illini/Saluki *Chicago - Champaign - Carbondale*	309	4:58	**2:08** Chicago - Champaign	Amtrak, CN	2 RTs Chicago - Carbondale (augmented with 1 RT Chicago - New Orleans)

Table 4. Midwestern Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$$	👥	1 shovel	**Wisconsin**
Expand to 10 RTs Chicago - Milwaukee	$$	👥	1 shovel	**Hiawatha**
Extend 4 *Hiawatha* RTs to Madison from Milwaukee	$$	👥	1 shovel	**Madison**
Extend 3 *Hiawatha* RTs to Green Bay from Milwaukee	$$	👥	2 shovels	**Green Bay**
	$$	👥👥	1 shovel	**Minnesota**
Extend 3 *Hiawatha* Madison RTs to St. Paul/Minneapolis (augmented with 1 RT Chicago - Seattle/Portland)	$$	👥👥	1 shovel	**TCMC**
Initiate 4 RTs Minneapolis - Duluth	$$	👥👥	1 shovel	**Northern Lights Express**
	$	👥	1 shovel	**Illinois**
Reduce trip time Chicago - St. Louis • 1 RT runs through St. Louis with *Missouri River Runner* (augmented with 1 RT Chicago - San Antonio)	$	👥👥	1 shovel	**Lincoln**
Initiate 2 RTs Chicago - Moline - Iowa City	$	👥👥	1 shovel	**Quad Cities**
Initiate 2 RTs Chicago - Rockford	$	👥	1 shovel	**Rockford**
Expand with 1 RT between Chicago - Champaign • Reduce trip time Chicago - Carbondale (augmented with 1 RT Chicago - New Orleans)	$	1 person	1 shovel	**Illini/Saluki**

Table 4. Midwestern Corridors Details (Continued)

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation
					Existing Service / No Service
Ohio					
Cleveland - Detroit *Cleveland - Toledo - Detroit - Pontiac*	197	4:02	**3:18** Cleveland - Detroit	CN, Conrail, NS, CSX, Amtrak	
3C+D *Cleveland - Columbus - Cincinnati*	250	5:30	**2:52** Cleveland - Columbus	CSX, NS	
Michigan					
Wolverine *Chicago - Detroit - Pontiac*	308	5:35	**4:45** Chicago - Detroit	Amtrak, CN, NICTD, CSSB, MIDOT, Conrail	3 RTs Chicago - Detroit/Pontiac
Detroit - Toronto *Chicago - Detroit - Toronto*	515	9:57	**4:46** Detroit MC Station - Toronto	MIDOT, Conrail, CP, ETR, CN, VIA, GO	
Pere Marquette *Chicago - Grand Rapids*	182	3:41	**3:41** Chicago - Grand Rapids	Amtrak, CN, NICTD, CSSB, CSX	1 RT Chicago - Grand Rapids
Blue Water *Chicago - Port Huron*	323	6:38	**6:38** Chicago - Port Huron	Amtrak, CN, NICTD, CSSB	1 RT Chicago - Port Huron
Indiana					
Indianapolis *Chicago - Indianapolis - Cincinnati*	319	6:10	**3:35** Chicago - Indianapolis	CSX, CN, NICTD, Amtrak	Tri-weekly RT Chicago - New York
Indianapolis *Chicago - Indianapolis - Louisville*	312	5:45	**3:35** Chicago - Indianapolis	CSX, CN, NICTD, Amtrak, L&I	
Missouri					
River Runner *St. Louis - Kansas City*	282	5:35	**5:35** St. Louis - Kansas City	KCT, TRRA, UP	2 RTs St. Louis - Kansas City

Table 4. Midwestern Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$$			Ohio
Initiate 3 RTs Cleveland - Detroit/Pontiac	$$			Detroit - Cleveland
Initiate 3 RTs Cleveland - Columbus - Cincinnati	$			3C+D
	$$			Michigan
Expand to 6 RTs Chicago - Detroit/Pontiac • Extend 1 RT to Toronto from Detroit • Reduce trip time Chicago - Detroit	$$$			Wolverine
Initiate 1 RT *Wolverine* extension Detroit - Toronto	$			Detroit - Toronto
Expand to 3 RTs Chicago - Grand Rapids • Reduce trip time Chicago - Grand Rapids	$			Pere Marquette
Expand to 2 RTs Chicago - Port Huron	$$$			Blue Water
	$			Indiana
Expand to 8 RTs Chicago - Indianapolis • Extend 4 RTs to Cincinnati from Indianapolis	$			Indianapolis
Expand to 8 RTs Chicago - Indianapolis • Extend 4 RTs to Louisville from Indianapolis	$			Indianapolis
	$			Missouri
Extend 1 RT *Lincoln* Chicago – St. Louis through to Kansas City	$			River Runner

NORTHEASTERN CORRIDORS

Prior to initiating any new corridor service, Amtrak will collaborate with stakeholders on schedules, trip frequencies, infrastructure and equipment needs, station facilities, funding, implementation roles, and contractual agreements.

Downeaster

Boston – Portland – Rockland, ME

The vision for this route includes:

- **Reduce trip times between Boston – Portland – Brunswick, ME**
- **Increase frequency between Boston – Portland – Brunswick, ME or points in between**
- **Extend service seasonally from Brunswick to Rockland, ME**
- **Improve connectivity to the Amtrak network**

The Downeaster service increases mobility for Maine and New Hampshire areas to Boston and broader Northeast region connections.

Concord – Manchester – Boston

The vision for this new corridor includes:

- **5 round trips between Concord, NH – Manchester – Boston**

Subject to further analysis by stakeholders including New Hampshire, Massachusetts, and Amtrak, this new corridor service increases mobility for New Hampshire residents to and from Boston and broader Northeast region connections by providing multi-frequency service throughout the day.

Boston – Albany

Boston – Springfield – Albany

The vision for this new corridor includes:

- **2 round trips between Boston – Springfield – Albany**
- **Augmented by the Boston – Albany section of Amtrak's *Lake Shore Limited***

Building on MassDOT's E/W study, Amtrak will work with MassDOT and NYSDOT to determine feasibility of service between Boston and Albany. This new corridor service increases mobility for western Massachusetts and upstate New York to the Boston area and broader Northeast region connections.

Ethan Allen

New York City – Rutland-Burlington, VT

The Vermont Department of Transportation is pursuing extending the *Ethan Allen Express*; the vision includes:

- **Extend New York City – Rutland service to Burlington, VT**

The *Ethan Allen Express* service increases mobility among Vermont, New York City, upstate New York, and broader Northeast region connections.

Vermonter

Washington – New York City – St. Albans – Montreal

The vision is to extend the *Vermonter* from St. Albans, VT across the border to Montreal, Canada:

- **Extend New York City – St. Albans, VT service to Montreal, Canada**

The extended, international *Vermonter* increases mobility for Vermont residents to Montreal, New York City, and broader Northeast region connections.

Empire (Albany)

New York City – Albany/Rensselaer

The vision for improving this established corridor includes:

- **Expand to 17 round trips with trip times as low as 90 minutes New York – Albany**
- **9 daily round trips extending west and north of Albany (described elsewhere in this document)**

The Empire (Albany) service vision is for better-than-car trip-times with hourly frequencies to gain travel market share.

NORTHEASTERN CORRIDORS, CONTINUED

Empire (Upstate)

New York City – Albany/Rensselaer – Buffalo – Niagara Falls/Toronto/Cleveland

NYSDOT has identified service improvements to Western New York as a long-term planning goal, with continued investment in the route to expand capacity and improve travel times; the vision includes:

- **Extend 6 New York – Albany round trips to Buffalo and additional destinations, and reduce trip times**
- **5 round trips extend from Buffalo to Niagara Falls, of which 1 further extends to Toronto**
- **1 daily round trip extends from Buffalo to Cleveland (described elsewhere in this document)**
- **Augmented by Amtrak's *Lake Shore Limited***

The Empire (Upstate) service increases mobility for upstate New York residents to the broader Northeast region, Boston, and Montreal.

Cleveland – New York

Cleveland – Buffalo – Albany – New York

The vision for this interstate initiative includes:

- **Extend 1 New York City – Buffalo Empire (Upstate) round trip to Cleveland**
- **Augmented by Amtrak's *Lake Shore Limited***

This new corridor links cities across New York, western Pennsylvania, and eastern Ohio as well as connecting to corridor services envisioned in New York and Ohio. Amtrak proposes to work with NYSDOT, PennDOT, and ODOT to determine feasibility of this service.

Adirondack

New York City – Albany – Montreal

Amtrak, NYSDOT, and Canadian officials are planning improved international crossing processing; the vision includes:

- **Reduce trip time between New York City and Montreal**

The *Adirondack* connects the two major international cities of Montreal and New York, as well as Northern New York communities. Reduced trip times are projected to increase ridership and provide better rail connections on both ends of the corridor.

Long Island

Ronkonkoma – NEC/Washington

The Metropolitan Transportation Authority (MTA) and Amtrak are exploring plans for each provider to expand services on the other's route; the vision includes:

- **3 round trips between Ronkonkoma, NY – NEC/Washington**

This new corridor provides seamless one-seat rail service to and from eastern Long Island and NEC destinations between New York and Washington with three daily frequencies. Amtrak and NY MTA are also exploring bringing MTA service to New York Penn Station and stations in the Bronx along Amtrak's NEC route.

The five services in Pennsylvania in this Section 6 are in different planning stages and require significant time and financial support to advance, in addition to known or potential right-of-way, environmental, ownership, and/or operational obstacles. It is possible that a project could be deemed infeasible during the planning process and not advanced further.

Reading Service

Reading – Philadelphia – New York City

The vision for this interstate corridor includes:

- **3 round trips between Reading, PA – Philadelphia – New York City**

Subject to further analysis by stakeholders including Pennsylvania and Amtrak, this new corridor increases mobility for Reading and Philadelphia residents to and from the broader Northeast region with daily multi-frequency service.

Scranton Service

Scranton – New York

The vision for this interstate corridor includes:

- **3 round trips between Scranton, PA – New York City**

Subject to further analysis by stakeholders including Pennsylvania, New Jersey, and Amtrak, this new corridor increases mobility for Scranton and New York residents to and from the broader Northeast region with daily multi-frequency service.

NORTHEASTERN CORRIDORS, CONTINUED

Allentown Service

Allentown – New York

The vision for this interstate corridor includes:

- **2 round trips between Allentown, PA – New York City**

Subject to further analysis by stakeholders including Pennsylvania, New Jersey, and Amtrak, this new corridor increases mobility for Allentown and New York residents to and from the broader Northeast region.

Keystone Service

Harrisburg – Philadelphia – New York

The vision for improvements to this established corridor includes:

- **Expand to 17 round trips**
- **Reduce trip times by increasing speeds up to 125 mph Harrisburg – Philadelphia**

The *Keystone Service* vision is for better-than-car trip-times with hourly frequency to grow travel market share.

Pennsylvanian

New York – Philadelphia – Harrisburg – Pittsburgh – Cleveland

A second *Pennsylvanian* frequency extending into Ohio creates a new interstate Pittsburgh-Cleveland corridor; the vision includes:

- **Expand from 1 to 2 round trips between New York – Philadelphia – Pittsburgh, PA**
- **Extend 1 New York – Pittsburgh round trip to Cleveland, OH, augmented by the New York – Cleveland portion of Amtrak's *Capitol Limited***

Subject to further analysis by stakeholders including Pennsylvania, Ohio, and Amtrak, an extended *Pennsylvanian* increases mobility for Central and Western Pennsylvania as well as Eastern Ohio and expand access to and from New York City and the Northeast region, as well as new Ohio destinations.

Figure 18. Northeastern Corridors

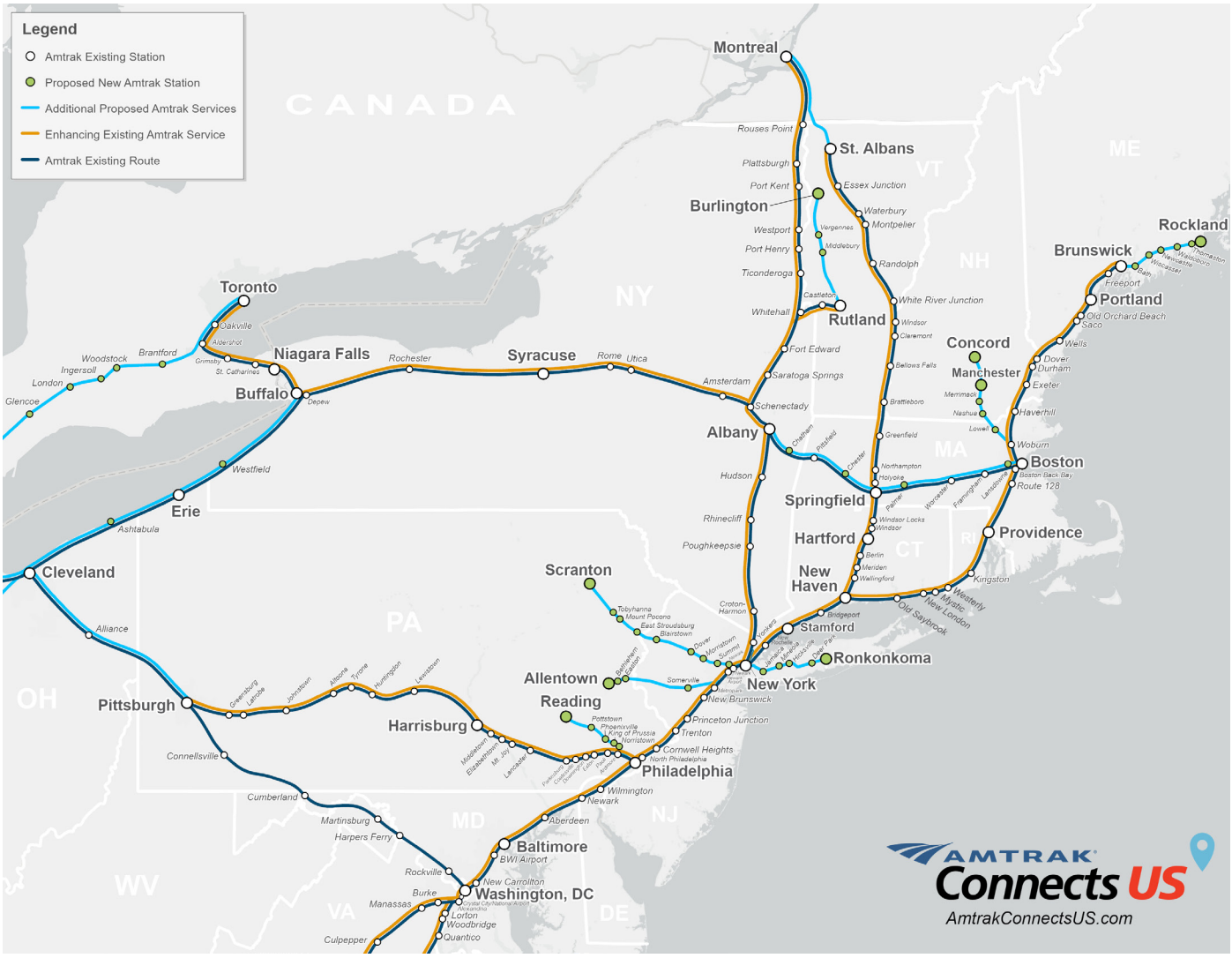


Table 5. Northeastern Corridors Details

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation
					Existing Service / No Service
New England					
Downeaster *Boston - Portland - Brunswick - Rockland, ME*	145	3:05	**2:30** Boston - Portland	MBTA, PanAm (CSX)	5 RTs Boston - Portland/Brunswick
Manchester *Boston - Manchester - Concord*	73	2:15	**1:35** Boston - Manchester	MBTA, PanAm (CSX)	
E - W Massachusetts *Boston - Albany*	200	4:20	**4:20** Boston - Albany	CSX, MBTA	
Ethan Allen Express *New York - Rutland -Burlington, VT*	315	7:37	**7:37** New York - Burlington, VT	VTR, CP, Amtrak, MTA	1 RT New York - Rutland
Vermonter *Washington - St. Albans - Montreal*	674	15:07	**15:07** Washington - Montreal	CN, NECR, Amtrak, MTA	1 RT Washington - St. Albans, VT
Empire Services					
Empire (Albany) *New York - Albany*	141	2:15	**2:15** New York - Albany	Amtrak, CSX, MTA	7 RTs New York - Albany • Augmented with 2 RTs New York - Rutland/ Montreal and 4 RTs New York - Buffalo/Toronto/ Chicago
Empire (Upstate) *New York - Niagara Falls - Toronto*	548	10:40	**7:41** New York - Niagara Falls	Amtrak, MTA, CN, CSX, GO	3 RTs New York - Niagara Falls • 1 RT extends to Toronto (augmented with 1 RT New York - Chicago)
Cleveland - Buffalo *Cleveland - Buffalo*	618	10:00	**10:00** New York - Cleveland	Amtrak, MTA, CSX, NS	
Adirondack *New York - Montreal (via Albany)*	381	9:20	**9:20** New York - Montreal (via Albany)	Amtrak, MTA, CP,CN	1 RT New York - Montreal

Table 5. Northeastern Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$	🧍	⛏	New England
Extend to Rockland from Bruinswick seasonally Reduce trip time Boston - Brunswick	$	🧍	⛏	Downeaster
Initiate 5 RTs Boston - Concord	$$	🧍🧍	⛏	Manchester
Initiate 2 RTs Boston - Albany (augmented with 1 RT Boston - Chicago)	$$	🧍🧍	⛏⛏	E-W Massachusetts
Extend 1 RT to Burlington from Rutland	$$$	🧍	⛏	Ethan Allen Express
Extend 1 RT to Montreal from St. Albans	$	🧍🧍	⛏	Vermonter
	$	🧍🧍🧍	⛏⛏	Empire Services
Expand to 8 RTs New York - Albany • Reduce trip time New York - Albany (augmented with 2 RTs New York - Burlington/ Montreal and 7 RTs New York - Buffalo/Toronto/ Chicago	$	🧍🧍🧍🧍	⛏	Empire (Albany)
Expand to 5 RTs New York - Niagara Falls • Reduce trip time New York - Niagara Falls • Retain 1 RT extension to Toronto from Niagara Falls (augmented with 2 RTs New York - Cleveland/ Chicago)	$	🧍🧍🧍	⛏⛏⛏	Empire (Upstate)
Initiate 1 RT New York - Albany - Buffalo - Cleveland	$	🧍🧍	⛏	Cleveland - Buffalo
Reduce trip time New York - Montreal	$	🧍	⛏	Adirondack

Table 5. Northeastern Corridors Details (Continued)

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation
					Existing Service / No Service
Keystone Service					
Reading *New York - Philadelphia -Reading*	155	2:55	**1:37** Philadelphia - Reading	Amtrak, NS, CSX	
Scranton *New York - Scranton*	136	3:25	**3:25** New York - Scranton	Amtrak, NJT, DL	
Allentown *New York - Allentown*	99	2:45	**2:45** New York - Allentown	Amtrak, NJT, NS	
Keystone *New York - Philadelphia - Harrisburg*	202	2:54	**1:38** Philadelphia - Harrisburg	Amtrak	12 RTs Harrisburg - Philadelphia/ New York (augmented with 1 RT to Pittsburgh)
Pennsylvanian *New York - Philadelphia - Pittsburgh - Cleveland*	590	11:37	**6:58** Philadelphia - Pittsburgh	Amtrak, NS	1 RT New York - Philadelphia - Pittsburgh
Other					
Long Island *NEC locations - NY Penn - Ronkonkoma, NY*	50	1:25	**1:25** NY Penn - Ronkonkoma	LIRR	

Table 5. Northeastern Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$			Keystone Services
Initiate 3 RTs New York - Reading	$			Reading
Initiate 3 RTs New York - Scranton	$			Scranton
Initiate 2 RTs New York - Allentown	$			Allentown
Expand to 17 RTs Harrisburg-Philadelphia/New York • Reduce trip time Harrisburg - Philadelphia/New York (augmented with 2 RTs to New York - Pittsburgh/ Cleveland)	$$			Keystone
Expand to 2 RTs New York - Philadelphia - Pittsburgh • Extend 1 RT to Cleveland from Pittsburgh	$$			Pennsylvanian
	$			Other
Initiate 3 RTs Ronkonkoma - New York/NEC	$			Long Island

New Orleans Union Passenger Terminal

SOUTHEASTERN CORRIDORS

Prior to initiating any new corridor service, Amtrak will collaborate with stakeholders on schedules, trip frequencies, infrastructure and equipment needs, station facilities, funding, implementation roles, and contractual agreements.

New River Valley

New York – Washington – Roanoke – New River Valley

The vision for a second frequency to Roanoke and extending service beyond Roanoke to the New River Valley includes:

- **Expand from 1 to 2 round trips between New York City – Roanoke, VA**
- **Extend 2 New York City – Roanoke round trips to New River Valley**

The *New River Valley* corridor increases mobility for Central and Western Virginia to Washington, DC and the broader Northeast region. Virginia recently enacted legislation to support this plan.

Richmond/Norfolk/Newport News

New York – Washington – Richmond – Newport News/ Norfolk/North Carolina

The Virginia Department of Rail and Public Transportation (DRPT) and Amtrak have agreed to six additional round trips: four new between Washington, DC and Richmond, VA, one new frequency to Newport News and one new frequency to Norfolk. In addition, Amtrak's participation with the Southeast Corridor planning process developed a plan that integrates Virginia and North Carolina frequencies with additional projects. The vision includes:

- **Expand from 1 to 5 round trips between New York City – Richmond Main Street Station**
- **Expand from 2 to 3 round trips between New York City – Norfolk, VA**
- **Expand from 2 to 3 round trips between New York City/ Boston, MA – Newport News, VA**
- **New NEC – Washington – Richmond – Raleigh/Charlotte services overlays with 6 round trips**

The expanded service extends the NEC to Richmond, VA to increase mobility in the I-95 corridor and enhance Virginia's connection with the broader Northeast region. Virginia recently enacted legislation and reached agreements with Amtrak and CSXT to fund and implement much of this plan.

Carolinian and Piedmont

New York – Washington – Richmond – Raleigh – Charlotte

The Southeast Corridor Commission, with participation from the North Carolina Department of Transportation (NCDOT), is progressing with reactivating a direct rail route between Raleigh and Petersburg, VA near Richmond, VA (the "S Line") to support the Southeast Corridor plan. The vision includes:

- **Expand the number of daily round trips between Charlotte, NC – Raleigh, NC – Richmond – New York City from one *Carolinian* trip daily to multiple frequencies throughout the day**
- **Expand the number of *Piedmont* daily round trips between Charlotte – Raleigh**

The Southeast Corridor, including *Carolinian* and *Piedmont* services, will link major Southeastern metropolitan areas with each other and with the Northeast, providing increased mobility for North Carolina and the entire Southeast.

Western NC

Asheville – Salisbury

The vision for this new corridor includes:

- **New service between Asheville, NC – Salisbury, NC (connection to Southeast Corridor service and Charlotte – Raleigh services)**

This new corridor increases mobility options for Western North Carolina to link with several large North Carolina cities as well as the Northeast via Southeast Corridor/*Piedmont*/*Carolinian* connections at Salisbury.

Southeast NC

Wilmington – Raleigh

The vision for this new corridor includes:

- **New service between Wilmington, NC – Raleigh (connection to Southeast Corridor service and Charlotte – Raleigh services)**

This new corridor increases mobility options for Southeast North Carolina to link with several large North Carolina cities as well as the Northeast via Southeast Corridor/Piedmont/Carolinian connections at Raleigh.

SOUTHEASTERN CORRIDORS, CONTINUED

Atlanta – Charlotte Service

Atlanta – Charlotte

The vision for this new interstate corridor, part of the Southeast Corridor, includes:

- **3 round trips between Atlanta – Charlotte**
- **Extend 2 Atlanta – Charlotte round trips to Raleigh, NC as part of *Piedmont* service**
- **Augmented by Amtrak's *Crescent***

This new corridor connects the two largest Southeast business and population centers while increasing travel options through the communities along the Atlanta – Charlotte corridor, plus several corridor connections at Atlanta.

Atlanta – Nashville Service

Atlanta – Chattanooga – Nashville

The vision for this new interstate corridor includes:

- **2 round trips between Atlanta – Nashville**

This new corridor connects two large business and population centers in the Southeast while increasing travel options through the communities along the Atlanta – Nashville corridor, with several corridor connections at Atlanta plus Amtrak's *Crescent*.

Atlanta Hub

Atlanta – Charlotte/Nashville/Montgomery/Birmingham/ Savannah

Amtrak envisions these routes creating a passenger rail hub in Atlanta to serve this large and vibrant region; the vision includes:

- **Atlanta – Charlotte (described elsewhere in this document)**
- **Atlanta – Nashville (described elsewhere in this document)**
- **3 round trips between Atlanta – Montgomery**
- **1 round trip between Atlanta – Birmingham**
- **3 round trips between Atlanta – Macon – Savannah**

These new corridors connect large Southeast business and population centers while increasing travel options through the communities along each corridor, with several corridor connections and Amtrak's *Crescent* at Atlanta, as well Amtrak's *Palmetto* and *Silver Service* trains in Savannah.

Gulf Coast

Mobile – New Orleans

The Southern Rail Commission (SRC), Amtrak, and various stakeholders are collaborating to implement this corridor in early 2022; the vision includes:

- **2 round trips between Mobile – New Orleans**

This new corridor increases mobility options for Gulf Coast communities between Mobile and New Orleans, including connections with Amtrak's *Sunset Limited, City of New Orleans,* and *Crescent* at New Orleans.

Baton Rouge Service

Baton Rouge – New Orleans

The vision for this new corridor includes:

- **2 round trips between Baton Rouge – New Orleans**

This new corridor increases mobility options for communities between Baton Rouge and New Orleans including connections with Amtrak's *Sunset Limited, City of New Orleans,* and *Crescent* at New Orleans.

Florida Network

Jacksonville – Orlando – Tampa – Miami

Amtrak envisions intercity passenger rail corridors throughout Florida; the vision includes:

- **2 round trips between Jacksonville – Orlando – Tampa**
- **3 round trips between Tampa – Miami**
- **2 round trips between Orlando – Miami**
- **Augmented by Amtrak's Silver Service**

This new corridor connects rapidly growing Southeast business, population, and tourist centers while increasing travel options through the communities along these heavily traveled corridors.

Figure 19. Southeastern Corridors

Table 6. Southeastern Corridors Details

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation
					Existing Service / No Service
Virginia Service					
New River Valley *New York - Washington - Roanoke - New River Valley*	491	9:28	**5:49** Washington - New River Valley	Amtrak, NS, CSX	1 RT Washington - Roanoke
Richmond/Norfolk/ Newport News *New York - Washington - Richmond - Newport News/Norfolk*	445	8:13	**2:28** Washington - Richmond	Amtrak, NS, CSX	5 RTs Washington - Richmond Staples Mill Station • 2 RTs extend to Newport News from Richmond • 2 RTs extend to Norfolk from Richmond (augmented with 1 RT Washington - Charlotte and 3 RTs Washington - Savannah/Miami)
North Carolina Services					
Carolinian and Piedmont *Charlotte - Raleigh - Richmond - NEC Washington*	449	5:52	**3:12** Charlotte - Raleigh	Amtrak, CSX, SEHSR, NS	1 RT Charlotte - Richmond/NEC 3 RTs Charlotte - Raleigh
Western NC *Asheville - Salisbury*	139	3:45	**3:45** Asheville - Salisbury	NS	
Southeast NC *Wilmington - Raleigh*	132	2:48	**2:48** Wilmington - Raleigh	CSX, NS	
New Orleans Hub					
Gulf Coast *New Orleans - Mobile*	145	3:18	**3:18** New Orleans - Mobile	Amtrak, CSX, NS	
Baton Rouge *New Orleans - Baton Rouge*	79	1:34	**1:34** New Orleans - Baton Rouge	Amtrak, CN, KCS	

Table 6. Southeastern Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$$			Virginia Service
• Expand from 1 to 2 round trips between New York City – Roanoke, VA • Extend 2 New York City – Roanoke round trip to New River Valley	$$$			New River Valley
• Expand from 1 to 5 round trips between New York City – Richmond Main Street Station • Expand from 2 to 3 round trips between New York City – to Norfolk, VA • Expand from 2 to 3 round trips between New York City/Boston, MA – to Newport News, VA • New NEC – Washington – Richmond – Raleigh/ Charlotte, NC service overlays 6 Washington – Richmond round trips	$			Richmond/Norfolk/ Newport News
	$			North Carolina Service
• Expand the number of daily round trips between Charlotte, NC – Raleigh, NC – Richmond – New York City from one Carolinian trip daily to multiple frequencies throughout the day • Expand the number of Piedmont daily round trips between Charlotte – Raleigh	$			Carolinian and Piedmont
New service between Asheville, NC – Salisbury, NC (connection to Southeast Corridor service and Charlotte - Raleigh services)	$$$			Western NC
New service between Wilmington, NC – Raleigh (connection to Southeast Corridor service and Charlotte - Raleigh services)	$			Southeast NC
	$$			New Orleans Hub
Initiate 2 RTs New Orleans - Mobile	$$$			Gulf Coast
Initiate 2 RTs New Orleans - Baton Rouge	$$			Baton Rouge

Table 6. Southeastern Corridors Details (Continued)

Route Name and Major Locations	Endpoint Mileage	Endpoint Trip Time	Key Trip Time	Potential Host RRs	Pre-COVID-19 Operation
					Existing Service / No Service
Atlanta Hub					
Atlanta - Charlotte	257	5:00	**5:00** Atlanta - Charlotte	NS	
Atlanta - Nashville	280	6:34	**3:06** Atlanta - Chattanooga	CSX, NS	
Atlanta - Savannah	291	5:40	**2:05** Atlanta - Macon	CSX, NS	
Atlanta - Montgomery	180	3:20	**3:20** Atlanta - Montgomery	CSX, NS	
Atlanta - Birmingham	164	4:10	**4:10** Atlanta - Birmingham	CSX, NS	
Florida Network					
Jacksonville - Orlando - Tampa	240	4:28	**1:32** Tampa - Orlando	CFCR, CSX	
Orlando - Miami	267	4:36	**4:36** Orlando - Miami	CSX, CFCR, SFRTA	
Tampa - Miami	258	4:34	**4:34** Tampa - Miami	CSX, SFRTA	

Table 6. Southeastern Corridors Details (Continued)

Service Enhancements New service Route expansion/improvement	Public Operating Funding per New Passenger	New Passengers (000s)	Infrastructure Cost Per New Passenger for Full Buildout	Route Name
	$$$			Atlanta Hub
Initiate 3 RTs Atlanta - Charlotte (augmented with 1 RT New York - New Orleans)	$$			Atlanta - Charlotte
Initiate 2 RTs Atlanta - Nashville	$$$			Atlanta - Nashville
Initiate 3 RTs Atlanta - Savannah	$$$			Atlanta - Savannah
Initiate 3 RTs Atlanta - Montgomery	$$$			Atlanta - Montgomery
Initiate 1 RT Atlanta - Birmingham	$$$			Atlanta - Birmingham
	$			Florida Network
Initiate 2 RTs Jacksonville - Orlando - Tampa (augmented with 2 RTs New York - Miami)	$			Jacksonville - Orlando - Tampa
Initiate 2 RTs Orlando - Miami (augmented with 2 RTs New York - Miami)	$			Orlando - Miami
Initiate 3 RTs Tampa - Miami (augmented with 1 RT New York - Miami)	$			Tampa - Miami

07

Implementation

AMTRAK'S UNIQUE POSITION TO ORGANIZE AND FACILITATE EXPANSION

Countries around the world organize their intercity passenger rail service around a national operator. This is no accident, since a national passenger rail carrier provides significant capabilities and efficiencies. As the national passenger rail operator in the United States, Amtrak is in the unique position to provide leadership, efficiency, and organization to develop the solution to transportation challenges in this country. However, success is only possible by incorporating our state and local partners.

Fundamentally, the national rail carrier builds capabilities, knowledge, and economies of scale and then applies them repetitively to establish new services. This speeds implementation by leveraging Amtrak's experience in establishing and maintaining corridors. It also reduces costs through means such as sharing facilities and crews, and volume purchasing. Intercity passenger rail service is a complex mix of operating practices, technology, regulation, crew management, customer service, risk management, legal, and scores of other tasks dispersed over a wide geography. It's particularly daunting to start this from scratch—unless you have a partner who has done it many times over fifty years.

Amtrak brings subject matter experts with regulatory and technical knowledge of every discipline involved in providing intercity passenger rail service. Amtrak offers a full menu of skills and resources to realize this vision: States with the capability and desire to lead implementation can do so, while Amtrak can handle some or all aspects of implementation for states that desire it. This extends beyond intellectual capital to physical capital. As the national passenger rail carrier, Amtrak has staff, stations, terminals, and servicing facilities throughout the country. These are a logical and efficient base of operations for new and expanded corridor operations. The initial and ongoing costs of this vision would be significantly higher and implementation timeframes significantly longer if Amtrak's existing infrastructure were not used, but instead had to be duplicated.

Amtrak also has unique statutory capabilities, including the right of access to the host railroad network, operations on hosts at their incremental cost, right of preference over freight transportation, and if necessary even condemnation rights on host railroads. Plus, we have a strong reputation among hosts for safe, trustworthy operation and for living up to our indemnification obligations.

Amtrak continues to become an ever more efficient rail operator. As one testament to that, Amtrak has recently won competitive bids to provide operating services to commuter railroads Metrolink and MARC, and we provide contract maintenance services to several other commuter railroads. We also bring multimodal connections through our Thruway bus network, which uses integrated bus-rail ticketing to allow customers to extend their journey beyond Amtrak's rail network with a single ticket.

With Amtrak as operator, each corridor connects to our national network, putting our reservation and ticketing systems to work to allow residents of each region access to nearly the entire nation.

Amtrak is prepared to support implementation and operation of the larger network envisioned here. We are currently undertaking an internal review of the skills and resources that would be necessary to assist state partners in implementing this vision. If funding is provided for implementation, Amtrak is prepared to increase the scale of our operation as necessary to ensure success.

THE NEED FOR STATE AND HOST RAILROAD SUPPORT

This vision proposes improving, expanding, and initiating approximately sixty intercity passenger rail corridors across the continental U.S. Implementing corridors will require a team effort among Amtrak, the federal government, state and local governments, and host railroads.

Throughout 2019 and 2020, and continuing into 2021, Amtrak is conducting outreach and site visits with numerous stakeholders representing more than 25 states so far to discuss Amtrak's vision for corridor development including state DOTs, governors' offices, Joint Powers Authorities, and state legislators, as well as mayors, city council members, chambers of commerce, and the general public. Subject to Congress putting the necessary funding and policy elements in place, Amtrak stands ready to engage with state and local partners and host railroads to begin to implement this vision. We assume initiating implementation of all the corridors over a fifteen year period but do not propose which would be built in what sequence.

While funding for new and upgraded cars, locomotives, stations, and infrastructure is an important piece of the puzzle, ensuring cooperation with host railroads to improve Amtrak access and assure on-time train performance is also critical to achieving this vision.

Outside the NEC, Amtrak does not own or control the vast majority of the tracks it uses. Instead, we operate on tracks owned and controlled by host railroads. Today, as discussed below, host railroad performance in moving Amtrak trains is varied and often unreliable. Amtrak's trains outside the NEC are often late (freight trains delayed Amtrak's passenger trains by one million minutes in 2019) and there is no effective remedy for host railroads violating Amtrak's statutory right to preference over freight trains. There also is not a fair, timely, and transparent process to determine infrastructure investments that may be required to add capacity to expand Amtrak service.

Amtrak's reauthorization proposal includes recommended changes to the law to address these issues to improve and grow service. Amtrak's reauthorization proposal would also provide significant funding that could potentially be used for investments in host railroad infrastructure that are demonstrated to be necessary for expanded intercity passenger rail that would benefit all rail line users.

HELPING PASSENGER RAIL SUCCEED

The corridor growth described in this vision can only happen if Congress provides Amtrak with the critical tools and funding required to build and operate these new and improved corridors. As we face the need for major investments in fleet, facilities, and infrastructure to support the next fifty years of service, Amtrak's federal legislative proposal ensures taxpayers are maximizing their investment in intercity rail transportation to support mobility, access, and opportunity for more people and more localities across the country. Key elements of Amtrak's reauthorization proposal necessary to implement this vision are detailed below.

Authorize Federal Funding

Robust appropriation levels for FY 2022–FY 2026 are needed to allow Amtrak to make the investments needed to modernize and expand its network. Ideally, this would be provided to Amtrak via an Intercity Passenger Rail Trust Fund, which would provide multi-year, dedicated and predictable funding similar to how virtually all other surface transportation modes (highways, most public transit, and DOT safety programs) receive their federal funding. This proposed trust fund would support both the NEC and the National Network, including this corridor development vision. In addition to the NEC and National Network grants to Amtrak, corridor growth can be further advanced by Amtrak and our state and other partners pursuing a combination of other federal grant and loan programs. Amtrak supports a combination of funding mechanisms, including direct funding to Amtrak for corridor development and operation, and discretionary grants for corridor development in partnership with Amtrak.

Corridor Development Program

Amtrak is seeking authorization, as part of its National Network grant, of a new program that will help expand corridor service to communities on existing and new corridors as described in this vision. The program would allow Amtrak to cover up to 100% of the initial capital investments and much of the operating costs necessary to plan, develop, construct, and operate reliable, multi-frequency, and trip-time competitive new or additional intercity service in high potential corridors. Amtrak, in conjunction with the FRA and state partners, would establish and implement a collaborative and transparent process for determining investment opportunities. After the five-year program is implemented, states would then continue the service under the federally-mandated Amtrak-state cost sharing structure developed pursuant to PRIIA Section 209, as Amtrak and the states may revise it.

Preference Enforcement

Federal law states that, except in emergencies, Amtrak must receive preference over freight transportation when operating over host railroad tracks. Amtrak is seeking to extend the right of enforcement of this law to Amtrak by allowing the company to bring an action in the U.S. District Court to enforce these existing rights.

Process Improvements for Gaining Access to Host Railroads for New Service and Adding Additional Trains and Routes

As part of creating Amtrak and relieving freight railroads of their common carrier obligations for passenger transportation, the federal government granted Amtrak statutory access to all railroad infrastructure. Despite this, many host railroads seek to limit Amtrak's use of their tracks and oppose Amtrak expansion. We propose to update and clarify federal law regarding the process for providing Amtrak access to host railroads, including determining whether, and if so, what, capital investments are necessary to support new corridors or additional trains.

08

Conclusion

To provide more frequent, high-quality intercity passenger rail service on existing and new corridors, Amtrak and our state and local partners will need robust federal funding and important policy changes that only Congress can provide. Success in this endeavor requires a team effort at the federal, state and local level, to power our economy, preserve the environment and bring our country closer together. America has an important opportunity to invest in Amtrak, not just for today, but for generations to come.

Visit AmtrakConnectsUs.com to find out the latest news on Amtrak's Corridor Vision to improve, modernize, and expand service in your community—and across the country.

Appendix

Amtrak Route Identification Methodology

Preliminary City Pair Selection

Initially, Amtrak began researching potential city pairs through a literature search of intercity travel studies, including air corridors where intercity passenger rail service should be competitive, and city pairs separated by 100-200 miles without substantial rail and bus services.

Amtrak superimposed its current national network onto a map of U.S. population megaregions, originally identified in the America 2050 study. The resulting map in Figure 20 visually demonstrates how Amtrak underserves many of these markets. While Amtrak has some type of service to or near the largest twenty regions, many of them are served with only one long distance route, typically with one departure in each direction per day, and sometimes only three departures per week in each direction. This phase of the analysis suggested there are many potential new intercity passenger rail corridors.

Amtrak next brought in demographic data to identify additional city pair markets. For this initial evaluation, Amtrak used a simple "gravity model" that relates the endpoint populations to the distance between them. The underlying hypothesis is that the volume of travel between population centers diminishes rapidly as the distance between them increases. These Amtrak analyses ranked hundreds of city pairs and subsequent iterations matched travel data between them.

Corridor Identification

Amtrak then assessed potential intercity passenger rail corridors identified by the America 2050 study which are predicted to have the greatest ridership demand based on population size, economic activity, transit connections, existing travel markets and urban density. In the America 2050 study, the Regional Planning Association scored over 7,800 city pairs within 600 miles of each other for passenger rail potential.

Each America 2050 city pair score is based on a compilation of demographic characteristics rankings among all the city pairs; the higher the score, the stronger the intercity passenger rail potential. To narrow the city pair candidate corridors, Amtrak consolidated overlapping city pairs, eliminating many redundancies, and chose the top twenty percent scores for further analysis.

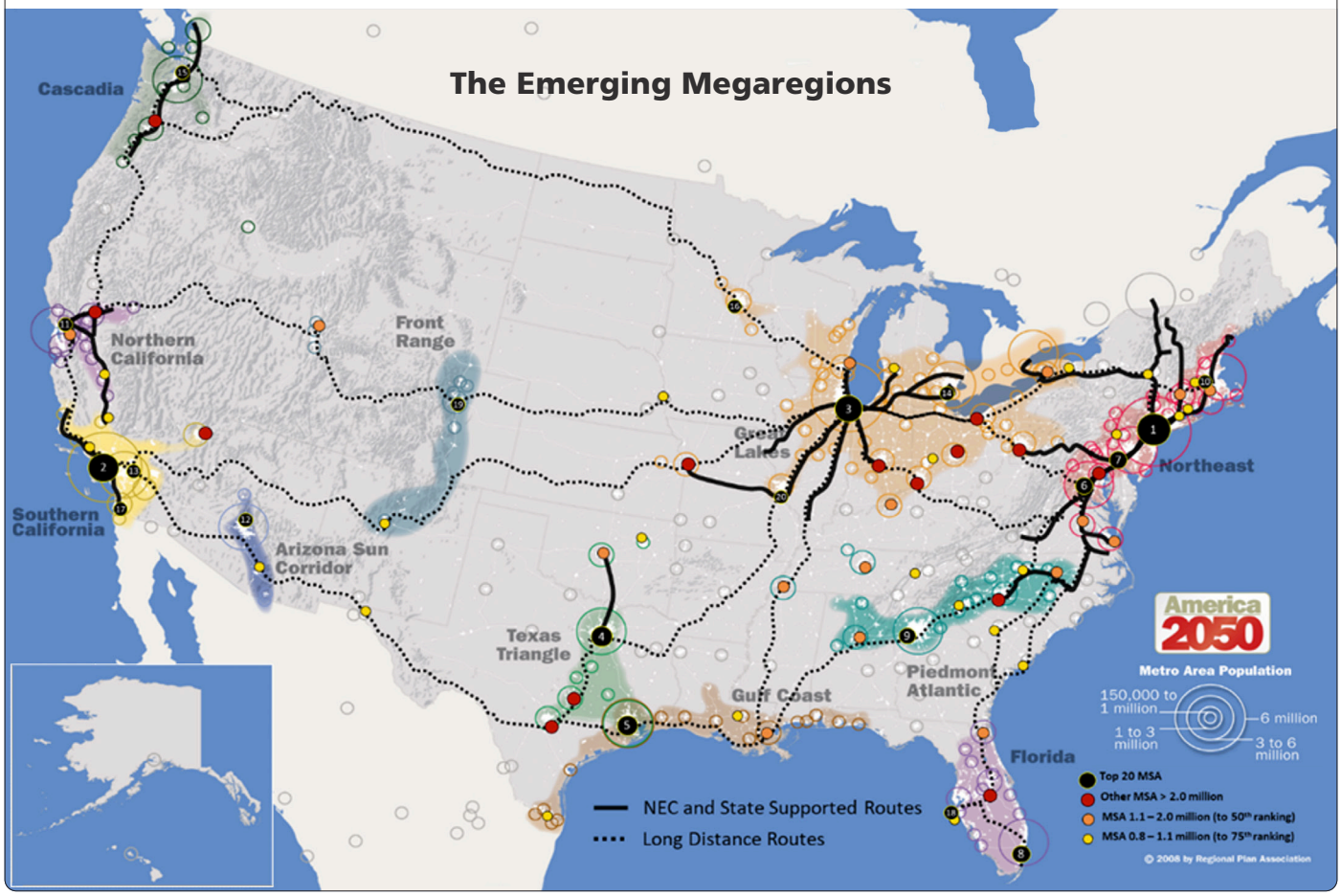
Corridor Development

Amtrak next combined the top-ranking city pairs from the gravity model analysis and the America 2050 synthesis to create a list of about 50 high-potential new passenger rail corridors to advance for further analysis. This list was expanded to include about 20 additional state initiatives for inter-city corridor development and expansion currently in various levels of implementation.

Amtrak staff utilized the FRA CONNECT model, which forecasts demand and costs at a very high level, for initial screening of candidate corridors, benchmarking, and to provide initial estimates for new corridors not served by Amtrak.

Rankings were derived by taking the difference between operating costs and revenues and dividing the result by ridership to obtain a contribution/loss per passenger. The result of this calculation is public operating funding required per passenger. Corridors showing a public operating funding cost closest to zero (breakeven) were ranked at the top of the list. Corridors with a public funding need of less than $50 per rider were also advanced for more analysis. With this preliminary financial test, about sixty corridors advanced to this nationwide corridor vision. These included entirely new corridors, as well as extensions and increased train frequencies on existing corridors.

Figure 20. Current Amtrak rail network underserves many megaregions and top population areas.



Financial Analysis and Projections

The analysis then shifted to calculating high-level financial performance for each corridor. The financial performance measure comes from high-level pairing of variable operating cost estimates with ridership and revenue forecasts. In developing estimates of operating costs, candidate rail corridor mileage and frequency were qualitatively assessed based on population and distance. These measures produced train-miles which, when multiplied by Amtrak's system average train-mile cost, produced a high-level operating cost estimate.

Ridership and revenue forecasts were then prepared using models developed and applied by Amtrak and its consultant, Steer, who routinely forecasts ridership and ticket revenue on Amtrak's existing train services. For each corridor analysis, the model was applied to all existing and new markets impacted by the envisioned service changes. Socio-economic data and forecasts of population, employment, and income, provided by Woods & Poole, were assembled within the catchment area for each station, accounting for overlap among adjacent stations. Other key inputs include:

- Conceptual schedules (for each train and connection), which provide: Distance between stations; and Departure and arrival times, that define Travel times, Time of day, and Spacing between trains.
- Frequency of service.
- Fares (average yields).

Forecasted demand-model output included ridership, passenger mileage, and ticket revenue. The model utilizes existing and historical ridership data, where available, to validate the baseline conditions.

Corridor capital costs were estimated by assessing infrastructure conditions and capacity through already completed studies (when available) or assembling corridor data from various sources and quantitatively assessing probable costs through an operations impact model provided by consultant Oliver Wyman coupled with Amtrak's infrastructure enhancement assessment.

Equipment and facility requirements for individual corridors were developed, combining resources on adjoining corridors when practical. Potential purchase of corridor infrastructure and assets was considered if available and appropriate.

Active state-sponsored passenger rail projects where Amtrak is an active participant were merged into this list. About sixty corridors came from the merged state-initiative list and Amtrak analysis.

Collaboration and Selection

Amtrak then shared this analysis with its state funding partners and incorporated their comments, including aligning our analysis with state rail plans as appropriate. The result are the corridors discussed in this document.

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