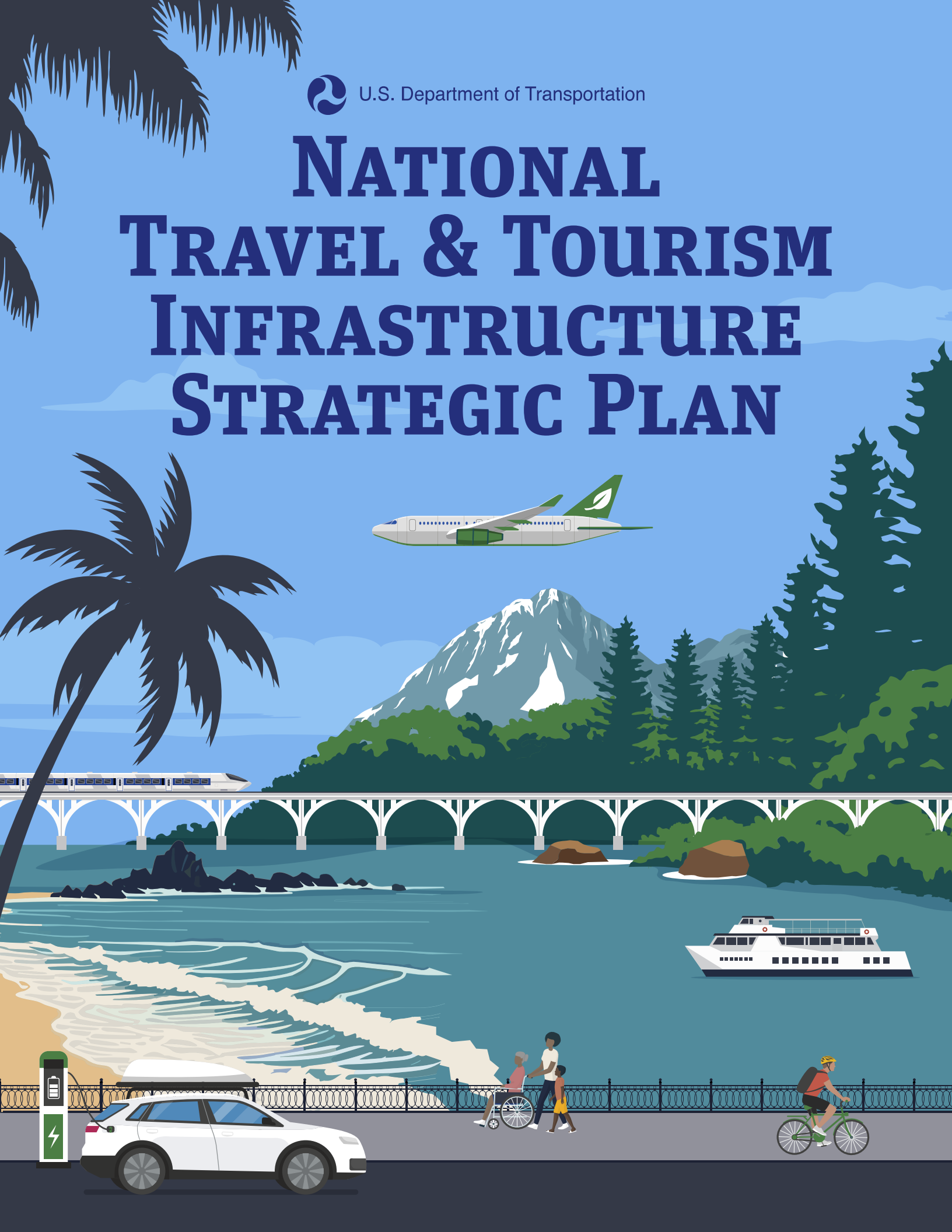
U.S. Department of Transportation

National Travel & Tourism Infrastructure Strategic Plan



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Acronyms

AADT – Average Annual Daily Traffic
AASHTO – American Association of State Highway Transportation Officials
ADA – Americans with Disabilities Act
ADC – Average Daily Capacity
AFT – Automated fare technology
AIANNH – American Indian, Alaska Native, and Native Hawaiian
ATP – Airport Terminals Program
ARPA – American Rescue Plan Act
ASAP – All Stations Accessibility Program
ASCE – American Society of Civil Engineers
ATS – American Travel Survey
AV – Automated vehicle
BIL – Bipartisan Infrastructure Law
BLM – U.S. Bureau of Land Management
Blueprint – U.S. National Blueprint for Transportation Decarbonization
BTS – Bureau of Transportation Statistics
BUILD – Better Utilizing Investments to Leverage Development
CAFE – Corporate Average Fuel Economy
Cal-ITP – California Integrated Travel Project
CalSTA – California State Transportation Agency
Caltrans – California Department of Transportation
CARES – Coronavirus Aid, Relief, and Economic Security
CFI – Charging and Fueling Infrastructure
CIG – Capital Investments Grants
CLEEN – Continuous Lower Energy, Emissions, and Noise
CLIA – Cruise Lines International Association
CMAQ – Congestion Mitigation and Air Quality
CORSIA – Carbon Offsetting and Reduction Scheme for International Aviation
COVID-19 – Coronavirus disease 2019
CRF – Crash rate factor
CRISI – Consolidated Rail Infrastructure & Safety Improvements
CRRSA – Coronavirus Response and Relief Supplemental Appropriations
DCFC – Direct current fast chargers
DOC – U.S. Department of Commerce
DOT – U.S. Department of Transportation
EU – European Union
EV – Electric vehicle
FAA – Federal Aviation Administration
FAST Act – Fixing America's Surface Transportation Act
Fed-State Partnership – Federal-State Partnership for Intercity Passenger Rail Program
FHWA – Federal Highway Administration
FLAP – Federal Lands Access Program
FLTP – Federal Lands Transportation Program
FRA – Federal Railroad Administration
FTA – Federal Transit Administration

GAO – Government Accountability Office
GAOA – Great American Outdoors Act
GDP – Gross domestic product
GHG – Greenhouse gas
GIS – Geographic information system
ICAO – International Civil Aviation Organization
ICBA – Intercity Bus Atlas
IIJA – Infrastructure Investment and Jobs Act (Bipartisan Infrastructure Law)
INFRA – Nationally Significant Multimodal Freight and Highway Projects grants program
IRA – Inflation Reduction Act
KPI – Key performance indicator
KTC – Kentucky Transportation Cabinet
LNG – Liquefied natural gas
MARAD – Maritime Administration
MDMS – European Multimodal Digital Mobility Service
Mega – National Infrastructure Project Assistance grants program
MPDG – Multimodal Project Discretionary Grants
MPO – Metropolitan Planning Organization
MTTN – Multimodal Travel and Tourism Network
NAACP – National Association for the Advancement of Colored People
NACTTI – National Advisory Committee on Travel and Tourism Infrastructure
NAS – National Airspace System
NASA – National Aeronautics and Space Administration
NATIVE – Native American Tourism and Improving Visitor Experience Act
NEC – Northeast Corridor
NEVI – National Electric Vehicle Infrastructure
NHS – National Highway System
NHTS – National Household Travel Survey
NPIAS – National Plan of Integrated Airport Systems
NPMRDS – National Performance Management Research Data Set
NRSS – National Roadway Safety Strategy
NTAD – National Transportation Atlas Database
NTTISP – National Travel and Tourism Infrastructure Strategic Plan
NTTS – National Travel and Tourism Strategy
OA – Operating Administration
OD – Origin-Destination
OMB – Office of Management and Budget
PIDP – Port Infrastructure Development Program
PROTECT – Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation
RAISE – Rebuilding American Infrastructure with Sustainability and Equity
RFC – Request for Comments
ROUTES – Rural Opportunities to Use Transportation for Economic Success
Rural – Rural Surface Transportation Grant Program
SAF – Sustainable Aviation Fuel
SCASDP – Small Community Air Service Development Program
SMTD – Springfield Mass Transit District
SPEDA – Somerset-Pulaski Economic Development Authority

SRIP – Springfield Rail Improvements Project
SS4A – Safe Streets and Roads for All
STIP – Statewide Transportation Improvement Program
TAF – Terminal Area Forecast
TIGER – Transportation Investment Generating Economic Recovery
TIP – Transportation Improvement Program
TLAHT – Transportation Leaders Against Human Trafficking
TOD – Transit-oriented development
TPC – Tourism Policy Council
TRB – Transportation Research Board
Tribal Transit – Public Transportation on Indian Reservations
TTP – Tribal Transportation Program
UAS – Uncrewed aircraft systems
UNWTO – United Nations World Tourism Organization
USACE – U.S. Army Corps of Engineers
USTA – U.S. Travel Association
VMT – Vehicle miles traveled

Executive Summary

The U.S. Department of Transportation (DOT) supports the travel and tourism economy through its core mission to deliver the world's leading transportation system, serving the American people and economy by promoting the safe, efficient, sustainable, and equitable movement of people and goods. Through these efforts, DOT plays an important role in implementing the Department of Commerce-led whole-of-government strategy to promote our Nation as a premier destination, and to foster a travel and tourism sector that drives economic growth, creates good jobs, and bolsters conservation and sustainability. To guide those efforts, and to respond to Congressional direction in the Infrastructure Investment and Jobs Act (IIJA; see Appendix A), DOT has updated the National Travel and Tourism Infrastructure Strategic Plan (NTTISP). The NTTISP sets forth an effective approach to developing and maintaining infrastructure to support travel and tourism and serves as a resource for State and local policymakers.

Four years after the onset of the COVID-19 pandemic, the travel and tourism industry remains one of the most affected sectors of the U.S. economy. During the height of the pandemic, many economic sectors seemed to be on the verge of collapse, and trends in remote work, e-commerce, and automation accelerated. Because the pandemic caused massive disruptions to transportation systems, especially passenger travel, development of travel and tourism policy in 2024 would be incomplete without recognizing and addressing the persistent effects of the pandemic. DOT continues to support the post-pandemic recovery of the travel and tourism industry through its strategic investments in our Nation's transportation infrastructure and workforce.

The NTTISP comprises four long-term strategic goals that DOT aims to achieve, the short-term and longer-term actions the Department will take to realize those goals, and the performance indicators the Department will use to gauge its progress. These goals are consistent with the goals identified in the Department of Commerce's 2022 National Travel and Tourism Strategy. A summary of the four goals in the NTTISP follows:

Strategic Goals

Improve Collection and Use of Travel and Tourism Data

> *DOT aims to improve the collection of data specific to travel and tourism such as trip purpose, travel party size, and transportation modes used, and will use this data when implementing activities in support of the Department's travel and tourism goals. In support of this goal, DOT will develop and manage data systems and tools to provide objective, reliable, timely, and accessible data to support decision-making, transparency, and accountability for travel and tourism policymaking.*

Facilitate Travel to and Within the United States

> *DOT will make long-distance travel and tourism safer and more efficient for visitors traveling to, from, and within the United States. Objectives in support of this goal include making the transportation system safer for all; advancing system efficiency, reliability, and connectivity; and improving multimodal connectivity.*

Ensure Equitable, Inclusive, and Accessible Travel and Tourism

> *DOT will promote multimodal access to travel and tourism destinations while reducing transportation-related disparities and barriers. DOT will use infrastructure investments to spur*

the travel and tourism industry, including small, underserved, minority, and rural businesses. To accomplish this goal, DOT will support the expansion of travel and tourism infrastructure options in underserved rural and urban communities, enable safe and accessible multimodal travel, and ensure multimodal accessibility of public transportation facilities, vehicles, and rights-of-way for all, including people with disabilities.

Foster Resilient and Sustainable Travel and Tourism

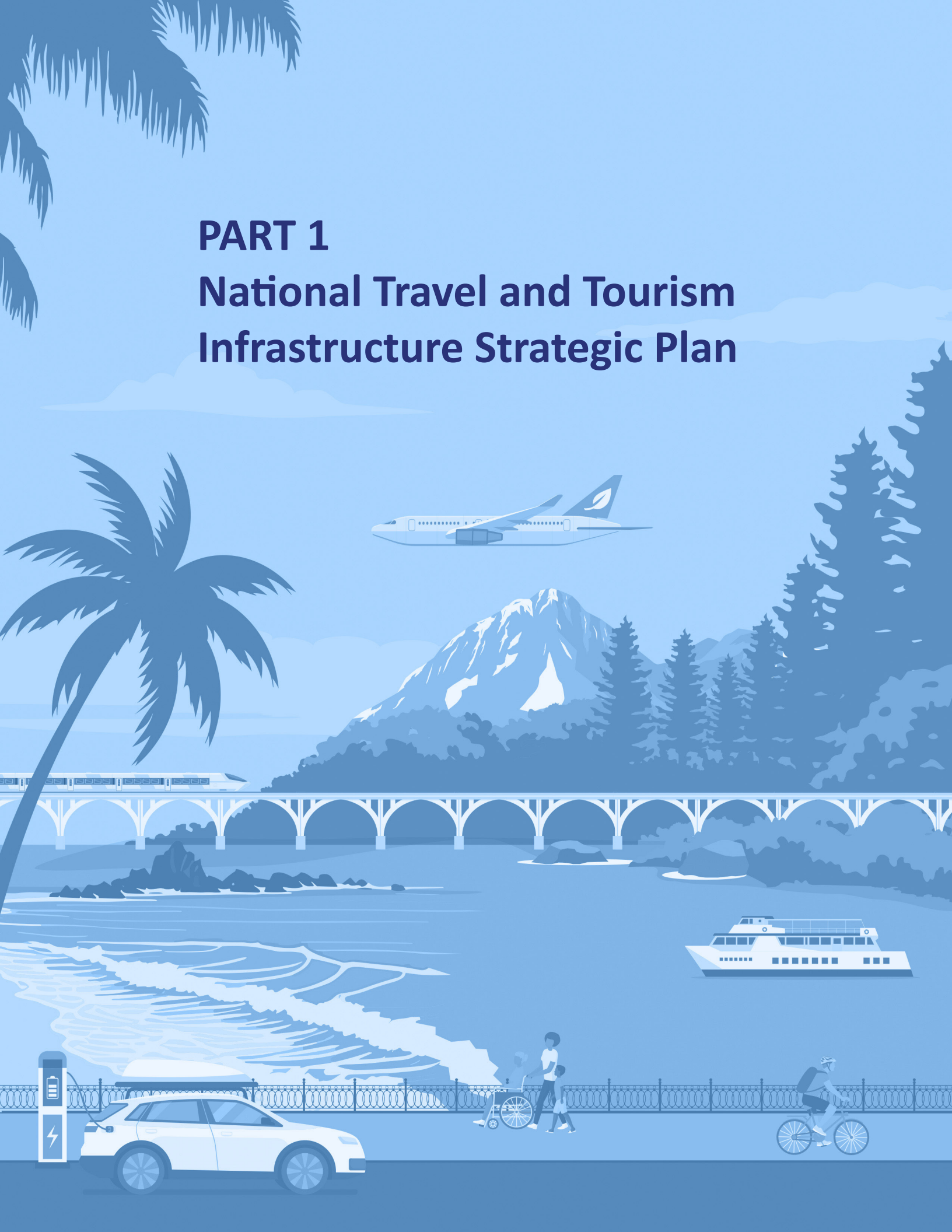
DOT has committed to reducing travel and tourism's contributions to climate change. DOT has also committed to supporting transportation infrastructure that is resilient to natural disasters and the impacts of climate change. DOT will support a sustainable transportation system that protects natural resources and avoids or mitigates transportation's health and environmental impacts on communities and ecosystems. In support of this goal, DOT aims to substantially reduce emissions of greenhouse gases (GHGs) and other air pollutants from transportation sources that support travel and tourism and improve the resilience of at-risk infrastructure.

To realize these goals, DOT will use two important tools. The first is the Bipartisan Infrastructure Law (BIL), enacted as the IIJA and signed into law by President Biden on November 15, 2021. The BIL makes historic investments in transportation infrastructure with the goals of improving public safety and climate resilience, addressing systemic inequities, and creating jobs across the country. The second is the Inflation Reduction Act (IRA), which President Biden signed into law on August 16, 2022. It provides for the largest climate investment in U.S. history.

These historic investments support transportation infrastructure across the Nation, which will in turn support travel and tourism. Under the BIL, award criteria guiding certain discretionary grant programs have been expanded to include considerations related to travel and tourism. Some of the largest investment programs for each mode include transit grants for fixed guideway capital investment projects, capital investment, state of good repair, station accessibility, and urban, rural, and tribal transit infrastructure; the Formula Grants for Rural Areas program; increased funding for Amtrak and intercity passenger rail; airport infrastructure grants; and the Port Infrastructure Development Program (PIDP). Other major grant programs that support travel and tourism infrastructure across the United States include the Nationally Significant Multimodal Freight and Highway Projects (INFRA), National Infrastructure Project Assistance (Mega), and Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant programs. In addition, the BIL and IRA provide resources to help reconnect communities, advance sustainable aviation technologies and fuels, and further reduce emissions by supporting cleaner transportation options and improving access to electric vehicles (EVs) and EV charging infrastructure.

This report consists of two parts, with consideration of the effects of the COVID-19 pandemic noted throughout. In the first part, the report presents the NTTISP, its background, and basis for its development; the framework for the updated NTTISP, including a summary of other relevant DOT and stakeholder strategies and input from public comments; and concludes with the goals, objectives, and strategies that constitute the strategic plan. The second part of this report surveys information requested by Congress to better understand the Nation's transportation network and illustrates how DOT is funding and supporting solutions to challenges for long-distance travel and tourism through program and grant activities. The second part proceeds to describe the conditions and performance of the national transportation network and an overview of travel and tourism indicators and issues. It also discusses DOT's role in supporting the recovery from the COVID-19 pandemic through infrastructure investments and preparing for the future with an emphasis on climate, sustainability, equity, economic strength, and global competitiveness.

PART 1
National Travel and Tourism Infrastructure Strategic Plan



1. Introduction

Background

Travel and tourism can bring families together, fulfill a passion for adventure, create lifelong memories, or enhance one's understanding of other peoples, places, and periods in history.[1] Travel and tourism are important engines across the United States contributing to the Nation's economic performance and competitiveness globally. According to the Department of Commerce (DOC), in 2019, the travel and tourism industry generated $2 trillion and supported 9.9 million American jobs. This equates to about one in every 20 jobs in the United States directly or indirectly supported by travel and tourism.[2]

Between travelers and their destinations lies a complex network of transportation systems for journeys both domestic and international. To ensure that the national interest in travel and tourism is fully considered in Federal decision-making, Congress created the Tourism Policy Council (TPC) to serve as the mechanism for Federal coordination on national travel and tourism policy. The TPC, which is chaired by the DOC, comprises the U.S. Department of Transportation (DOT) and other relevant executive branch departments and agencies.

Through its participation in the TPC, DOT supports the whole-of-government approach to strengthen travel and tourism through a safe, equitable, efficient, and resilient transportation system for travelers and tourists. The TPC recognizes the importance of mobility in facilitating travel and tourism and its economic benefits across the United States in large and small markets and in urban and rural communities along the way. The National Travel and Tourism Infrastructure Strategic Plan (NTTISP or Plan) represents DOT's contributions to the whole-of-government effort in alignment with the TPC's National Travel and Tourism Strategy (DOC NTTS) (see Chapter 2 for further discussion) that was released by the DOC in 2022.[3]

COVID-19's Impact on Travel and Tourism

The COVID-19 pandemic affected the travel and tourism industry throughout the Nation and across the globe in unprecedented ways. Before the pandemic, the volume of long-distance travel and tourism trips had steadily increased. Over the last decade, annual domestic tourism, of which long-distance travel is a component, increased from 2.0 billion domestic trips in 2010 to 2.3 billion in 2019, according to the United States Travel Association (USTA).[4,5] Long-distance travel across all transportation modes endured unprecedented disruption beginning in March 2020 because of the pandemic and measures implemented to manage it.

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[1] The report uses the term "travel" to refer to long-distance passenger travel. For the purposes of this report, long-distance trips are defined as any passenger trip—by any mode or combination of modes—more than 50 miles. These trips may include an overnight stay as well. This definition may differ from the definition of "long-distance" used in other documents produced by DOT, including those related to intercity passenger rail.

[2] U.S. Department of Commerce, *National Travel and Tourism Office: Economic Impact of Travel and Tourism*, 2023, https://www.trade.gov/sites/default/files/2023-05/TTSA-Fact-Sheet.pdf.

[3] U.S. Department of Commerce, *National Travel and Tourism Strategy*, 2022, https://www.commerce.gov/sites/default/files/2022-06/National-Travel-Tourism-Strategy.pdf.

[4] United Nations World Tourism Organization, "Global and Regional Tourism Performance," n.d., https://www.unwto.org/tourism-data/global-and-regional-tourism-performance.

[5] U.S. Travel Association, *U.S. Travel and Tourism Overview Fact Sheet*, 2019, https://www.ustravel.org/system/files/media_root/document/Research_Fact-Sheet_US-Travel-and-Tourism-Overview.pdf.

Not only did the pandemic cause a severe public health crisis, it also created a substantial economic disruption for most Americans. In 2019, the U.S. travel and tourism industry accounted for 3.0 percent of gross domestic product (GDP), with international travelers spending more money in the United States than in any other country according to the International Trade Administration.[6] In 2020, the travel and tourism industry's economic output had decreased to $952 billion, and its GDP share had declined to 1.5 percent.[7] Further, annual domestic tourism dropped drastically to 1.6 billion person-trips in 2020, a decrease of approximately 32 percent from 2019, and annual international tourism (inbound visitation to the United States) dropped to 19.2 million visitors, a decrease of approximately 76 percent from 2019.[8] Additional statistics that highlight the historic impacts on travel and tourism in 2020 include:

- Enplanements at U.S. airports fell by about 60 percent; [9]
- Amtrak ridership dropped by 47 percent;[10]
- Highway vehicle-miles traveled (VMT) [11] decreased by 11 percent;[12,13] and
- Cruise passenger volume at U.S. ports fell by 81 percent.[14]

At the onset of the COVID-19 pandemic, Congress initiated legislation to confront the economic concerns and to assist industries, individuals, and State and local governments with recovery efforts. Throughout 2020–2021, Congress passed several funding packages: the Coronavirus Aid, Relief, and Economic Security (CARES) Act; the Coronavirus Response and Relief Supplemental Appropriations Act, the American Rescue Plan Act (ARPA); and the Infrastructure Investment and Jobs Act (IIJA), known as the Bipartisan Infrastructure Law (BIL). Since then, the industry has recovered significantly from the COVID-19 pandemic: domestic tourism and international arrivals rebounded to 2.3 billion tourists and 66.5 million visitors in 2023, generating $1.1 trillion or about 92 percent of 2019 output.[15,16]

DOT Mission and Organization

DOT's mission is to deliver the world's leading transportation system, serving the American people and economy through the safe, efficient, sustainable, and equitable movement of people and goods.[17] DOT's strategic goals include improving economic strength and global competitiveness, reducing inequity across transportation systems and in communities, decreasing emissions and improving resiliency,

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[6] U.S. Department of Commerce, International Trade Administration, "National Travel and Tourism Office: Economic Impact of Travel and Tourism," n.d., https://www.trade.gov/sites/default/files/2023-05/TTSA-Fact-Sheet.pdf.
[7] U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, *Interim Study and Report to Congress on the Effects of the Covid–19 Pandemic on the Travel and Tourism Industry in the United States*, 13-14, 2023, https://www.trade.gov/sites/default/files/2023-06/interim%20report%20to%20congress%20-%20effects%20of%20the%20covid19%20pandemic_final_0.pdf.
[8] International Trade Administration, *Interim Study and Report to Congress,* 21.
[9] U.S. Department of Transportation, Bureau of Transportation Statistics, "Full Year 2020 and December 2020 U.S. Airline Traffic Data," 2021, https://www.bts.gov/newsroom/full-year-2020-and-december-2020-us-airline-traffic-data.
[10] Amtrak, "Amtrak Route Ridership FY20 vs. FY19," 2020, https://media.amtrak.com/wp-content/uploads/2020/12/FY20-Year-End-Ridership.pdf.
[11] U.S. Department of Transportation, Federal Highway Administration, "December 2020 Traffic Volume Trends," https://www.fhwa.dot.gov/policyinformation/travel_monitoring/20dectvt/.
[12] These data are a proxy specific to the period from December 2019 to December 2020.
[13] Person-mile traveled (PMT) data for road users is only available for 2017 and 2022 from the National Highway Travel Survey (https://nhts.ornl.gov/). The NHTS defines PMT as the number of miles traveled by each person on a trip to account for all miles traveled by all people (https://nhts.ornl.gov/assets/2009/doc/UsersGuideGlossary.pdf).
[14] Cruise Lines International Association, *2022 Global Market Report*, 2023, https://cruising.org/-/media/clia-media/research/2023/2022-1r-clia-001-overview-global-final.ashx.
[15] U.S. Travel Association, "U.S. Travel Forecast," Winter 2024, https://www.ustravel.org/sites/default/files/2024-01/us_travel-forecast_fall2023-1.pdf.
[16] U.S. Department of Commerce, National Travel and Tourism Office: Economic Impact of Travel and Tourism, 2023, https://www.trade.gov/sites/default/files/2023-05/TTSA-Fact-Sheet.pdf.
[17] U.S. Department of Transportation, "About DOT," 2022, https://www.transportation.gov/about.

transforming transportation to meet future needs, and, above all else, making transportation as safe as possible for everyone. DOT seeks to adhere to principles of organizational excellence in making present and future investments that will modernize U.S. infrastructure to deliver safer, cleaner, and more equitable transportation systems—including those that support travel and tourism.

To implement this diverse set of goals across many different modes of transportation, DOT is divided into Operating Administrations (OAs). Each OA is responsible for a different mode of transportation or safety mission. Of these nine OAs, five have travel and tourism interests and management areas critical to this plan:

- **Federal Aviation Administration (FAA):** supports civil aviation matters for the safest, most efficient aerospace system in the world, including the construction and operation of airports, provision of air traffic management services, and certifications of aircraft, operators, and pilots;
- **Federal Highway Administration (FHWA):** supports the construction, maintenance, and preservation of U.S. highways, roadways, bridges, tunnels, and bicycle and pedestrian infrastructure;
- **Federal Railroad Administration (FRA):** supports the efficient movement of people and goods, rail (train) funding, and research;
- **Federal Transit Administration (FTA):** supports local and regional public transit systems, including buses, subways, light rail, trolleys, and ferries; and
- **Maritime Administration (MARAD):** supports waterborne transportation, including ships and shipping, port infrastructure investment and vessel operations, and national security.

DOT's Support of Travel and Tourism

Congress directed DOT to increase its role in supporting travel and tourism and gave it new authorities to facilitate doing so under the Fixing America's Surface Transportation Act ("FAST Act") of 2015. Among the requirements of the FAST Act was that DOT establish the National Advisory Committee on Travel and Tourism Infrastructure (NACTTI) to provide information, advice, and recommendations to the Secretary on matters relating to the role of multimodal transportation in facilitating mobility related to travel and tourism activities.[18] The NACTTI was composed of members appointed by the Secretary of Transportation to represent a cross-section of public and private sector stakeholders involved in the travel and tourism industry. The NACTTI issued its report, including recommendations, to the Secretary of Transportation in May 2020.[19] Shortly thereafter, the NACTTI's charter expired.

The FAST Act also required DOT to create a strategic plan for travel and tourism policy. In response, DOT released the first National Travel and Tourism Infrastructure Strategic Plan in January 2021 (2021 NTTISP).[20] Development of the 2021 NTTISP drew upon efforts across the Federal Government to support economic growth in travel and tourism, all under the leadership of the Tourism Policy Council. The Secretary of Transportation is a member of the Council. In the 2021 NTTISP, DOT also considered

[18] Fixing America's Surface Transportation (FAST) Act, P.L. No. 114-94, 129 Stat. 1427 (2015), govinfo.gov/content/pkg/PLAW-114publ94/html/PLAW-114publ94.htm.
[19] U.S. Department of Transportation, National Advisory Committee on Travel and Tourism Infrastructure, *National Advisory Committee on Travel and Tourism Infrastructure Final Report*, 2021, https://www.transportation.gov/policy-initiatives/traveltourismcommittee/nactti-final-report.
[20] Fixing America's Surface Transportation (FAST) Act, P.L. No. 114-94, 129 Stat. 1428 (2015), govinfo.gov/content/pkg/PLAW-114publ94/html/PLAW-114publ94.htm.

the recommendations from the NACTTI.[21] (In this report, references to the NTTISP denote this current document; references to the previous iteration of this strategic plan use the term "2021 NTTISP.")

The FAST Act and the BIL each expanded certain planning factors and grant funding criteria to include considerations of travel and tourism. The FAST Act added "enhance travel and tourism" as a planning factor for the statewide, nonmetropolitan, and metropolitan planning processes.[22] The Rebuilding American Infrastructure with Sustainability and Equity (RAISE) discretionary grant program authorized under the BIL includes consideration of the degree to which a potential project "increases economic competitiveness and opportunity, including increasing tourism opportunities" as a primary selection criteria for grant programs providing local and regional project assistance in accordance with new authorities in the BIL.[23] These criteria facilitate grant applicants to seek Federal funding in support of infrastructure projects that include benefits for travel and tourism.

DOT recognizes the importance of travel and tourism to job creation and the economy and, consistent with legal authorities, will continue to take travel and tourism into consideration across its grant and other programs.

Congress's Charge to DOT

While typically an engine for the U.S. economy, as noted above, the travel and tourism industry was among the hardest hit by the COVID-19 pandemic and its travel restrictions. When DOT released the 2021 NTTISP, data were not available on the full effects of the pandemic on the travel and tourism industry. In response, Congress, in the BIL, called on DOT to update the 2021 NTTISP to address the impacts of the pandemic and identify recovery opportunities, with a focus on "small, underserved, minority, and rural businesses in the travel and tourism industry."[24] As stipulated, this update to the 2021 NTTISP also includes short- and long-term strategies to identify opportunities to invest in infrastructure meant to revive the travel and tourism industry and, reviews DOT's programs and funding opportunities related to travel and tourism. The text of the provision requiring the update of the NTTISP can be found in Appendix A.[25]

With the end of restrictive pandemic measures, travel has returned to—and in many cases, has surpassed—pre-pandemic levels. All modes of transportation are now recovering, but some have yet to reach pre-pandemic volumes. To characterize the effects of the COVID-19 pandemic on different modes of long-distance travel and to identify policy options to promote recovery, DOT conducted a mode-by-mode review that is included in Part 2 of this report.

The NTTISP includes an assessment, also required by Congress, of the condition and performance of the national transportation network and identification of certain transportation barriers to long-distance travel and tourism. The assessment includes identification of the facilities and corridors likely to be used for long-distance travel and forecasts of traveler volumes over a 20-year period where such data are available. It presents several case studies of transportation infrastructure that improve multimodal connectivity and facilitate long-distance travel and tourism. The NTTISP also provides a summary of

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[21] U.S. Department of Transportation, *National Travel & Tourism Infrastructure Strategic Plan FY 2020-2024,* 2023, https://www.transportation.gov/policy-initiatives/NTTISP.
[22] Fixing America's Surface Transportation (FAST) Act, P.L. No. 114–94, 129 Stat. 1372. (2015), https://www.govinfo.gov/content/pkg/PLAW-114publ94/html/PLAW-114publ94.htm.
[23] Infrastructure Investment and Jobs Act, P.L. No. 117–58, 135 STAT. 673, "Local and Regional Project Assistance" (2021), https://www.govinfo.gov/content/pkg/PLAW-117publ58/html/PLAW-117publ58.htm.
[24] Infrastructure Investment and Jobs Act, P.L. No. 117–58, 135.
[25] Infrastructure Investment and Jobs Act, P.L. No. 117–58, Sec. 25018.

DOT's infrastructure investments and grant programs that provide funding opportunities for travel and tourism, especially with an emphasis on post-pandemic recovery.

The BIL also established the position of the Chief Travel and Tourism Officer within the Office of the Secretary of Transportation, which is located in the Office of the Under Secretary of Transportation for Policy.

Approach to Updating the NTTISP

DOT used multiple sources to inform this update to the NTTISP. DOT drew on its own expertise among its Operating Administrations, conducted a review of salient literature and data, and integrated input from stakeholders and the public. Inputs included:

- Responses to a Request for Comment (RFC) that DOT prepared and published in the Federal Register;
- Consultations with relevant congressional committees;
- Coordination with the interagency Tourism Policy Council;
- Input from DOT's Internal Travel and Tourism Steering Committee, composed of representatives from across its Operating Administrations;
- Recommendations from the National Advisory Committee on Travel and Tourism (NACTTI);
- Recommendations from the U.S. Travel and Tourism Advisory Board; and
- The U.S Government Accountability Office's (GAO) report evaluating DOT's travel and tourism program activities.

It was in recognition of the importance of obtaining a broad range of stakeholder feedback in the strategic planning process that DOT issued the above-mentioned RFC on updating the 2021 NTTISP in June 2023. DOT received feedback from 47 respondents—including State DOTs, travel and tourism industry representatives, individuals, and representatives from all levels of government. The feedback reinforced the connection between transportation infrastructure—such as highways and bridges, railways, airports, and maritime ports—and the travel and tourism industry.

Data Sources, Quality, and Limitations

A challenge for transportation planners and policymakers is the paucity of travel- and tourism-specific datasets to conduct analyses of trends and develop forecasts. In the absence of datasets with attributes tailored to setting national policy on travel and tourism, the NTTISP relies on the work of DOT's Bureau of Transportation Statistics and FHWA for metrics, including vehicle-miles traveled, that provide useful proxies. In addition, in the absence of publicly available and independently produced datasets, the NTTISP presents trend and forecast information from interested parties such as the U.S. Travel Association. However, because of the nature of these data and forecasts, inclusion in this report does not constitute an endorsement. As will be discussed later in this report, the NTTISP includes a plan to stand up data collection and dissemination actions to address these information gaps.

Report Organization

Part 1, Chapter 1 presents the NTTISP, its background, and the basis for its development. Chapter 2 lays out the framework for the NTTISP, including a summary of other relevant DOT and stakeholder strategies and input from public comments. Chapter 3 presents the goals, objectives, and strategies that constitute the NTTISP.

Part 2 presents information requested by Congress to better understand the Nation's transportation network and illustrates how DOT, through program and grant activities, is funding and supporting solutions to challenges for long-distance travel and tourism. Chapter 4 examines the conditions and performance of the national transportation network. Chapter 5 provides an overview of travel and tourism indicators and issues, noting industry trends and recognizing data gaps that hinder such assessments. Chapter 6 surveys DOT's role in supporting the recovery from the COVID-19 pandemic through infrastructure investments and preparing for the future with an emphasis on climate, sustainability, equity, economic strength, and global competitiveness. Appendices include the statutory requirement for the NTTISP; the Request for Comment questionnaire published in the Federal Register; listing of relevant grants; and case studies of capital improvement projects at highway, airport, rail, transit, and port facilities. The effects of the COVID-19 pandemic are noted throughout the report.

2. A Framework for Travel and Tourism Infrastructure Planning

This chapter presents the framework used to develop the short- and long-term strategies for DOT's support of travel and tourism through transportation infrastructure. Two existing strategic plans—the Department of Commerce (DOC)-led Tourism Policy Council's National Travel and Tourism Strategy (DOC NTTS) and DOT's Strategic Plan for FY 2022–2026—provide the framework for the strategic goals and objectives in this NTTISP. Other reports and information that inform this NTTISP include a report from the U.S. Government Accountability Office and feedback from the public obtained through a request for comments.

Tourism Policy Council's National Travel and Tourism Strategy

The national transportation network is the backbone of the U.S. travel and tourism industry, enabling the movement of travelers to, from, and throughout the United States. However, it is the DOC that manages the national travel and tourism statistical systems used to measure economic indicators in the tourism industry; develops and manages Federal tourism policy, strategy, and promotion; and provides technical assistance for expanding international tourism and domestic economic development. Consistent with those responsibilities, when Congress created the interagency Tourism Policy Council to coordinate Federal travel and tourism policy, it designated DOC to act as chair of the Council. In 2022, the DOC and the Tourism Policy Council released the DOC NTTS, representing a whole-of-government approach to travel and tourism. The DOC NTTS focuses Federal efforts to support travel and tourism in the United States through four pillars (see the textbox below for a summary).

Strategic Framework of the NTTISP and the National Travel and Tourism Strategy

The Biden Administration has taken important steps to support the travel and tourism industry, as well as the families and communities that rely on it. Among those steps was the Department of Commerce's 2022 release, on behalf of the interagency Tourism Policy Council, of the National Travel and Tourism Strategy (DOC NTTS). The DOC NTTS focuses U.S. Government efforts to promote the United States as a premier travel destination and establishes an overarching goal of attracting 90 million international visitors with an estimated $279 billion in spending annually by 2027.

The DOC NTTS aims to increase not only the number of visitors but also to advance other priorities for the travel and tourism sector, such as reducing emissions and ensuring the economic benefits of travel and tourism are shared more broadly. The DOC NTTS is built around four strategic goals (referred to in the DOC NTTS as "pillars"):

1. Promoting the United States as a Travel Destination
2. Facilitating Travel to and Within the United States
3. Ensuring Diverse, Inclusive, and Accessible Tourism Experiences
4. Fostering Resilient and Sustainable Travel and Tourism

Consistent with its authorizing statutes, DOT's support of the DOC NTTS aligns with the latter's three pillars that fall within the Department's remit. The first pillar—the promotion of travel and tourism

destinations—is supported by DOC and other members of the TPC.[26] In 2019, before the COVID-19 pandemic, 79.4 million international visitors came to the United States and contributed $239.4 billion to the Nation's economy, making the United States the global leader in revenue from international travel and tourism. As the top services export for the United States that year, travel and tourism generated a $53.4 billion trade surplus supporting the economic performance and competitiveness of the United States.[27]

DOT's Strategic Plan

While DOT shares the strategic goals in the DOC NTTS for facilitating inclusive and sustainable travel to, from, and within the United States, the DOT Strategic Plan for FY 2022–2026 is broader in scope and encompasses all DOT's goals, as well as travel and tourism goals. The Strategic Plan provides the outcome-oriented, long-term strategic goals concerning the major functions and operations of DOT, as well as its strategic objectives reflecting programmatic outcomes tied to those goals and key performance indicators (KPIs).[28]

The DOT Strategic Plan for FY 2022–2026 lays out six goals for the Department. The first goal is *Safety*, in line with DOT's safety driven mission. It looks to advance a future without transportation-related serious injuries and fatalities. The second goal is *Economic Strength and Global Competitiveness*. This goal guides DOT to grow an inclusive and sustainable economy. It supports investments in the transportation system to provide American workers and businesses reliable and efficient access to resources, markets, and good-paying jobs. The third goal is *Equity*, which aims to reduce inequities across transportation systems and the communities they affect. It encourages supporting and engaging people and communities to promote safe, affordable, accessible, and multimodal access to opportunities and services while reducing transportation-related disparities, adverse community impacts, and health effects.

The fourth goal, *Climate and Sustainability*, aims to tackle the climate crisis by ensuring that transportation plays a central role in the solution. It will do this by substantially reducing greenhouse (GHG) gas emissions and transportation-related pollution, including via strong fuel economy standards for new light-duty vehicles and fuel efficiency standards for medium- and heavy-duty vehicles, building more resilient and sustainable transportation systems to benefit and protect communities, and other policy initiatives. The fifth goal is *Transformation* to enable design for the future. The goal encourages Investing in purpose-driven research and innovation to meet the challenges of the present and modernize the transportation system of the future. The sixth goal is *Organizational Excellence* to strengthen DOT and advance the Department's mission by establishing policies, processes, and an inclusive and innovative culture to effectively serve communities and responsibly steward the public's resources.

DOT strategic goals for safety, equity, climate, and sustainability directly inform the goals of the NTTISP. As safety is paramount to all DOT activities and operations, this Departmental goal is also present in all aspects of the NTTISP: the Department envisions a future where travel to, from, and within the United States is free of transportation-related injuries and fatalities. DOT's equity goal includes strategies to

[26] The first pillar involves marketing U.S. tourism opportunities to international visitors, a role that Congress has given to the Department of Commerce.
[27] U.S. Department of Commerce, "Fact Sheet: 2022 National Travel and Tourism Strategy," 2022, https://www.commerce.gov/news/fact-sheets/2022/06/fact-sheet-2022-national-travel-and-tourism-strategy
[28] U.S. Department of Transportation, *U.S. DOT Strategic Plan FY 2022–2026*, 2022, https://www.transportation.gov/mission/us-dot-strategic-plan-fy-2022-2026.

evaluate current barriers and identify opportunities to invest in infrastructure projects that best facilitate travelers' safe, reliable, and efficient journeys to their destinations; reduce or eliminate existing inequities, especially among underserved travelers; and expand access to transportation systems and assets for all travelers and tourists regardless of their mobility level.

DOT's climate and sustainability goals, also incorporated in the NTTISP, foster resilient travel and tourism. In addressing the environmental effects of passenger travel, including GHG gas emissions, the pursuit of these goals also addresses the U.S. transportation network's vulnerability to climate change—from aging structures unable to withstand weather events, to the disruptions faced by travelers in a changing climate, to infrastructure at risk from sea-level rise, extreme temperatures, and extreme storms.

The DOT Strategic Plan recognizes the importance of expanding transportation options for underserved rural and urban communities. Implementation of strategies for connecting and improving transportation options in these areas supplies the necessary conditions for economic development that employs millions of workers who can count on DOT to support the design, construction, and maintenance of the Nation's highway system (Federal Aid Highway Program) by State and local governments and various federally and tribal owned lands (Federal Lands Highway Program).

2021 NTTISP

As required by the Fixing America's Surface Transportation (FAST) Act of 2015, DOT established an intersectoral National Advisory Committee on Travel and Tourism Infrastructure (NACTTI) in 2018 to provide DOT with recommendations to use in creating a plan that comprehensively identified and analyzed current and emerging priorities, issues, projects, and funding needs related to the use of the multimodal transportation network of the United States to facilitate travel and tourism. DOT developed the 2021 NTTISP with those recommendations and contributions from numerous internal and external stakeholders.

The 2021 NTTISP called for modernizing the agency's data collection and improving modal travel and tourism forecasting to identify performance trends. The 2021 plan also underscored the importance of identifying key travel and tourism facilities and corridors through the evaluation of major multimodal travel and tourism networks. It suggested that DOT could develop guidance and recommended practices to help States and Metropolitan Planning Organizations (MPOs) address new travel and tourism planning factors. Lastly, it looked to formula and discretionary funding programs to benefit travel and tourism projects through infrastructure investments.

The BIL set a new charge for DOT to create a second iteration of the NTTISP. It also allowed for DOT to align its strategic goals with those of the National Tourism Strategy and demonstrate how once-in-a-generation transportation investments can be made to prepare for the future of travel and tourism in the United States.

U.S. Government Accountability Office Report

The BIL also required the U.S. Government Accountability Office (GAO) to assess DOT's resources supporting travel and tourism and addressing related barriers, make recommendations to improve the evaluation and consideration of travel and tourism in awarding discretionary grants, and make recommendations to improve DOT's ability to carry out travel- and tourism-related functions. GAO characterized DOT's existing role in travel and tourism as a fiscal one. For instance, GAO determined that DOT awarded approximately $810 million for projects that have travel and tourism benefits in the first half of FY 2022, of $5.6 billion available through the six grant programs that include specific travel-

and tourism-related provisions. The statutory selection criteria for these six grant programs include improvements for travel and tourism, among many other criteria. The GAO report also identified $68 billion in available funding from 19 DOT grant programs that deliver incidental travel and tourism benefits.

In May 2023, GAO released its report entitled "Travel and Tourism: DOT Should Improve Strategic Planning and Data Collection."[29] In it, GAO underscored the need for DOT to develop a plan to identify and obtain additional data needed to inform the revision and implementation of the NTTISP. GAO also highlighted the need for DOT to specify goals and strategies and identify the resources to achieve them. DOT addresses these recommendations in this updated NTTISP and will continue to do so in its implementation. Chapter 3 details DOT's Strategic Plan for Travel and Tourism Infrastructure, which includes both short- and long-term strategies and highlights the resources to implement them. DOT also recognizes the importance of data collection in the creation and implementation of the NTTISP and identifies strategies to address the data gaps and resource limitations faced in updating the NTTISP.

The American Travel Survey: The gold standard for long-distance travel and tourism data

The American Travel Survey (ATS) was last conducted by the Bureau of Transportation Statistics (BTS) in 1995 to obtain information about the long-distance travel of persons living in the United States. The survey collected quarterly information related to the characteristics of persons, households, and trips of 100 miles or more for approximately 80,000 American households.

The ATS data provide detailed information on state-to-state travel as well as travel to and from metropolitan areas by mode of transportation. Data are also available for subgroups characterized by trip purpose, age, family type, income, and other related attributes. The data can be analyzed at the regional, state, metropolitan area, and county levels.[30]

The data gathered in the ATS allow for insights into long-distance travel patterns unavailable through other resources. Insights include:

- Nearly 80 percent of person-miles range from 100 to 500 miles;
- Top determinants of person-miles traveled are increased population and gains in trips per person; and
- Privately owned vehicles are the overwhelmingly dominant mode for travel less than 600 miles.

The ATS dataset can also support analysis of travel differences among households at varying levels of income.[31]

Request for Comment

To solicit input and guidance on the development and content of the NTTISP, DOT published a request for comment (RFC) in the Federal Register in June 2023. DOT received nearly fifty responses. Respondents to the RFC largely fell into categories of State and local governments, which includes State departments of transportation, State departments of tourism and outdoor recreation, and city governments; associations and industry, which includes aviation, motor coach, gaming, tribal, hotel,

[29] U.S. Government Accountability Office, *Travel and Tourism: DOT Should Improve Strategic Planning and Data Collection*, 2023, https://www.gao.gov/assets/gao-23-105967.pdf.
[30] U.S. Department of Transportation, Bureau of Transportation Statistics, "American Travel Survey," 2021, https://www.bts.gov/browse-statistical-products-and-data/surveys/american-travel-survey.
[31] National Academies of Sciences, Engineering, and Medicine, *Interregional Travel: A New Perspective for Policy Making* (Washington, DC: National Academies Press, 2016), https://doi.org/10.17226/21887. See Figures 2-1, 2-2, and 2-3 (pp. 26–27) for the listed insights. Figure 2-7 illustrates travel trends by level of household income (p. 34).

cruise lines, and travel; and individuals. Some cross-cutting recommendations included increasing Federal interagency coordination on travel and tourism and following the example of DOT's National Freight Strategic Plan in developing the NTTISP. Other responses largely aligned with the framework of the NTTISP and are summarized below. Additional detail and the list of questions asked in the RFC can be found in Appendix B.

Definition of Long-Distance Travel

Core to the NTTISP is the definition of long-distance travel. The RFC sought feedback on defining long-distance travel as "any trip greater than 50 miles using any mode of transportation or combination of modes of transportation." Many commenters supported this definition. Some recognized the limitations of a 50-mile distance in remote areas where daily trips for work or school may exceed 50 miles, thereby unintentionally capturing ordinary daily travel. Some commenters suggested including an overnight stay, as was done in the 2021 NTTISP, to address long distances by commuters or day-to-day travel in local areas.

Other commenters highlighted the importance of a consistent definition across stakeholders. One commenter noted the 50-mile interval between electric vehicle (EV) charging stations in their state, which aligns with the maximum distance between EV charging stations in designated alternative fuel corridors required by the National Electric Vehicle Charging Program. In this plan, DOT did not include an overnight stay as part of the definition because widely available data by mode and distance does not include information about overnight stays. DOT also recognizes the data limitations in capturing multimodal travel and that much of the data used in this report is recorded by a single mode and distance.

Data Improvements

Several commenters provided input on how data collection and analysis could be improved. Several commenters recommended collecting data on origin and destination as well as trip purpose and trip party characteristics. Several commenters discussed the methods of data collection, with some recommending the use of surveys and others supporting the use of technology to identify travel and tourism needs and trends. One commenter highlighted that data collection is key to understanding evolving consumer behavior, industry trends, and recovery strategies. Another commenter noted that data should be collected at various geographic scales—including specific analyses at the international, State, and local levels—given the varying impacts of the pandemic on different regions. One respondent highlighted that data on these impacts should also be collected on a more regular basis, to inform infrastructure needs and priorities, help forecast future demand, ensure fair allocation of resources, and maximize the benefits of infrastructure investments.

Other commenters recommended studying the patterns of travelers to allow for more informed planning decisions that would increase efficiency, collecting data on the climate impacts of long-distance travel and tourism, and requesting the American Association of State Highway Transportation Officials (AASHTO) and the Transportation Research Board (TRB) to pursue research for the travel and tourism industry across all modes of transportation. Another respondent recommended using State scenic byway data.

Funding

Many commenters supported increased funding for multimodal transportation options. Several commenters described the importance of grants for smaller airports, especially in rural areas, and

recommended an expansion of grant criteria to include additional considerations for travel and tourism. One commenter recommended prioritizing international gateways for Federal funding. Several respondents highlighted the challenges related to funding for regional airports and other infrastructure compared to infrastructure that supports high-volume travel. One commenter supported greater authorized use of the Airport and Airway Trust Fund to include commercial space, advanced air mobility, and uncrewed aircraft systems (UAS). In addition to funding, some commenters recommended that DOT and other policymakers provide technical assistance related to accessing Federal funding to benefit travel and tourism and tap into entities such as TRB and AASHTO to provide training related to travel and tourism.

Safety

Several respondents underscored the need for improving the safety of intercity bus stops by providing Federal funding and equipping bus stops with infrastructure more akin to airports and rest stops. One commenter noted highway rest stops would benefit from flexibility in funding for post-construction maintenance. Others said DOT should prioritize separated bike lanes and provide funding for transit-grade bike paths to facilitate safe active-mobility options and encourage expansion of bicycle tourism. One respondent highlighted the potential for autonomous vehicle technology to address the current roadway safety crisis, while another recommended that DOT consider the Federal Highway Administration's Motorcycle Safety Noteworthy Practices: Infrastructure and Engineering in Highway Planning.

Advance System Efficiency, Reliability, and Connectivity

Multiple commenters emphasized advancing system efficiency, reliability, and connectivity. Their comments are categorized below by mode.

Road

The topics ranged from deployment of new technologies and traveler conveniences to traffic congestion. In recognition of new technology implementation, several commenters said that intelligent transportation technologies, Mobility as a Service, and automated vehicles (AVs) should be considered in transportation planning, including for travel and tourism. Another commenter recommended that DOT encourage corridor management plans to include roadway maintenance. One commenter suggested that the burden of public restrooms should shift from convenience stores and gas stations to the public sector through additional rest stops.

Congestion was a common subject. One commenter recommended that DOT undertake a comprehensive study to investigate the underlying causes of congestion, bottlenecks, and accessibility issues for travel on inter- and intrastate roads and how to best foster collaboration that supports critical tourism destinations. Several respondents ascribed congestion issues to insufficient infrastructure capacity in airports and highways, for example. Others attributed congestion to a lack of public transportation options or a lack of information about routing options. Another respondent posited that congestion could be linked to increased freight from large fulfillment centers. Commenters highlighted the need for truck parking, as well as parking at national park gateway communities, as a contributor to congestion.

Respondents also commented on potential solutions to congestion. Some commenters identified prioritizing freight movements on interstate highways with freight and commercial traffic and expanding active mobility as solutions to congestion issues. One respondent recommended increased data

collection and distribution regarding real-time congestion and traffic issues to help ease congestion. Another respondent noted the need to consider motorcycle travel in the NTTISP.

Aviation

Several respondents highlighted that modernization of air traffic management and focus on air traffic control staffing as necessary can improve the efficiency and reliability of the National Airspace System (NAS) and related impacts on emissions and congestion. One commenter noted the importance of implementing Performance-Based Navigation, modernizing the traffic flow management system, and implementing the Flow Data Management System, among others. Another commenter was concerned with the availability of jet fuel. One commenter highlighted the need to address new entrants in the NAS including beyond visual line-of-sight operations of UAS, integration of Advanced Air Mobility into U.S. airspace, and challenges related to accessing congested air space in metropolitan areas.

Rail

Several commenters emphasized increasing the availability of passenger rail options, including regional rail to national park gateway communities and high-speed rail. Some respondents highlighted congestion issues in the Northeast Corridor (NEC). Other commenters supported modernization of existing rail routes and expanded regional rail access to national parks. One commenter suggested that underutilized rail lines could facilitate more regular operation of passenger or freight services. Others supported regulatory revisions to allow for international rail solutions while outlining support for rail project proposals. Another commenter recommended removing parking considerations for transit project proposals.

Bus

Several respondents noted the importance of intercity bus travel for long distance travel and tourism. A couple of mode-specific respondents would like to see improvements in intercity bus safety, technology, parking, and stations, as well as the creation of an interconnected network of bus lanes. One respondent suggested expanding the Essential Air Service program to also include motor coach operations.

Multimodal

Many commenters highlighted the need for enhancements to multimodal travel. Respondents cited a lack of multimodal integration and other challenges related to multimodal travel. Commenters supported increasing grant funding to support improvements to multimodal connectivity and convenience for travel and tourism, especially connections from airports to regional transportation options. Other respondents underscored the importance of connecting public transit, active mobility, and outdoor recreation access points. One commenter recommended promoting standardized contactless payments.

Another respondent underscored the importance of multimodal integration in mapping, especially between transportation service providers such as rail and transit. One commenter supported the creation of multimodal connections between airports and ports or other transportation hubs and investments in “last mile” transportation networks. One commenter highlighted that airports may prioritize revenue generation over other multimodal connections at airports and other potential multimodal hubs restrict parking resulting in challenges for motor coaches and other transportation service providers.

Digital

Commenters supported increasing digital connectivity, including high-speed internet and mobile networks. One commenter supported the expansion of digital signage. Another respondent highlighted the European Multimodal Digital Mobility Service (MDMS), which aims to facilitate planning and the purchase of transportation services across different modes of travel, as a best practice to replicate in the United States to ensure open access to transportation data and facilitate emissions and sustainability data sharing. Another commenter recommended ensuring that advanced air mobility considerations be taken into account in the NAS.

Ensure Equitable, Inclusive, and Accessible Travel and Tourism

Many commenters emphasized the importance of ensuring equitable, inclusive, and accessible travel and tourism. Their comments generally fall under rural and scenic considerations, equity, and consumer protection categories.

Rural and Scenic Considerations

Many respondents noted the importance of scenic byways. One commenter suggested including scenic byways in the Multimodal Travel and Tourism Network (MTTN) and recognizing the limitations in the MTTN when it comes to rural and secondary locations. Another commenter recommended designated national (America's Byways), Federal (National Forest Scenic Byways and BLM Back Country Byways), State, and Tribal byways be incorporated into the MTTN. One respondent highlighted the significant economic benefits from scenic byways, as well as benefits in relieving traffic from more congested routes and highly visited destinations. Another commenter noted that their state includes the U.S. Bike Route System and memorial trails as important travel and tourism corridors.

One respondent said the asset management inventory does not always include or prioritize maintenance for scenic byways, context-sensitive solutions (brown signs/guardrails), pullouts, overlooks, kiosks/maps, rest areas, climbing lanes, and other infrastructure that can contribute to a high-quality road trip experience. Another commenter recommended the allowance of multistate applications for scenic byways and recommended the creation of a support center for scenic byways. One commenter highlighted the importance of offering signage grants to provide travelers with key information, including scenic stops. Another underscored the use of motorcycles to view scenic roadways. Commenters also underscored the impacts of travel and tourism on gateway communities to national parks and recommended improving the infrastructure in communities surrounding national parks. One respondent recommended including the Federal Lands Planning Program in the NTTISP in recognition of the importance of integrated planning to support travel and tourism.

Equity

Commenters discussed the importance of enhancing equity in transportation systems by expanding opportunities for meaningful public involvement, redressing disparate impacts, and increasing access to discretionary grants. Several more commenters recommended improving community engagement, especially in rural areas, to support equity in travel and tourism infrastructure. Another respondent urged policymakers to engage in regular community workshops and informational campaigns, and partner with local organizations to inform decision-making on how to best support travelers from underserved communities.

Several commenters recommended increased stakeholder feedback to address equity considerations. Taking a longer-term perspective, one commenter said that policymakers should consider the histories

of roads built in the early to mid-20th century that were designed to segregate populations. Several respondents underscored the importance of intercity bus travel as a lower-cost option in general, especially when compared to air travel. Another commenter called for DOT to enable safe and accessible multimodal travel for all, including those with disabilities, and to anticipate the needs of different users and accommodate them accordingly in the placement of services and amenities along roadways. One commenter provided the example of geographic information system (GIS) mapping of family restrooms to help different users.

Regarding the Administration's Justice40 Initiative, a respondent recommended expanding grant criteria to include travel-related disadvantaged businesses. One commenter noted the challenge for disadvantaged communities in accessing discretionary grants and recommended providing technical assistance to facilitate grant writing. Another commenter recommended that the NTTISP include Tribal considerations, including for tourism destinations, and connections to the Native American Tourism and Improving Visitor Experience (NATIVE) Act.

Technical Assistance to Facilitate Grant Writing

DOT offers several resources created to support disadvantaged and low-capacity communities identify and access federal transportation discretionary grant resources. Launched in 2022, the DOT Navigator consists of a library of resources and checklists to help in developing grant applications and includes information on non-federal match requirements, use of federal transportation funds for public engagement activities, and a grant preparation checklist, among other resources. DOT launched a new Discretionary Grants Dashboard in 2023 that includes all federal transportation grant opportunities and enables users to filter grants by the types of activities, eligible applicants, match requirements, and other factors. DOT also provides a limited set of targeted technical assistance that includes assisting communities in preparing projects for funding, including most notably its Thriving Communities Program that currently supports 64 communities across the country. The Thriving Communities Program is assisting several projects that are addressing tourism through transportation projects and aligned economic development activities.

Consumer Protection

One commenter recommended providing more travel consumer protections and another recommended providing clear information on air passenger flexibility and rights in the case of cancellations and delays.

Foster Resilient and Sustainable Travel and Tourism

Numerous commenters underscored the need for climate considerations in travel and tourism infrastructure. Respondents supported a modal shift toward public transit and rail, expanding these options, and expanding active transportation options to prioritize the reduction of future vehicle-miles traveled. One commenter noted that investments in EV charging infrastructure, bike-sharing programs, pedestrian-friendly infrastructure, and public transportation systems can reduce carbon emissions, alleviate traffic congestion, increase convenience for travelers, and enhance the overall visitor experience. Another commenter supported the expansion of alternative fuel corridors while another recommended the development and use of promising alternative fuel sources. One respondent recommended encouraging collaboration between Federal, State, and local governments as well as industry stakeholders to plan and develop the national vehicle charging network.

Several commenters recommended enabling an increased uptake of EVs, including EV buses and motorcycles, and expanding alternative fueling corridors and EV charging infrastructure, with considerations for increasing EV charging stations at airports, in rural and national park gateway communities, and at hotels. One commenter recommended allowing vending at publicly funded EV charging stations and another supported allowing Federal funds to cover mobile EV chargers, especially in rural areas, at national parks, and to help scale-up charging capabilities for large-scale events.

Several respondents supported expanding the use of sustainable aviation fuel (SAF). One commenter supported providing funding for reducing emissions for aircraft and engine technology development, operational improvements, and SAF, and funding for the National Aeronautics and Space Administration (NASA) and FAA research and development, such as the Sustainable Flight National Partnership and Continuous Lower Energy, Emission, and Noise (CLEEN) programs. One respondent recommended providing funding to facilitate movement of SAF in the Pacific Northwest, Southern California, Upper Midwest, Gulf Coast, and New York Harbor regions.

One commenter said that only eight of thirty-seven U.S. cruise ports are equipped with shore-side electrification infrastructure though a growing number of ships now include emission reducing shore side power plug in capabilities. Commenters also recognized the importance of resilient infrastructure to address the effects of climate change and extreme weather events (fires, floods, heat waves) that are disrupting transportation networks across the country. Respondents emphasized that designing resilient infrastructure is critical for current and future generations that rely on transportation to support their daily access to local, regional, and national destinations.

Consideration of Comments

DOT aimed to address comments from the RFC throughout the NTTISP, in concert with other input outlined previously in the Approach to Updating the NTTISP section, and will continue taking input and comments into consideration as it implements the NTTISP and other travel and tourism infrastructure activities.

3. DOT's Strategic Plan for Travel and Tourism Infrastructure

DOT supports the travel and tourism economy through its core mission to deliver the world's leading transportation system, serving the American people and economy through the safe, efficient, sustainable, and equitable movement of people and goods. This chapter describes the NTTISP's long-term strategic goals DOT aims to achieve, the short-term and longer-term actions the Department will take to realize those goals, and the performance indicators the Department will use to gauge its progress.

DOT plays a role in the whole-of-government effort to coordinate policy on travel and tourism. To guide its efforts in this role, and at the request of Congress, DOT developed the NTTISP to ensure an effective approach to infrastructure supportive of travel and tourism activities, as well as serve as a resource for State and local policymakers.

As explained in the previous chapter, this update to the NTTISP is informed by several critical guideposts. The development of the strategic plan drew on the Department of Commerce-led Tourism Policy Council's National Travel and Tourism Strategy (DOC NTTS); DOT's own Strategic Plan for FY 2022–2026; the first NTTISP published in 2021; an assessment by the Government Accountability Office (GAO) of DOT's ability to carry out travel- and tourism-related functions; and feedback from a wide range of stakeholders and interested parties through DOT's request for comment from the public. While the NTTISP is a synthesis of insights from all these sources, and because so much of what DOT does daily supports the transportations systems upon which the travel and tourism industry relies, many of the elements of the NTTISP described in this chapter match the DOT Strategic Plan.

Strategic Goals of the National Travel and Tourism Infrastructure Strategic Plan

The NTTISP includes four strategic goals: Improve the Collection and Use of Long-distance Travel and Tourism Data; Facilitate Travel To and Within the United States; Ensure Equitable, Inclusive, and Accessible Travel and Tourism; and Foster Resilient and Sustainable Travel and Tourism. The strategic objectives, associated with and listed under the strategic goals in Table 1 reflect the outcomes DOT aims to achieve. The NTTISP also includes implementation strategies and performance indicators for measuring progress in achieving the strategic goals and objectives. It merits noting that the first strategic goal undergirds the other three and recognizes the importance of data collection and analysis for informed decision-making.

Table 1: Overview of the National Travel and Tourism Infrastructure Strategic Plan

IMPROVE THE COLLECTION AND USE OF LONG-DISTANCE TRAVEL AND TOURISM DATA		
FACILITATE TRAVEL TO AND WITHIN THE UNITED STATES	**ENSURE EQUITABLE, INCLUSIVE, AND ACCESSIBLE TRAVEL AND TOURISM**	**FOSTER RESILIENT AND SUSTAINABLE TRAVEL AND TOURISM**
Make the transportation system safer for all	Enable safe and accessible multimodal travel for all, including those with disabilities	Reduce emissions and climate impact
Advance system efficiency, reliability, and connectivity	Support the expansion of travel and tourism infrastructure options in underserved rural and urban communities	Enhance infrastructure resilience
Improve multimodal connectivity		

NOTE: The cells shaded in blue are the NTTISP strategic goals; the lower cells are the strategic plan's objectives.

The NTTISP consists of the following key elements as defined by Office of Management and Budget guidance:

- **Strategic Goals** are general, outcome-oriented, long-term goals that describe the broad impacts desired by DOT.
- **Strategic Objectives** reflect the outcomes DOT seeks in working toward achieving its strategic goals and are measured by performance indicators.
- **Strategies** describe how DOT plans to make progress toward its strategic objectives.
- **Performance Indicators** are quantitative metrics that measure progress toward a strategic objective.

Cross-Cutting Strategic Goal: Improve Collection and Use of Travel and Tourism Data

> *Description: Improve data collection specific to travel and tourism such as trip purpose, travel party size, and transportation modes used. Use these data when implementing activities in support of DOT's travel and tourism goals.*

The gaps in data on long distance and tourist passenger travel are critical as the Nation's transportation system undergoes major changes from long-term demographic trends to the aftereffects of the pandemic and as significant infrastructure funds are allocated. Demands for U.S. transportation facilities and services are difficult to anticipate without information on domestic long-distance travel and tourism trends. The 2020 Transportation Statistics Annual Report stated that while an understanding of local travel is informed by 60 years of travel surveys in major metropolitan areas, by nationwide data on journeys to work collected by the Census Bureau since 1970, and by several iterations of the National Household Travel Survey (NHTS) and its predecessors, such as the American Travel Survey, the existing datasets for long-distance travel are limited to airline passenger counts and itineraries and to periodic national surveys last conducted in 1995.[32] For a detailed description of the types and granularity of data that would be possible with a robust travel survey, see *Interregional Travel: A New Perspective for Policy*

[32] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2020*, 2020, https://doi.org/10.21949/1520449.

Making, a report by the Transportation Research Board. That report illustrates the value of a survey instrument designed for questions about long-distance travel.[33]

As noted in GAO's report, DOT does not regularly collect comprehensive data specifically on trip purpose, including tourism.[34] While information on airline, rail, and cruise passenger counts and itineraries is extensive, information is lacking on the demographics, trip purpose, and economic characteristics of those traveling. Trip purpose, travel party size, and transportation modes used—especially when more than one mode is used—are significant elements needed for infrastructure planning, forecasting, and marketing. The intercity travel arena also needs a comprehensive design and development of annual statistical reporting on the use of national parks and recreation areas. Existing data are fragmentary in coverage and scope. Data on travel costs on per-trip and per-mile bases for all modes could help better inform travel decisions.[35]

Strategic Objective: Develop and manage travel and tourism data systems and tools

> *Description: Provide objective, reliable, timely, and accessible data to support decision-making, transparency, and accountability for travel and tourism policymaking.*

DOT recognizes the importance of data-informed decision-making. In its most recent Strategic Plan, DOT included a strategic objective to develop and manage data systems and tools to provide objective, reliable, timely, and accessible data to support decision-making, transparency, and accountability.[36] Relatedly, FHWA has modernized how it conducts the National Household Travel Survey (NHTS) and will conduct it more frequently (i.e., every two years instead of every five to eight years). First conducted in 1969, the NHTS is the authoritative source on the travel behavior of the American public. For the first time since 2001, the 2022 NHTS specifically captured data on long-distance travel. The 2022 iteration of the NHTS also incorporated methodological and empirical improvements. FHWA anticipates that new data collection methodologies will produce helpful insights into household travel behavior in the aftermath of the COVID-19 pandemic.[37]

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[33] National Academies of Sciences, Engineering, and Medicine, *Interregional Travel: A New Perspective for Policy Making* (Washington, DC: National Academies Press, 2016), https://doi.org/10.17226/21887. Chapter 2 provides an overview and examples of the insights policymakers can glean from the American Travel Survey.

[34] U.S. Government Accountability Office, *Travel and Tourism: DOT Should Improve Strategic Planning and Data Collection*, 2023, https://www.gao.gov/assets/gao-23-105967.pdf.

[35] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2020*, 2020, https://doi.org/10.21949/1520449.

[36] U.S. Department of Transportation, *U.S. DOT Strategic Plan FY 2022–2026*, 2022, https://www.transportation.gov/mission/us-dot-strategic-plan-fy-2022-2026.

[37] U.S. Department of Transportation, Federal Highway Administration, *NHTS Report: Travel Survey State of the Practice*, 2023, https://nhts.ornl.gov/assets/NextGen%20NHTS_State%20of%20Practice_032423.pdf.

A New American Travel Survey (ATS)

When funded, a modernized ATS will meet the basic needs for national estimates of tourist and long-distance passenger travel. While the 1995 ATS collected information about the long-distance travel of persons living in the United States, the proposed program would also employ a combination of traditional survey techniques, passive data technology, and alternative data sources to collect information about tourists who travel to the U.S. The modernized ATS would use traditional survey techniques to capture basic passenger travel patterns for long distance trips and ask a few key passenger travel questions. This new ATS will use technology and passive data such as GPS, location-based services and administrative records, machine learning, and big data to better understand travel patterns from airports, Amtrak stations, cruise ship terminals, intercity bus depots, key tourist destinations, and major transportation facilities. The proposed program would be conducted at least quarterly.

Like the 1995 ATS, the proposed program will provide detailed information on state-to-state travel as well as travel to and from metropolitan areas by mode of transportation. The data are particularly useful for transportation planners and decision makers in the transportation, travel, and tourism industry because the data can be analyzed at various geographic granularities, such as at the regional, State, metropolitan area, and county level. The proposed program will complement the National Household Travel Survey (NHTS), which is a year-long national survey focusing on daily personal travel with local travel details. The NHTS and ATS would complement each other for different data needs.

Collecting data on trip purpose can be technically challenging and resource intensive. Despite the challenges, as resources are made available, DOT will seek to obtain and use additional data on travel and tourism to support the goals developed in this NTTISP. The Chief Travel and Tourism Officer, in collaboration and consultation with the Bureau of Transportation Statistics (BTS) and the Department of Commerce (DOC) National Travel and Tourism Office, began the development of a multimodal plan to identify and obtain additional data on travel and tourism beyond the data incorporated into the NTTISP. Upon funding becoming available, BTS will initiate the proposed Travel and Tourism Data Program to fill the data gap left since the last American Travel Survey was conducted in 1995.

The proposal for the Travel and Tourism Data Program includes a revised American Travel Survey and a suite of statistical and geospatial products related to long-distance and tourism travel across all transportation modes. The proposed program would collect comprehensive data pertinent to long-distance travel and tourism, including but not limited to trip purpose and duration; modes used; travel origins, destinations, and intermediate stops and connection; travel party size; traveler satisfaction; traveler's sociodemographic and demographic characteristics.

The types, levels, and frequency of data acquired under this program would provide the necessary conditions for DOT to better inform policymakers about how transportation infrastructure is used by and facilitates the flow of long-distance travelers and tourists. These data could facilitate analysis of the transportation system to differentiate among, for instance, types of road users to understand how they benefit from the array of opportunities for DOT funding of infrastructure projects. As a result, accomplishing this strategic objective—along with the funding opportunities listed in Appendix C—would help fulfill the requirement in the BIL to "study travel and tourism activities in the Department" (P.L. 117-58, Sec. 27004(a), Study and Reports on the Travel and Tourism Activities of the Department).

With the results of this proposed data plan, DOT will be able to not only advance safe, equitable, efficient, and resilient transportation systems for all travelers and tourists but also enhance the global competitiveness of U.S. travel and tourism industry. Furthermore, the proposed program will boost DOT's ability to support travel and tourism, fill an information gap that has persisted for more than 20 years, and support the DOT Strategic Plan's goal for economic strength and global competitiveness.

Strategies:

- Conduct a modernized American Travel Survey, contingent on funding.
- Continue to identify ways to obtain data on travel and tourism via existing data collection efforts to improve planning and forecasting, such as the National Household Travel Survey.
- Partner with the DOC National Travel and Tourism Office to:
    - Coordinate data collection on international visitors to the United States,
    - Collaborate on building an expanded and robust domestic tourism data program, and
    - Jointly work with tourism officials and industry to understand the data and analysis challenges they face in informing decision-making processes (BTS Travel and Tourism Data Program).
- Engage other Federal agencies such as the National Park Service and other land and water agencies in data-sharing arrangements.
- Seek opportunities to cooperate with industry associations in the development of tourism data and geospatial products.
- Investigate the potential use of commercial or trade association sources of travel and tourism data.
- Improve data collection on inland ports and port-level forecasts for the cruise industry.
- Expand information on the motor coach industry by increasing participation in the Intercity Bus Atlas to identify the location and frequency of all intercity bus routes and stops in the United States and develop analysis tools to support intercity bus service planning.
- Create the BTS Multimodal Passenger Facility geospatial layer of the Nation's passenger transportation facilities, where more than one transportation mode can be accessed (airports, train stations, cruise ship and ferry terminals, intercity bus terminals, transit stops, park and rides, and bikeshare stations). With additional funding, expand the database to include the building footprints of facilities, access points, Americans with Disabilities Act (ADA) features, and indoor mapping.
- Create National Transportation Atlas Database layers for walking networks and accessible transportation facilities.
- Advance the standardization and collection of all intercity passenger schedules—including intercity bus, intercity rail (Amtrak), commercial aviation, long-distance ferries, and passenger cruise ships.
- Construct geospatial layers and maps that illustrate intercity passenger schedules to better understand the extent, frequency, and affordability of intercity transportation services in the United States and the degree to which they permit travelers to reach all other parts of the country.
- Develop a Tourism Statistics and Mapping website to make the BTS Travel and Tourism Data Program products findable and accessible to industry and the public in a single location. The site will cover the range of users—from those looking for data who could search and filter through DOT data catalogs, to those looking for quick insights from statistical summaries, tools, maps, apps, and visualizations on tourism-related topics.
- Research new technologies that permit rapid real-time reporting of monthly, weekly, and daily

statistics that can serve as preliminary indicators.

- Conduct a survey, contingent upon funding, of the most significant sources of transportation congestion and delayed travel between U.S. urban areas with a population of or greater than 100,000 and major tourist destinations (e.g., beaches, national parks) within 150 miles of that urban area.
- Conduct a survey, contingent upon funding, of each State's most heavily visited tourist destinations, including cities and towns, and of the most significant sources of transportation congestion and slow travel within those destinations or within 300 miles of those destinations.

Key Performance Indicator:

- Publication of a public-facing, digital BTS clearinghouse for the proposed Tourism Statistics and Mapping website to make products from the BTS Travel and Tourism Data Program—contingent on funding—searchable and accessible to policymakers, industry, and the public.

Strategic Goal: Facilitate Travel to and Within the United States

Description: Make long-distance travel and tourism safer and more efficient for visitors traveling to and within the United States.

This strategic goal mirrors a goal in the DOC NTTS. The strategic goal in the DOC NTTS refers to actions the Federal Government will take to facilitate the passage of international travelers into the United States (e.g., to innovate and modernize equipment and processes enabling international visitor arrivals). Those actions are largely the responsibility of the Departments of State and Homeland Security. In the NTTISP, this strategic goal refers to the actions that DOT will take to improve the safety, efficiency, reliability, and connectivity of the national transportation system.

Strategic Objective: Make the transportation system safer for all

Description: Advance a future without transportation-related serious injuries, fatalities, and human trafficking.

Safety is DOT's top priority, and much of the work of the Department improves safety across all transportation modes. DOT recognizes that safe transportation is the foundation for a strong travel and tourism economy. The pursuit of safety improvements is ingrained so thoroughly into the work of DOT that safety is included in its mission and all the safety strategies related to passenger travel in the Department's overall strategic plan apply to long-distance travel and tourism.

To learn more about the strategies DOT will use to improve safety on all modes of travel and its safety-related targets, see FY 2022–2026 U.S. DOT Strategic Plan. In addition, DOT's National Roadway Safety Strategy, released in January 2022, provides more information about DOT's plans to reduce injuries and fatalities on the Nation's roadways, including incorporating a Safe System Approach.[38]

DOT's progress on this strategic objective will be accelerated by the safety-related funding provided by BIL. The BIL more than doubled funding for surface transportation programs that improve the safety of people and vehicles in the transportation system.[39]

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[38] U.S. Department of Transportation, Federal Highway Administration, "Zero Deaths and Safe System," 2023, https://highways.dot.gov/safety/zero-deaths.
[39] U.S. Department of Transportation, "Fact Sheet: Safety in the Bipartisan Infrastructure Law," 2022, https://www.transportation.gov/bipartisan-infrastructure-law/fact-sheet-safety-bipartisan-infrastructure-law.

Preventing human traffickers from using America's roadways, railways, waterways, and airways to facilitate the crime of human trafficking is a DOT priority. DOT's Transportation Leaders Against Human Trafficking (TLAHT) initiative includes nearly 600 transportation and travel industry stakeholders working jointly to maximize their collective impact in combating human trafficking across all modes of transportation. The DOT Advisory Committee on Human Trafficking develops recommendations and best practices for public and private transportation stakeholders. DOT also engages internationally to underscore the important roles of transportation ministries in combating human trafficking and advancing transportation-related anti-trafficking efforts in multilateral fora, including the Asia Pacific Economic Cooperation, the International Civil Aviation Organization, and the International Transport Forum.

Strategic Objective: Advance system efficiency, reliability, and connectivity

> *Description: Improve system efficiency and reliability through repair and modernization of existing infrastructure, investments in new multimodal capacity, and advances in systems management and operations practices.*

The BIL provides an opportunity to make up for decades of disinvestment and U.S. infrastructure failing to keep up with growing transportation needs. Repairing and modernizing the transportation system is essential to creating jobs (including in the travel and tourism industry) and growing an inclusive and sustainable economy. DOT is making tremendous progress toward this strategic objective through the implementation of the BIL.

The BIL authorizes total transportation funding of more than $600 billion over FY 2022–2026.[40] This funding represents the largest investment in bridges since the Interstate Highway System was built, then the largest investment in transportation in U.S. history; the greatest investment in passenger rail since the creation of Amtrak; $25 billion towards airport terminals, airport infrastructure, and air traffic facilities; and more than $17 billion in port infrastructure and waterways.[41]

The BIL makes available up to $5 billion for the National Infrastructure Project Assistance (Mega) program; up to $8 billion to the Infrastructure for Rebuilding America (INFRA) program; and up to $2 billion for the Rural Surface Transportation Grant program, for a combined total of up to $15 billion for FY 2022–2026.[42] The Mega program supports large, complex projects that are difficult to fund by other means and are likely to generate national or regional economic, mobility, or safety benefits. The INFRA program awards competitive grants to multimodal freight and highway projects of national or regional significance to improve the safety, accessibility, efficiency, and reliability of the movement of freight and people in and across rural and urban areas. Additionally, the Congestion Relief Program will provide $250 million in competitive funding to advance innovative, multimodal solutions to reduce congestion and related economic and environmental costs in the most congested metropolitan areas of the country.[43]

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[40] U.S. Department of Transportation, Federal Highway Administration, "Bipartisan Infrastructure Law: Funding," 2023, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/funding.cfm.
[41] The White House, "Fact Sheet: Biden-Harris Administration Celebrates Historic Progress in Rebuilding America Ahead of Two-Year Anniversary of Bipartisan Infrastructure Law," 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/11/09/fact-sheet-biden-harris-administration-celebrates-historic-progress-in-rebuilding-america-ahead-of-two-year-anniversary-of-bipartisan-infrastructure-law/.
[42] U.S. Department of Transportation, "Biden-Harris Administration Opens Streamlined Application Process for More Than $5.5 Billion in Funding to Help Carry Out Major Infrastructure Projects Across the Country," 2023, https://www.transportation.gov/grants/mpdg-program#.
[43] U.S. Department of Transportation, Federal Highway Administration, "Fact Sheets: Congestion Relief Program," 2023, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/congestion_relief.cfm.

Regarding air travel, the Administration is aggressively advocating for the rights of airline passengers. For the last two years, DOT has pushed the airlines to improve the passenger experience when flights are cancelled or there are significant delays. The 10 largest U.S. airlines now guarantee meals, and nine guarantee hotel accommodations when they cause lengthy flight delays or cancellations. In May 2023, DOT announced plans to initiate a new rulemaking that would propose to require airlines to provide compensation and cover expenses for meals, hotels, and rebooking when airlines are responsible for stranding passengers.[44] In addition, the rulemaking would examine how to best ensure passenger awareness of the services and compensation that would be available to them.

DOT also launched FlightRights.Gov to give travelers more transparency about what the largest U.S. airlines currently guarantee when they cause a cancellation or delay or when families travel with young children. DOT is making it easier for parents to avoid paying junk fees to sit with their children when they fly by working on a rulemaking to ban charges for family seating beyond the air ticket. Further, DOT's ongoing efforts to strengthen consumer protections include a rulemaking that would help consumers seeking refunds for airline tickets and another rulemaking that would require airlines and ticket agents to disclose critical ancillary service fees upfront (e.g., baggage).[45]

Strategies:

- Prioritize discretionary (grant) investments in infrastructure projects that benefit travel and tourism, consistent with statutory requirements for DOT grant programs.
- Include travel and tourism infrastructure considerations in State and Metropolitan Planning Organization (MPO) planning.
- Reduce the repair backlog of the national passenger transportation system.
- Invest in multimodal capacity to improve travel time reliability in congested corridors.
- Improve travel time reliability by better managing disruptions to systems operations such as crashes and natural disasters.
- Identify opportunities to facilitate reducing airline cancellations and improving the on-time performance of airlines.
- Continue to advocate for the rights of airline passengers.
- Continue to support a competitive operating environment for U.S. airline services between the United States and other countries.
- Develop, test, and evaluate the capability of new technologies to improve transportation systems management and operations.
- Support the introduction and operation of transformative technologies that improve system safety and mobility.
- Identify opportunities to facilitate weekend vacation trips by reducing roadway congestion between U.S. cities and tourist or recreational destinations within 150 miles of those cities.
- Identify opportunities to facilitate other vacation trips by reducing roadway congestion within 300 miles of each State's most heavily visited tourist destinations.

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[44] U.S. Department of Transportation, "DOT to Propose Requirements for Airlines to Cover Expenses and Compensate Stranded Passengers," 2023, https://www.transportation.gov/briefing-room/dot-propose-requirements-airlines-cover-expenses-and-compensate-stranded-passengers.

[45] U.S. Department of Transportation, Federal Aviation Administration, "February 2024 Significant Rulemaking Report, Family Seating in Air Transportation (RIN: 2105-AF15)," "February 2024 Significant Rulemaking Report, Airline Ticket Refunds and Consumer Protections (2105-AF04)," "February 2024 Significant Rulemaking Report, Enhancing Transparency of Airline Ancillary Service Fees (2105-AF10)," February 2024, https://www.transportation.gov/sites/dot.gov/files/2024-01/FEBRUARY%202024%20Significant%20Rulemaking%20Report.v4.pdf.

Key Performance Indicators:

Highway:

- Reduce by 50 percent the backlog of $830 billion in highway repairs by 2040.
- Maintain 95 percent of interstate pavement in either good or fair condition.
- Fix the 10 most economically significant bridges and repair the 15,000 in-most-need bridges.
- Work with State DOTs to make significant progress in meeting performance targets that States have set with respect to the Interstate System, including maintaining the reliability of travel time at or above 82.8 percent of person-miles traveled.

Air:

- Meet the annual target for average number of daily arrivals and departures at core airports.
- Meet the annual target for National Airspace System on-time arrival rate at core airports.
- Increase the number of new air transport agreements, modernized air transport agreements, and commercial concerns resolved.
- Participate in completing 20 terminals and 400 new or rehabilitated pavement projects by 2030.
- Maintain 93 percent of paved runways in the National Plan of Integrated Airport Systems in excellent, good, or fair condition.
- Complete construction on 30 staffed air traffic control towers by 2030.
- Increase the capacity for near-term operations of advanced air mobility operations.

Rail:

- Reduce Amtrak corridor-wide trip times by 2035.
- Increase intercity passenger rail on-time arrivals.
- Initiate intercity passenger rail service on at least three new corridors by 2035.
- Eliminate 100 percent of Amtrak's state-of-good-repair backlog of Amtrak-owned fleet and infrastructure outside of the Northeast Corridor (NEC) by 2035.
- Reduce by 60 percent the NEC state-of-good-repair backlog by 2035.
- Introduce 125 locomotives and 83 trainsets into Amtrak service.

Strategic Objective: Improve multimodal connectivity

> *Description: Support more efficient multimodal connections for long-distance passenger travel and tourism.*

For long-distance travelers, multimodal transfers occur at places like airports, Amtrak and bus stations, transit stops, and seaports. Outdated or inadequate infrastructure at these facilities can make it difficult for travelers to transition smoothly from one mode to another. At some locations, there are too few modal options for travelers, or the options that do exist are not well known to travelers, are limited, or inconvenient (e.g., infrequent transit service).

The BIL created several grants and programs to facilitate multimodal connectivity. BIL provided $5 billion in competitive grants for airport terminal development projects that will fund safe, sustainable, and accessible airport terminals, on-airport rail access projects, and airport-owned air traffic control towers, and the projects may also include multimodal development.[46] The BIL also provided $91.2 billion in

[46] U.S. Department of Transportation, Federal Aviation Administration, "Bipartisan Infrastructure Law - Airport Terminals Program," 2023, https://www.faa.gov/bil/airport-terminals.

mandatory transit funding and supplemental transit appropriations over five years, the largest investment in transit in U.S. history.[47] These investments will make transit a more convenient option for long-distance travelers and others.

Strategies:

- Invest in multimodal capacity to improve travel time reliability on congested corridors.
- Develop and publicize tools and analysis that help States, Tribes, local stakeholders, and Federal land management agencies evaluate and improve their multimodal connectivity.
- Improve multimodal access to airports.
- Improve the collection and dissemination of real-time travel information to assist travelers when making multimodal transfers and at other points in their journeys.

Key Performance Indicators:

Air:

- Initiate or develop at least three new terminal projects with reduced emissions and multimodal access by 2030.

Rail:

- Increase intercity passenger rail on-time arrivals.
- Reduce by 60 percent the NEC state-of-good-repair backlog by 2035.

Cross-Modal:

- By 2026, support 25 projects that build data and technology systems for transportation planning and infrastructure operation that serve as interoperable platforms that can engage with various tools, technologies, and approaches.

Strategic Goal: Ensure Equitable, Inclusive, and Accessible Travel and Tourism

> *Description: Promote multimodal access to travel and tourism destinations while reducing transportation-related disparities and barriers. Use infrastructure investments to spur the travel and tourism industry, including small, underserved, minority, and rural businesses.*

This strategic goal corresponds with that of Department of Commerce's NTTS goal of "Ensuring Diverse, Inclusive, and Accessible Tourism Experiences." Under that strategic goal, the DOC NTTS discusses the benefits of developing a broader array of tourism assets that will lead visitors to an expanded range of locales and experiences. Attracting visitors to alternative or new locations relieves crowding and resource impacts at other, more frequently visited sites while spreading the economic benefits of travel and tourism more broadly. Under the same strategic goal, the DOC NTTS also calls for reducing physical and social barriers to access and ensuring sites are safe and welcoming for diverse visitors. Finally, the DOC NTTS calls for the use of Federal assistance to develop and market local tourism that advances economic opportunities for diverse U.S. businesses, workers, and places.

In the NTTISP, the strategic goal of ensuring equitable, inclusive, and accessible travel and tourism is consistent with the DOC NTTS strategic goal just described, but this NTTISP focuses on actions that are

[47] U.S. Department of Transportation, "Fact Sheet: Climate and Resilience in the Bipartisan Infrastructure Law," 2022, https://www.transportation.gov/bipartisan-infrastructure-law/fact-sheet-climate-and-resilience-bipartisan-infrastructure-law.

within the purview of DOT and aligned with DOT's Strategic Plan. For the first time DOT has centered equity as a Department-wide strategic goal in its FY 2022–2026 Strategic Plan. This is a critical step to integrating equity throughout DOT's policies and programs, including travel and tourism policy, with the aim of reducing inequities across transportation systems and the communities they affect.

Accessibility and inclusivity in the transportation context refer to reducing physical barriers that prevent or discourage travelers with disabilities from using the transportation system. For example, DOT's Inclusive Design Challenge focuses on innovative design solutions to enable people with physical, sensory, and cognitive disabilities to use automated vehicles to access jobs, healthcare, and other critical destinations. Information regarding the accessibility of travel and tourism infrastructure is also vitally important. A traveler should be able to plan with certainty regarding the accessibility of transportation infrastructure before their arrival.

In addition, DOT recognizes the role of transportation infrastructure investments in facilitating more equitable economic development. In its own Strategic Plan, DOT has committed to supporting the expansion of transportation options and community-driven efforts to promote economic and social mobility opportunities in underserved rural and urban communities. In addition, as part of the Biden Administration's Justice40 Initiative, DOT is working toward the goal that at least 40 percent of the benefits of many of its grants, programs, and initiatives flow to disadvantaged communities.[48]

Strategic Objective: Support the expansion of travel and tourism infrastructure options in underserved rural and urban communities.

Description: Repair and modernize transportation infrastructure to create jobs and grow an inclusive and sustainable economy, including the travel and tourism industry. Ensure that equity considerations for disadvantaged and underserved communities are integrated into the planning, development, and implementation of all transportation investments.

Americans rely on transportation systems to connect us, including to vacation and business destinations and to friends and family members. Unfortunately, historically, many Americans have not had equal access to transportation and the opportunities that transportation provides. DOT is committed to ensuring that transportation projects and programs increase opportunity; serve rural, urban, and suburban communities equitably; and promote affordable access for all. The BIL has provided the DOT with unprecedented opportunities to make progress on this strategic objective, including:

- Codification of the Rural Opportunities to Use Transportation for Economic Success (ROUTES) initiative as a grant program and establishment of an office within DOT to address the needs of entities seeking Federal grants and assistance for rural projects.[49]
- Creation of the Rural Surface Transportation Grant Program, which provides competitive grants to State and regional transportation planning organizations, local governments, and Tribal governments to improve and expand the surface transportation infrastructure in rural areas.
- Amendment of the Nationally Significant Multimodal Freight and Highway Projects (INFRA) grant program to include a minimum 30-percent set-aside for small projects, largely intended for rural areas, an increase from the 25-percent set-aside under the FAST Act.

[48] U.S. Department of Transportation, "Justice40 Initiative," n.d., https://www.transportation.gov/equity-Justice40.
[49] The ROUTES Initiative was established in October 2019 with DOT Order 5050.1 and codified in Section 25010 of the Bipartisan Infrastructure Law in December 2021.

The BIL also increases the Tribal Transportation Program, providing over $3 billion in contract authority over five years.[50] The program provides safe and adequate transportation and public roads that are within, or provide access to, Tribal land, or are associated with a Tribal government, while contributing to economic development, self-determination, and employment in Tribal communities.

Strategies:

- Increase transportation options and system connectivity and improve the built environment to revitalize the Nation and its urban and rural communities.
- Preserve and protect scenic-but-less-traveled roads that promote tourism and economic development by leveraging existing programs such as the National Scenic Byways Program, Federal Lands Transportation Program, and Recreation Trails Program.
- Identify and address gaps that impede equitable and accessible visitor experiences on Federal lands and waters, leveraging programs such as FHWA's Federal Lands Access Program (FLAP).

Key Performance Indicators:

- Increase the frequency of bus service in urban areas over 100,000 in population by 10 percent by 2026.
- Increase the total Federal transit grant dollars announced or allocated for rural or tribal areas.
- Promote an increase in the number of new projects in disadvantaged communities utilizing formula funds added to Statewide Transportation Improvement Programs (STIPs) and Transportation Improvement Programs (TIPs).
- Increase in the number of DOT discretionary grant applicants from disadvantaged communities in urban and rural areas who have never applied for DOT funding before.
- All 50 State DOTs and top 100 MPOs adopt a quantitative Equity Screening component to their STIPs development processes by 2030.
- Continue to help connect smaller and rural communities in the United States to the national air transportation system through the Essential Air Service Program and Small Community Air Service Development Program.
- Continue to leverage the National Scenic Byways Program through America's Byways designations and discretionary grants, as funding is made available.
- Ensure that the benefits of at least 40 percent of DOT's investments flow to disadvantaged communities from programs that are covered by the Justice40 Initiative in the areas of clean energy and energy efficiency, clean transportation, and the remediation and reduction of legacy pollution.

Strategic Objective: Enable safe and accessible multimodal travel for all, including those with disabilities

Description: Enable multimodal accessibility of public transportation facilities, vehicles, and rights-of-way for all, including people with disabilities.

Improving accessibility benefits everyone: those with disabilities, those who will age into disability, and everyone else. Empowering millions of Americans to live their lives to their fullest potential not only empowers them to thrive, but also ensures that the country can benefit from their contributions. In July 2022, DOT announced its Disability Policy Priorities during a celebration of the anniversary of the ADA,

[50] U.S. Department of Transportation, Federal Highway Administration, "Tribal Transportation Program (TTP)," 2022, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/ttp.pdf.

which was enacted in 1990. These priorities highlight work that DOT is undertaking to increase access for people with disabilities across four focus areas: 1) enabling safe and accessible air travel; 2) enabling multimodal accessibility of public transportation facilities, vehicles, and rights-of-way; 3) enabling access to good-paying jobs and business opportunities for people with disabilities; and 4) enabling accessibility of EVs and automated vehicles. It merits noting that the Airline Passengers with Disabilities Bill of Rights informs travelers of the fundamental rights of air travelers with disabilities under the Air Carrier Access Act.

The BIL's investments will make all modes of travel more accessible for people with disabilities. For example, the law will make transit more accessible for people with disabilities, including the All Stations Accessibility Program, which includes $1.75 billion for FY 2022–2026 to upgrade the accessibility of legacy rail fixed guideway systems for people with disabilities, including those who use wheelchairs.[51] Upgrades can include raised platforms and new elevators.[52] For the same period, $2.2 billion was also made available to help meet the transportation needs of older adults and people with disabilities.[53]

Strategies:

- Continue efforts to improve accessibility of and information about transportation vehicles and stations for travelers with disabilities, including by completing accessibility rulemakings.
- Continue research on the feasibility of wheelchair securement on airplanes, trains, and other travel modes.
- Enforce ADA compliance in existing and new investments in Amtrak stations and rail vehicles.
- Make legacy transit rail stations and facilities accessible through the All Stations Accessibility Program in the BIL.
- Require State DOTs and sub-recipients to complete ADA Transition Plans to eliminate legacy inaccessible infrastructure using formula and discretionary funding in the BIL.
- Help manufacturers and designers identify and integrate accessibility considerations in AVs for the diverse needs of people with disabilities.
- Incentivize development of accessible automated vehicles and promote inclusive design to the next generation of automotive engineers.

Key Performance Indicators:

- Increase accessibility information for transportation infrastructure, particularly for those with physical, auditory, visual, or other disabilities.
- Reduce the number of wheelchairs and mobility aids that are lost, damaged, or destroyed in air travel.
- Bring 284 Amtrak stations into ADA compliance.
- Ensure 100 percent of Amtrak stations are ADA compliant by 2035.
- Ensure the benefits of at least 40 percent of DOT's investments in the areas of clean energy and energy efficiency, clean transportation, and the remediation and reduction of legacy pollution flow to disadvantaged communities.

[51] U.S. Department of Transportation, Federal Transit Administration, "Bipartisan Infrastructure Law," 2023, https://www.transit.dot.gov/BIL.
[52] U.S. Department of Transportation, "Fact Sheet: Equity in the Bipartisan Infrastructure Law," 2022, https://www.transportation.gov/bipartisan-infrastructure-law/fact-sheet-equity-bipartisan-infrastructure-law.
[53] Congressional Research Service, "Federal Public Transportation Program: In Brief," 2023, https://crsreports.congress.gov/product/pdf/R/R47002.

Strategic Goal: Foster Resilient and Sustainable Travel and Tourism

> *Description: Reduce travel and tourism infrastructure's contributions to climate change and build transportation infrastructure that is resilient to natural disasters and the impacts of climate change. Build a sustainable transportation system that protects natural resources and avoids or mitigates transportation's health and environmental impacts on communities and ecosystems.*

Climate change presents a significant and growing risk to the safety, effectiveness, equity, and sustainability of transportation infrastructure and the communities it serves. This strategic goal aligns with the DOC NTTS and DOT's own strategic plan in recognizing the importance of combating climate change, reducing emissions from transportation, and making transportation infrastructure more resilient to its effects. It was also a common theme in responses to the Request for Comment used in the development of this document. Decarbonizing transportation is critical to addressing the climate crisis and meeting the national goal of net-zero greenhouse gas (GHG) emissions by 2050, and the interim target of 50–52 percent below 2005 levels by 2030, which the United States submitted as its Nationally Determined Contribution in line with Article 4 of the Paris Agreement.

Strategic Objective: Reduce emissions from long-distance passenger travel

> *Description: Substantially reduce emissions of GHGs and other air pollutants from transportation sources that support travel and tourism.*

The transportation sector is now responsible for one-third of the national annual GHG emissions and is the largest emitting sector in the United States. Emissions from the transportation sector also contribute to poor air quality, which disproportionately affects underserved and disadvantaged communities.

To address the growing climate crisis, and to meet the goal of net-zero GHG emissions economy-wide by 2050, it is critical to decarbonize transportation by eliminating all GHG emissions from the sector across all modes of travel. In January 2023, the Departments of Housing and Urban Development, Transportation, and Energy, along with the Environmental Protection Agency, released the landmark U.S. National Blueprint for Transportation Decarbonization (Blueprint) to establish a framework of strategies and actions to remove all emissions from the transportation sector by 2050.[54]

The Blueprint furnishes a whole-of-government framework to transform the transportation sector and reduce emissions. While the Blueprint does not differentiate by travel purpose or distance traveled, its strategies are applicable to travel and tourism infrastructure. It focuses on each major transportation mode and identifies specific decarbonization opportunities and challenges. Central to the Blueprint are three strategies to achieve decarbonization: increasing convenience, improving efficiency, and transitioning to clean options. Increasing convenience is achieved by supporting community design and land-use planning at the local and regional levels that ensure that job centers, shopping, schools, entertainment, and essential services are strategically located near where people live to reduce commute burdens, improve walkability and bikeability, and improve quality of life.

Improving efficiency is achieved by improving the fuel efficiency of all vehicles and expanding affordable, accessible, efficient, and reliable options like public transportation and rail. For motor vehicles, efficiency gains can be realized through strong Corporate Average Fuel Economy (CAFE)

[54] U.S. Department of Transportation et al., "The U.S. National Blueprint for Transportation Decarbonization," 2023, https://www.transportation.gov/priorities/climate-and-sustainability/us-national-blueprint-transportation-decarbonization.

standards for new light-duty vehicles and strong fuel efficiency standards for medium- and heavy-duty vehicles.

A transition to clean options for surface transportation can be facilitated by deploying zero-emission vehicles and fuels for cars, commercial vehicles, and public transit. For instance, under the BIL, DOT awarded grants in 46 states and territories to increase the number of zero-emissions transit buses in operation by more than double.[55] DOT will also continue to pursue net-zero emissions strategies for ferries and aviation, such as through Sustainable Aviation Fuels (SAFs) as published in the 2021 Aviation Climate Action Plan. The Blueprint guides and builds upon modal plans, including the Aviation Climate Action Plan, which lays out a whole-of-government approach to put the sector on a path towards achieving net-zero carbon dioxide emissions from civil aviation by 2050 in the United States.

The BIL is the first infrastructure law in U.S. history that acknowledges and addresses the climate crisis. It advances a wide variety of infrastructure investments that will reduce GHG emissions from America's transportation network, including across travel and tourism infrastructure. In support of zero-emission vehicles, the BIL authorized the National Electric Vehicle Infrastructure (NEVI) Formula Program and the Charging and Fueling Infrastructure (CFI) Discretionary Grant Program.[56] The BIL provides $7.5 billion for these two programs to enable the strategic deployment of EV charging infrastructure and establish an interconnected network to facilitate data collection, access, and reliability.[57]

The BIL established the Joint Office of Energy and Transportation, under DOT and the Department of Energy, to provide technical assistance for the NEVI Formula Program and CFI Discretionary Grant Program. The Joint Office of Energy and Transportation strives to electrify the "Great American Road Trip," with states sufficiently resourced to fund EV chargers every 50 miles along 75,000 miles of highway corridors.[58] Toward that goal, the Joint Office assists states and communities with planning and implementation of the national network of EV chargers and zero-emission fueling infrastructure, as well as zero-emission transit.[59] These investments, in addition to the tax credits for qualified clean vehicles and EV chargers under the Inflation Reduction Act (IRA), are incentivizing rental car companies to increase their clean vehicle offerings for travelers.[60]

[55] U.S. Department of Transportation, Federal Transit Administration, "Biden-Harris Administration Announces Nearly $1.7 Billion to Help Put Better, Cleaner Buses on the Roads in Communities Across the Country," 2023, https://www.transit.dot.gov/about/news/biden-harris-administration-announces-nearly-17-billion-help-put-better-cleaner-buses.
[56] Infrastructure Investment and Jobs Act, P.L. No. 117–58, 135 Stat. 1421 (2021), https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf.
[57] U.S. Department of Transportation, "Fact Sheet: Climate and Resilience in the Bipartisan Infrastructure Law," 2022, https://www.transportation.gov/bipartisan-infrastructure-law/fact-sheet-climate-and-resilience-bipartisan-infrastructure-law.
[58] Joint Office of Energy and Transportation, "National Electric Vehicle Infrastructure Formula Program," 2023, https://driveelectric.gov/files/nevi-annual-report-2022-2023.pdf.
[59] U.S. Department of Transportation, "Joint Office of Energy and Transportation," n.d., https://www.transportation.gov/grants/dot-navigator/joint-office-energy-and-transportation.
[60] The White House, "Fact Sheet: Biden-Harris Administration Announces New Private and Public Sector Investments for Affordable Electric Vehicles," 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/17/fact-sheet-biden-harris-administration-announces-new-private-and-public-sector-investments-for-affordable-electric-vehicles.

U.S.-Canada Alternative Fuels Corridor

The first U.S.-Canada Alternative Fuels Corridor stretches from Kalamazoo, Michigan, to Quebec City, Quebec, tapping into the 75,000+ miles of Alternative Fuel Corridors in the United States. The Corridor features DC fast chargers approximately every 50 miles, or 80 kilometers. Announced by Secretary Buttigieg and Transport Canada Minister Alghabra in May 2023, the corridor is the first of several planned U.S.-Canada alternative fuels corridors. The U.S.-Canada corridor is emblematic of the close coordination between the U.S. and Canada on electric vehicles including efforts on standards, research, and equity.

The BIL also provides $91.2 billion for transit funding over five years, which includes $1.1 billion per year for the Low or No Emission Vehicle Program.[61] The law included more than $6.4 billion for a new formula Carbon Reduction Program to reduce emissions from on-road highway sources, including embedded emissions. Under this program, States will develop carbon reduction strategies to support efforts to reduce transportation emissions, and the funding will support their efforts. The BIL also designates $450 million annually for the next five years for the Port Infrastructure Development Program (PIDP). PIDP will provide grants to improve port facilities, including projects that will reduce or eliminate toxic air pollutants and GHG emissions.[62]

Sustainability is a priority in aviation. Through the BIL, $5 billion is allocated to provide competitive grants for airport terminal development projects under the Airport Terminals Program (ATP) that address the aging infrastructure of airports.[63] These grants will fund safe, sustainable and accessible airport terminals, on-airport rail access projects and airport-owned airport traffic control towers. For instance, in February 2024, DOT announced $970 million in ATP awards from the BIL to 114 airports across the country, spanning 44 states and three territories.[64]

Launched by the Departments of Agriculture, Transportation, and Energy, the SAF Grand Challenge aims to supply at least 3 billion gallons of SAF per year by 2030 and, by 2050, sufficient SAF to meet 100 percent of aviation fuel demand, which is currently projected to be around 35 billion gallons per year.[65] To help facilitate SAF production, the IRA also includes two tax credits administered by the Department of the Treasury's Internal Revenue Service and a grant program administered by the DOT's Federal Aviation Administration (FAA) that will increase the amount of SAF available for use in the United States, including for travel and tourism purposes.[66] SAFs are drop-in hydrocarbon fuels for aviation created from renewable or waste materials that reduce emissions on a lifecycle basis.

The United States also leads efforts to address emissions from international aviation, including emissions from travel and tourism, with countries across the globe. In collaboration with other agencies,

[61] U.S. Department of Transportation, "Fact Sheet: Climate and Resilience in the Bipartisan Infrastructure Law," 2022, https://www.transportation.gov/bipartisan-infrastructure-law/fact-sheet-climate-and-resilience-bipartisan-infrastructure-law.
[62] U.S. Department of Transportation, "Fact Sheet: Climate and Resilience."
[63] U.S. Department of Transportation, Federal Aviation Administration, "Bipartisan Infrastructure Law - Airport Terminals Program," 2023, https://www.faa.gov/bil/airport-terminals.
[64] U.S. Department of Transportation, Federal Aviation Administration, "Biden-Harris Administration Announces Nearly $1 Billion in Grants from the Bipartisan Infrastructure Law to Improve 114 Airports Across the U.S.," February 15, 2024, https://www.faa.gov/newsroom/biden-harris-administration-announces-nearly-1-billion-grants-bipartisan-infrastructure.
[65] The White House, "Fact Sheet: Biden Administration Advances the Future of Sustainable Fuels in American Aviation," 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/09/fact-sheet-biden-administration-advances-the-future-of-sustainable-fuels-in-american-aviation/.
[66] Internal Revenue Service, "Sustainable Aviation Fuel Credit," 2023, https://www.irs.gov/credits-deductions/businesses/sustainable-aviation-fuel-credit.

DOT and FAA engage with the International Civil Aviation Organization (ICAO), the U.N. Specialized Agency responsible for developing the Standards and Recommended Practices that undergird the global aviation system, to develop international approaches to this challenge. ICAO has established a market-based measure known as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) to address certain carbon emissions from international aviation. This measure requires aircraft operators to purchase emissions offsets or use CORSIA-eligible fuels, including certain SAFs, to reduce net-carbon dioxide emissions from international aviation to a baseline of 85 percent of 2019 levels. In addition to CORSIA, the United States has worked through ICAO to support the adoption of a long-term aspirational goal of net-zero emissions by 2050, as well as the establishment of a 2030 goal of reducing the carbon intensity of jet fuel used in international aviation by 5 percent.

In addition, the IRA established the Low Carbon Transportation Materials Program which provides $2 billion for construction materials and products that have substantially lower levels of embodied GHG emissions as compared to estimated industry averages of similar materials or products.[67,68] BIL and IRA's investments will help foster American manufacturing of green technologies, create good-paying green jobs, and build better infrastructure that provides Americans with affordable, sustainable transportation options.

Strategies:

- Decarbonize transportation, including transportation that supports travel and tourism, by eliminating nearly all GHG emissions from the sector to meet the U.S. goal of net-zero GHG emissions economy-wide by 2050.
- Invest in rail, public transportation, and active transportation infrastructure to provide the option to use more affordable and energy-efficient forms of transportation.
- Support options to reduce trips and shift trips to climate-friendly vehicles and modes by promoting active transportation and accelerating the deployment of EV charging infrastructure on the Nation's roadways.
- Reduce the environmental impacts of transportation infrastructure, including in the vicinity of major travel and tourism destinations (e.g., gateway communities).
- Reduce the embodied carbon emissions from transportation projects.
- Support programs to facilitate the uptake of sustainable aviation fuel, deployment of more fuel-efficient aircraft, and more efficient aviation operations.
- Invest in research and innovation to further develop and demonstrate clean transportation technologies and enable seamless integration with energy systems.
- Continue and expand funding and market incentives to accelerate the uptake of low- or zero-emission vehicles and invest in supporting infrastructure.
- Invest in research and innovation to further develop and demonstrate clean technologies (e.g., achieve battery, hydrogen electrolysis, and sustainable fuel cost targets) and enable seamless integration with energy systems.
- Increase technical assistance for State and local agencies to institutionalize a culture of climate-informed decision-making.
- Engage with international organizations, such as ICAO, to successfully implement global market-based measures such as CORSIA and, as appropriate, other programs that reduce the emissions

[67] U.S. Department of Transportation, Federal Highway Administration, "Inflation Reduction Act," 2023, https://www.fhwa.dot.gov/inflation-reduction-act/.
[68] U.S. Department of Transportation, Maritime Administration, "Port Infrastructure Development Program," 2023, https://www.maritime.dot.gov/PIDPgrants.

from long-distance passenger travel.

Key Performance Indicators:

- Build a national network of 500,000 EV chargers by 2030.
- Ensure that EV chargers are accessible to everyone, especially to people with disabilities.
- Achieve 50 percent of new vehicle sales being zero-emission by 2030 and support a pathway for full adoption.
- Ensure that new internal combustion engine vehicles are as efficient as possible through strong Corporate Average Fuel Economy and fuel efficiency standards for new light-, medium-, and heavy-duty vehicles.
- Amtrak to achieve 100-percent carbon-free electricity acquisitions by 2030.
- Reach net-zero GHG emissions across all Amtrak operations and the Amtrak network by 2045.
- Achieve net-zero GHG emissions from the U.S. aviation sector by 2050.
- Catalyze the production of at least three billion gallons of SAF per year by 2030 and approximately 35 billion gallons by 2050, enough to supply the entire U.S. sector.

Strategic Objective: Enhance infrastructure resilience

Description: Improve the resilience of at-risk infrastructure.

A sustainable travel and tourism industry depends on integrating practices that promote environmental conservation and stewardship. Additionally, more vigorous conservation and restoration of natural ecosystems will help ensure these resources remain available for future generations. There is significant overlap in strategies for disaster mitigation, conservation, and sustainable tourism. Implementation of nature-based solutions acts as a first line of defense against sea level rise, extreme weather events, and storm surges. Restoring and protecting wetlands can improve water quality and reduce flooding, and waterfront parks can also absorb storm and flooding impacts and improve water quality. Nature-based solutions to mitigate and adapt to climate change can also provide opportunities for tourism development.

PROTECT Grant Program

The Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Program provides formula and competitive funding to make surface transportation more resilient to natural hazards. The formula funding supports planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure. The discretionary program offers two types of awards: planning grants and Competitive Resilience Improvement Grants. The Bipartisan Infrastructure Law created this program and provided $8.7 billion in funding for FY 2022–2026.

In addition to providing the first ever legislative definition of resilience, BIL established the Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) program, that provides $8.7 billion over five years in formula and competitive grant funding to increase the resilience of the transportation system. The PROTECT formula grant allows funds to be used to build natural infrastructure, such as wetlands and maritime forests, that absorb floodwaters and offer co-benefits such as "increased recreation opportunities that

can support tourism and the local economy."[69]

The BIL also incorporates resilience considerations into existing transportation programs.[70] This includes improvements to the National Highway Performance Program, Surface Transportation Block Grant Program, and FHWA's Emergency Relief Program. The law also directs the Secretary to designate ten regional Centers of Excellence for Resilience and Adaptation and a national center to coordinate the regional centers. These centers will receive grants to advance research and development that improves the resilience of United States regions to natural disasters, extreme weather, and the effects of climate change on surface transportation infrastructure and infrastructure that depends on surface transportation.

Strategies:

- Assess and mitigate transportation infrastructure vulnerabilities to climate change, sea-level rise, extreme weather, and natural disasters.
- Enhance resilience throughout transportation planning and project development processes by updating guidance and regulations.
- Assist States and MPOs with resiliency planning and encourage the development of a resilience improvement plan.
- Incorporate resilience into DOT grant and loan programs, as appropriate and consistent with existing law.
- Improve climate education and research on resilience.
- Incorporate climate change resilience and adaptation strategies into infrastructure investment and management on Federal lands and waters.

Key Performance Indicators:

- By 2026, 50 percent of States and MPOs will have developed resilience improvement plans.

[69] U.S. Department of Transportation, Federal Highway Administration, "Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program Implementation Guidance," 2022, https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/protect_formula.pdf.
[70] Infrastructure Investment and Jobs Act, P.L. No. 117-58, 135 Stat. 454 (2021), https://www.govinfo.gov/content/pkg/PLAW-117publ58/html/PLAW-117publ58.htm.

Resiliency Planning at Chincoteague National Wildlife Refuge

In July 2023, FHWA awarded the U.S. Fish and Wildlife Service $17.7 million to begin improvements of Multimodal Beach Access at Chincoteague National Wildlife Refuge in Virginia. Funded through the Nationally Significant Federal Lands and Tribal Transportation Projects Program, the award will initiate the first phase of a larger project in partnership with the National Park Service and Assateague Island National Seashore that will allow for the relocation of the existing public recreational beach to a more stable part of the island. Construction will include a new access road, a multiuse path, and portions of new parking lots and other beach facilities that are better able to withstand extreme weather events (see map).

Improving Non-Motorized Travel in North Carolina

FHWA recently awarded the North Carolina Department of Transportation $21.4 million to construct the Ecusta Rail Trail on an abandoned railroad route between the cities of Hendersonville and Brevard. The 19-mile shared-use path will connect the statewide bike route system with Pisgah National Forest and the Blue Ridge Parkway near Asheville.[71]

Conclusion

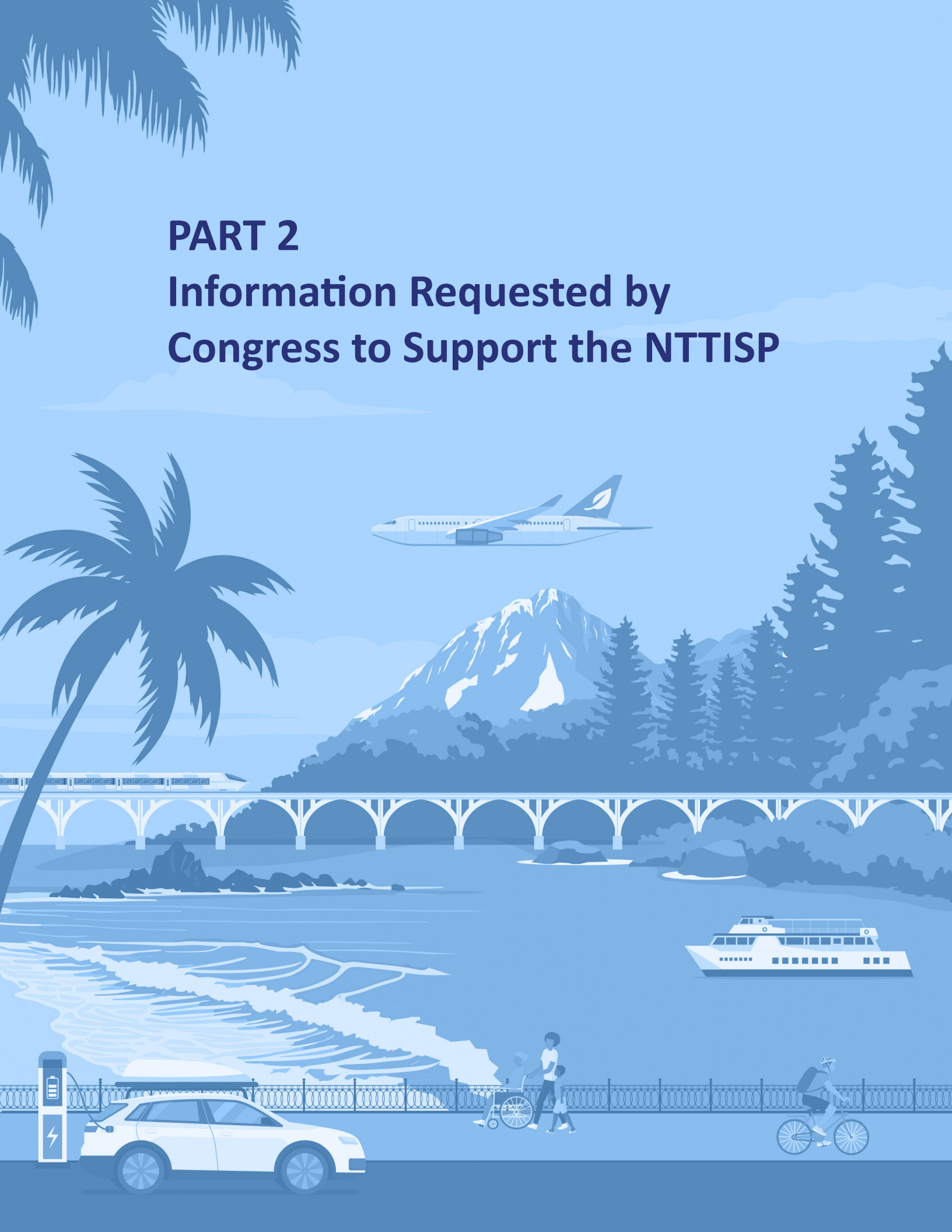
Recognizing the importance of data that accurately capture the needs and features of multimodal networks for long-distance travel and tourism, DOT proposes to bolster its support for travel and tourism through its proposed Travel and Tourism Data Program, which, with adequate resources, would build on past successes such as the American Travel Survey. The efficacy of this data-driven approach will be amplified because DOT aligned its travel and tourism strategies with longstanding and newly granted authorities from the BIL and IRA to ensure that the goals of the NTTISP are realized.

By building on a foundation outlined in the DOC NTTS, DOT's own strategic plan, and critical input from Federal partners and the public, DOT designed the NTTISP to make the U.S. transportation system safer, more efficient, more reliable, and more connected for all travelers, enabling accessible multimodal travel for every user. Research, policy, and technology advances provide a foundation for DOT to craft data-driven solutions to traveler issues while supporting local and regional economies, resilient

[71] U.S. Department of Transportation, "Biden-Harris Administration Announces $130 Million for Seven Transportation Projects on Federal and Tribal Lands as Part of President Biden's Investing in America Agenda," 2023, https://www.transportation.gov/briefing-room/biden-harris-administration-announces-130-million-seven-transportation-projects.

infrastructure choices, and environmental stewardship. Through the lens of DOT's strategic goals, the NTTISP aspires to make long-distance passenger travel safer, mobile, and more prosperous to travelers by facilitating a seamless multimodal transportation system expertly informed by both the public and DOT Operating Administrations.

PART 2
Information Requested by Congress to Support the NTTISP



4. Network Performance

This chapter presents an overview of the condition and performance of the national transportation network across modes, including data and statistics for surface transportation, air travel, passenger rail, and ports, as well as separate evaluations of the safety and multimodal connectivity of the transportation network. The conditions and performance data used within this chapter are not all specific to travel and tourism movements and infrastructure use. However, data have been analyzed in terms of impact on long-haul passenger travel and tourism to the extent possible. This chapter also identifies issues creating congestion on the national transportation network, including the overall issues that create significant congestion problems and impediments to long-distance passenger travel, as well as the specific issues for each mode.

Condition and Performance of the National Transportation Network

This section provides a snapshot of the condition and performance of the national transportation network across modes, including surface transportation, air travel, passenger rail, and ports. The safety and multimodal connectivity of the transportation network have been evaluated separately to allow for comparison across modes. While a great deal of data exists for some modes, allowing for a greater depth of analysis, the assessment of other modes is constrained by a lack of available data. As such, improvements in the collection and analysis of data on long-distance travel will be critical in continuing to assess the condition and performance of the national transportation network as it relates to travel and tourism.

Safety

Advancing a future without transportation-related serious injuries and fatalities is one of the key strategic goals outlined in the DOT Strategic Plan. More than 94 percent of all transportation-related fatalities every year occur on highways.[72] The 2022 U.S. DOT National Roadway Safety Strategy (NRSS) adopts the Safe System Approach to address roadway safety and summarizes key departmental actions from 2022 to 2025 to work toward the stated goal of achieving zero fatalities and serious injuries. The 2023 Progress Report on the National Roadway Safety Strategy outlines notable milestones and activities from 2022 and identifies additional actions to further the NRSS.

In 2021, 5 percent (2,277) of the 45,216 total transportation-related fatalities were across other non-highway travel modes (Figure 1). Fatalities in commercial aviation are exceedingly rare. There have only been five recorded fatalities on a U.S. commercial aircraft in the decade since 2014, and the 376 air-traffic fatalities reported in 2021 were associated with incidents involving private, general aviation aircraft. Recreational boating accounts for 92 percent of the 715 reported water-based fatalities in 2021, and 68 percent of the 852 reported railroad fatalities were trespass incidents.

[72] U.S. Department of Transportation, Bureau of Transportation Statistics, "Transportation Fatalities by Mode," n.d., https://www.bts.gov/content/transportation-fatalities-mode.

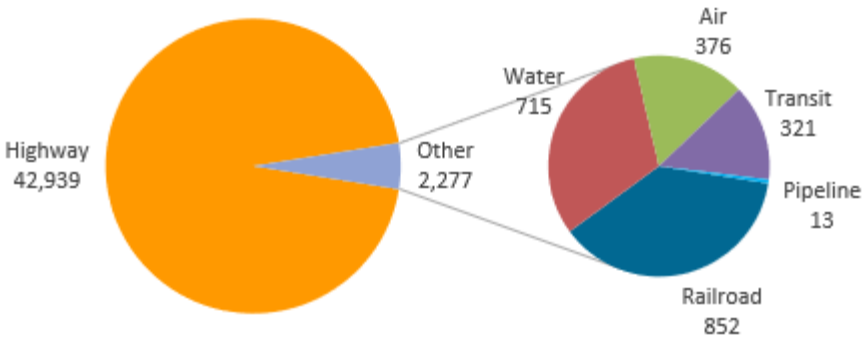


Figure 1: Transportation Fatalities by Mode, 2021
Source: Bureau of Transportation Statistics[73, 74, 75]

In 2022, there were approximately 42,795 total fatalities due to motor vehicle traffic crashes, decreasing slightly from the 42,939 fatalities reported in 2021. The annual number of highway related fatalities from 1999 to 2022 is shown in Figure 2. The fatality rate (the number of fatalities per 100 million VMT) has increased approximately 26 percent since 2019 (from 1.07 fatalities in 2019 to 1.35 fatalities in 2022).[76]

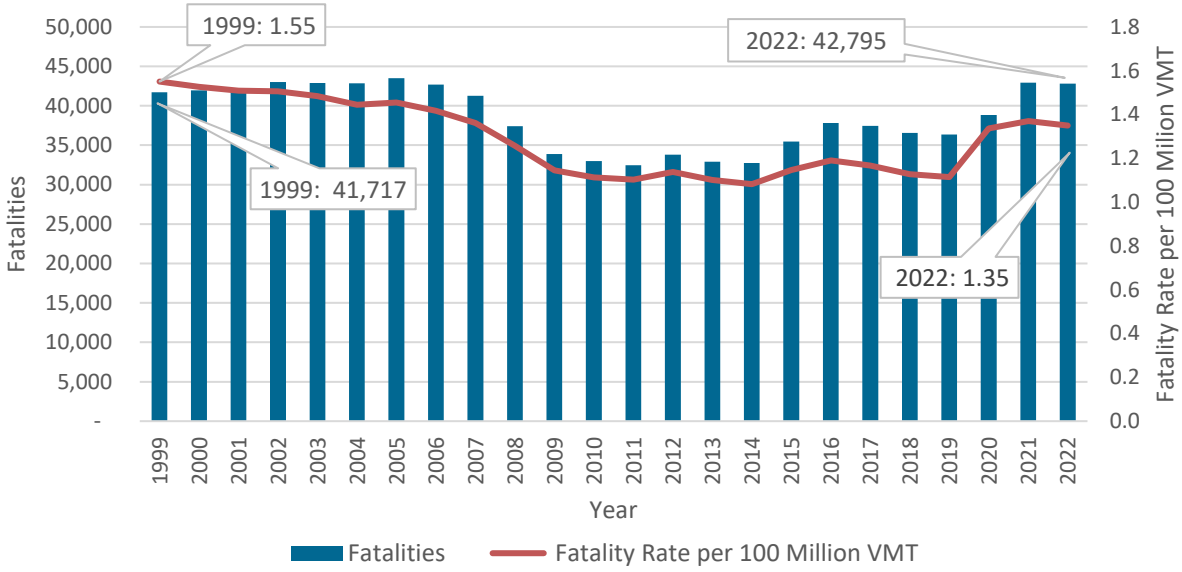


Figure 2: Fatalities and Fatality Rate per 100 Million VMT, 1999-2022
Source: Bureau of Transportation Statistics[77]

[73] Bureau of Transportation Statistics, "Transportation Fatalities by Mode." Note that some adjustments are made to the total number of fatalities to reduce double counting of fatalities that involve multiple modes, such as motor vehicles at public highway-rail grade crossings.
[74] Insurance Institute for Highway Safety, "Fatality Facts 2021: Yearly Snapshot," n.d., https://www.iihs.org/topics/fatality-statistics/detail/yearly-snapshot.
[75] National Safety Council, "Airplane Crashes," n.d., https://injuryfacts.nsc.org/home-and-community/safety-topics/airplane-crashes.
[76] U.S. Department of Transportation, National Highway Traffic Safety Administration, "Early Estimate of Motor Vehicle Traffic Fatalities in 2022," 2023, https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813428.
[77] U.S. Department of Transportation, Bureau of Transportation Statistics, "Transportation Fatalities by Mode," n.d., https://www.bts.gov/content/transportation-fatalities-mode.
U.S. Department of Transportation, Bureau of Transportation Statistics, "Roadway Vehicle-Miles Traveled (VMT) and VMT per Lane-Mile by Functional Class," 2023, https://www.bts.gov/content/roadway-vehicle-miles-traveled-vmt-and-vmt-lane-mile-functional-class.

Roadways

Challenges related to safety, congestion, and the physical condition of roads continue to affect the performance of the surface transportation system, with widespread impacts to motorists as well as vulnerable road users such as pedestrians and cyclists. In addition to impacting day-to-day users, roadway condition in the United States is critical to support long-distance travel and tourism. To continue providing crucial services, the U.S. roadway network will need to adapt to increasing extreme weather events and an increased adoption of electric vehicles (EVs).

Congestion

While limited data exists on congestion's impact specific to travel and tourism, overall road congestion—or the amount of time when freeways operate at less than 90 percent of free-flow freeway speeds—continues to increase.[78] The Texas Transportation Institute's 2021 Urban Mobility Report indicates that overall road congestion worsened in the decade from 2009 to 2019, and then fell in 2020 due to the pandemic. It is worth emphasizing that 2020 was an anomaly and data from that year does not follow the same worsening congestion trend as prior years; the data does, however, underscore the reduction in congestion during the pandemic when fewer vehicles were on the road.[79]

In the 52 largest metropolitan areas, the 2020 average duration of daily congestion was 2 hours and 18 minutes, which is 89 minutes less than it was in 2019, a 39.2 percent decrease.[80] The average delay experienced by an individual commuter rose 25.6 percent from 43 hours per year in 2009 to 54 hours in 2019. The total estimated annual delay for all commuters rose 29.9 percent from 6.7 billion hours to 8.7 billion hours during this 10-year period, while wasted fuel rose 16.7 percent from 3.0 billion gallons to 3.5 billion gallons, resulting in 31,104,500 metric tons of additional carbon dioxide emitted in 2019 at a rate of 8,887 grams of carbon dioxide per gallon of gasoline burned.[81]

Expressed in constant 2020 dollars, the estimated total cost of congestion rose 49.6 percent from $127 billion in 2009 to $190 billion in 2019. In 2020, the average delay per commuter was 27 hours, with 4.3 billion hours for total delay, 1.7 billion gallons of wasted fuel, equivalent to 15,107,900 metric tons of carbon dioxide, and $101 billion in total congestion costs.[82,83] Traffic congestion costs the U.S. economy over $160 billion per year, as motorists lose more than $1,000 each year in wasted time and fuel.[84]

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[78] U.S. Department of Transportation, Federal Highway Administration, *2020 Urban Congestion Trends*, FHWA-HOP-21-010, n.d., https://ops.fhwa.dot.gov/publications/fhwahop21010/fhwahop21010.pdf.
[79] The Texas A&M Transportation Institute, *2021 Urban Mobility Report*, 2021, static.tti.tamu.edu/tti.tamu.edu/documents/mobility-report-2021.pdf.
[80] U.S. Department of Transportation, Federal Highway Administration, *2020 Urban Congestion Trends*, FHWA-HOP-21-010, n.d., https://ops.fhwa.dot.gov/publications/fhwahop21010/fhwahop21010.pdf.
[81] Environmental Protection Agency, "Greenhouse Gas Emissions from a Typical Passenger Vehicle," 2023, https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle#:.
[82] The Texas A&M Transportation Institute, *2021 Urban Mobility Report*, 2021, static.tti.tamu.edu/tti.tamu.edu/documents/mobility-report-2021.pdf.
[83] Translating a change in the measurement of travel time into an impact on wages can exaggerate an analytical bias that has implications for equity: "…changes in average travel time can be affected by disparities in travel frequency, or system utilization, among groups. The problem is akin to assessing average impact between groups without considering the relative sizes of the groups" See further discussion in National Academies of Sciences, Engineering, and Medicine, *Elevating Equity in Transportation Decision Making: Recommendations for Federal Competitive Grant Programs* (Washington, D.C.: Transportation Research Board, 2023), pp. 84–85, https://doi.org/10.17226/27439.
[84] The White House, "Fact Sheet: The American Jobs Plan," 2021, whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/.

By 2045, congestion is expected to increase on most U.S. highways.[85] From 1990 to 2019, road capacity as measured by roadway lane miles increased by about 9.6 percent while vehicle-miles traveled (VMT) increased by about 53 percent.[86] Although the relationship between the supply (in terms of lane miles) and demand for highway travel is not deterministic, VMT growth that outstrips capacity could lead to heightened congestion at various times of the year, week, and day, especially in urban areas.[87] Without investment in multimodal infrastructure or other efforts to provide alternative travel options, these networks will experience high volumes of traffic, affecting the transportation network in general and consequently the tourism travel routes used by passenger vehicles and motor coaches. Figure 3 shows peak-period congestion on high-volume truck routes on the National Highway System (NHS) in 2020 and congestion projections for 2045. Due to data limitations, 2020 data are presented although it is an atypical year. The significant areas of congestion are along major interstates and in metropolitan areas where truck and passenger vehicles mix.

[85] Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95.
[86] U.S. Department of Transportation, Federal Highway Administration, "Public Road Mileage, Lane-Miles, and VMT 1993 – 2020," 2021, https://www.fhwa.dot.gov/policyinformation/statistics/2020/vmt421c.cfm.
[87] Gilles Duranton and Matthew A Turner, "The Fundamental Law of Road Congestion: Evidence from US Cities," *American Economic Review* 101, no. 6 (October 1, 2011): 2616–52, https://doi.org/10.1257/aer.101.6.2616.

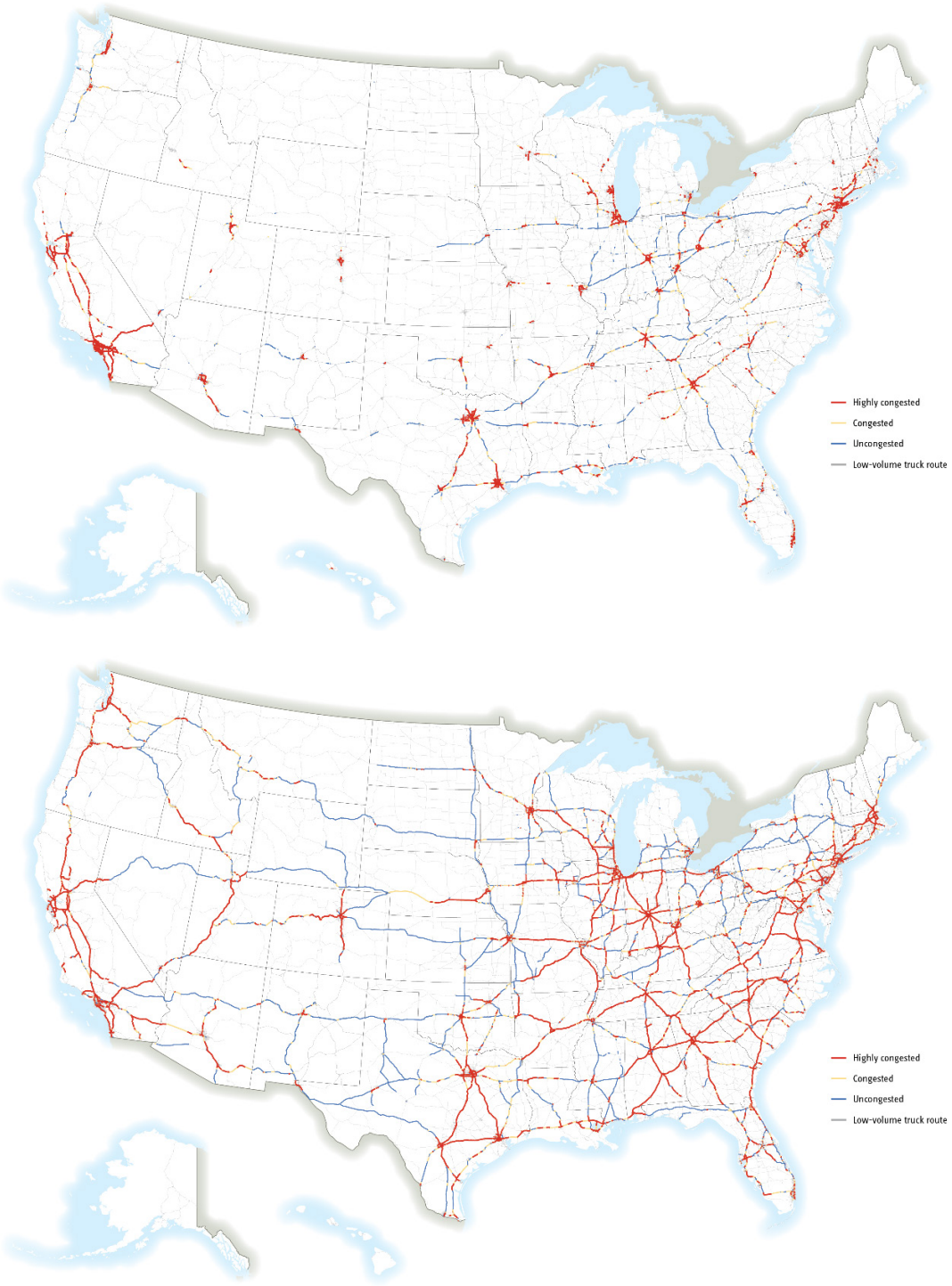

Figure 3: Peak-Period Congestion on the High-Volume Truck Routes on the National Highway System: A) 2020 Actual (top), B) 2045 Projected (bottom)
Source: Bureau of Transportation Statistics[88, 89]

[88] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 2022, https://rosap.ntl.bts.gov/view/dot/65841..
[89] U.S. Department of Transportation, Federal Highway Administration, "Freight Analysis Framework," 2023, https://ops.fhwa.dot.gov/freight/freight_analysis/faf/.

Physical Condition

High-performing infrastructure can improve tourist and traveler mobility throughout the United States while poor road conditions can hinder travel by imposing costs on drivers and causing delays. The condition of highway infrastructure in the United States is mixed. In 2016, 3.5 percent of the Interstate Highway System, 11.0 percent of the NHS, and 10.9 percent of Federal-aid highways, weighted by lane miles, had poor pavement ride quality (reporting on pavement ride quality changed after 2016).[90,91] One area of improvement is the decrease in structurally deficient bridges. In 2022, there were 43,500 U.S. highway bridges in poor condition, down from 57,000 in 2012.[92]

The national highway repair backlog is defined as the level of investment needed to address existing deficiencies on current highway and bridge assets when it is cost-beneficial to do so. The 24th edition of the "Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance Report to Congress" presented a national backlog estimate of $1.01 trillion as of 2016, expressed in constant 2016 dollars.[93] Subtracting $180 billion of investments related to system expansion from that total yields a highway repair backlog figure of $830 billion. DOT has set a target of reducing this backlog by half (to $415 billion) by 2040.[94]

Resilience

Limited data exists on the overall condition and performance of roadways following extreme weather events; however, projected impacts provide an indication of the most vulnerable areas and assets. There are more than 60,000 miles of roads and bridges in the United States located in coastal floodplains that are vulnerable to extreme storms and hurricanes. Infrastructure repairs following these events often cost billions of dollars.[95] Many coastal cities across the United States already experience more frequent high-tide flooding that reduces the functional performance of low-elevation roadways and bridges, often causing costly damage to infrastructure.

Pavements and bridges are particularly vulnerable to flooding and precipitation, sea-level rise, storm surges, drought, and extreme changes in temperature.[96] In 2022, there were 18 extreme weather and climate-related disasters with a total cost of $179 billion, with some portion of that attributed to damage and disruption of the transportation system.[97] Historic underinvestment in resilience has harmed transportation infrastructure, resulting in disrupted service, unsafe travel conditions, severe damage, and increased maintenance and operating costs.

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[90] U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration, Status of the Nation's Highways, Bridges, and Transit: Conditions & *Performance Report to Congress*, 24th Ed, 2021, https://doi.org/10.21949/1521794.

[91] Since 2015, new regulations in 23 CFR 490 require data collection, reporting, target setting, and performance achievement for 18 measures. Overall pavement condition and individual pavement metrics are reported annually on the FHWA performance dashboard and highway statistics.

[92] U.S. Department of Transportation, Bureau of Transportation Statistics, "Condition of U.S. Highway Bridges," n.d., https://www.bts.gov/content/condition-us-highway-bridges.

[93] U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration, Status of the Nation's Highways, Bridges, and Transit: Conditions & *Performance Report to Congress*, 24th Ed, 2021, https://doi.org/10.21949/1521794.

[94] U.S. Department of Transportation, *U.S. DOT Strategic Plan FY 2022–2026*, 2022, https://www.transportation.gov/mission/us-dot-strategic-plan-fy-2022-2026.

[95] U.S. Global Change Research Program, *Fourth National Climate Assessment: Chapter 12: Transportation*, 2018, https://nca2018.globalchange.gov/chapter/12/.

[96] U.S. Department of Transportation, Federal Highway Administration, *Addressing Resilience To Climate Change & Extreme Weather in Transportation*, 2023, https://www.fhwa.dot.gov/asset/pubs/hif23010.pdf.

[97] U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Centers for Environmental Information, "U.S. Billion-Dollar Weather and Climate Disasters," 2023, https://www.ncei.noaa.gov/access/billions/.

EV Charging

President Biden's goal for 50 percent of all new vehicle sales to be electric by 2030 is supported by the vision of a national network of 500,000 public EV chargers to accelerate the adoption of EVs. According to the Bureau of Transportation Statistics (BTS), between 2011 and 2022 approximately 11,100 public EV chargers were added each year to reach an estimated national total of 124,088 stations in 2022. However, most of these stations (97,410) are "Level 2" chargers, which deliver about 25 miles of driving range for each hour spent charging.[98] The remaining 26,249 are direct current fast chargers (DCFC), which deliver 100 to 200+ miles of range in 30 minutes of charging.[99] By January 2024, those numbers have increased considerably: 169,274 stations, 130,426 Level 2 chargers, and 38,848 DCFC.[100]

BTS notes that data on long-distance travel by households is limited and is not designed for understanding EV charging behavior. Regular and frequent analysis of data on the acquisition, ownership, and use of EVs by households across income levels is critical to establish a network supporting long-distance travel and to understand the equity effects of transitioning to electrified transportation, including for long-distance travel.[101]

Air

FAA sets an annual target for the average number of daily arrivals and departures at the 30 busiest airports in the country to maintain a high average daily capacity (ADC). This target is set prior to the start of each fiscal year after a thorough review of all known projects that could affect capacity. ADC is informed by runway uptime, or the time when planes are in the air rather than downtime on the ground, which includes runway condition. ADC in FY 2022 was 61,511, exceeding the target of 58,962. Additionally, FAA maintains an annual 88-percent target for the National Airspace System (NAS) on-time arrival rate at the 30 busiest airports. The on-time arrival rate for FY 2022 exceeded this target at 91.7 percent.[102]

Runway pavement is a key measure of airport condition that is consistently measured across the United States. The FAA annual target for percent of paved runways within the National Plan of Integrated Airport Systems (NPIAS) rated in excellent, good, or fair condition has remained at 93 percent since FY 2019.[103] For the past three years, runway conditions have exceeded this target, with percentages of paved runways in excellent, good, or fair condition falling between 97.9 and 97.6 percent from FY 2019 to FY 2022. It is worth noting that pavement conditions have trended downward slightly. In FY 2022, 97.6 percent of paved runways in the NPIAS met the FAA threshold, the lowest percentage between FY 2019 and FY 2022.[104]

FAA has taken action to make air travel more efficient, including announcing new routes along the East Coast that are more direct, using restricted airspace released by the military for commercial use, coordinating with the commercial space industry to make sure that no launches are scheduled at the busiest times around the holiday period, and under certain conditions prioritizing commercial passenger

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[98] U.S. Department of Energy, "Developing Infrastructure to Charge Electric Vehicles," accessed January 10, 2024, https://afdc.energy.gov/fuels/electricity_infrastructure.html#level2.
[99] U.S. Department of Energy, "Developing Infrastructure to Charge Electric Vehicles," accessed January 10, 2024, https://afdc.energy.gov/fuels/electricity_infrastructure.html#dc.
[100] Joint Office of Energy and Transportation, "Electric Vehicle Charging Stations," accessed January 10, 2024, https://driveelectric.gov/stations.
[101] Bureau of Transportation Statistics, *Transportation Statistics Annual Report.*
[102] U.S. Department of Transportation, *FY 2024 | 2022 Performance Plan & Report*, 2023, https://www.transportation.gov/sites/dot.gov/files/2023-08/fy_2024_app-fy_2022_apr_508_compliant_5.10.pdf.
[103] U.S. Department of Transportation, *FY 2024 | 2022 Performance Plan & Report.*
[104] U.S. Department of Transportation, *FY 2024 | 2022 Performance Plan & Report.*

aircraft departures over private business jets that often schedule late. DOT has also pressed airlines to ensure they keep realistic schedules as well as take care of passengers when there are cancellations and delays.[105]

On-time performance at major U.S. commercial airports maintained on-time flight arrivals of at least 71.35 percent across the top 30 airports in 2022 (Figure 4). Of the 30 airports displayed, Hartsfield-Jackson Atlanta International (ATL), Detroit Metropolitan Wayne County (DTW), Minneapolis-Saint Paul International (MSP), and Salt Lake City International (SLC) were top performers with the highest percentages of on-time flight arrivals in 2022. In contrast, Fort Lauderdale-Hollywood International Airport (FLL), Orlando International Airport (MCO), and Newark Liberty International Airport (EWR) had the lowest percentages of on-time arrivals for 2022. None of the top 30 airports had lower than 71.35 percent or higher than 85.35 percent of on-time flight arrivals.

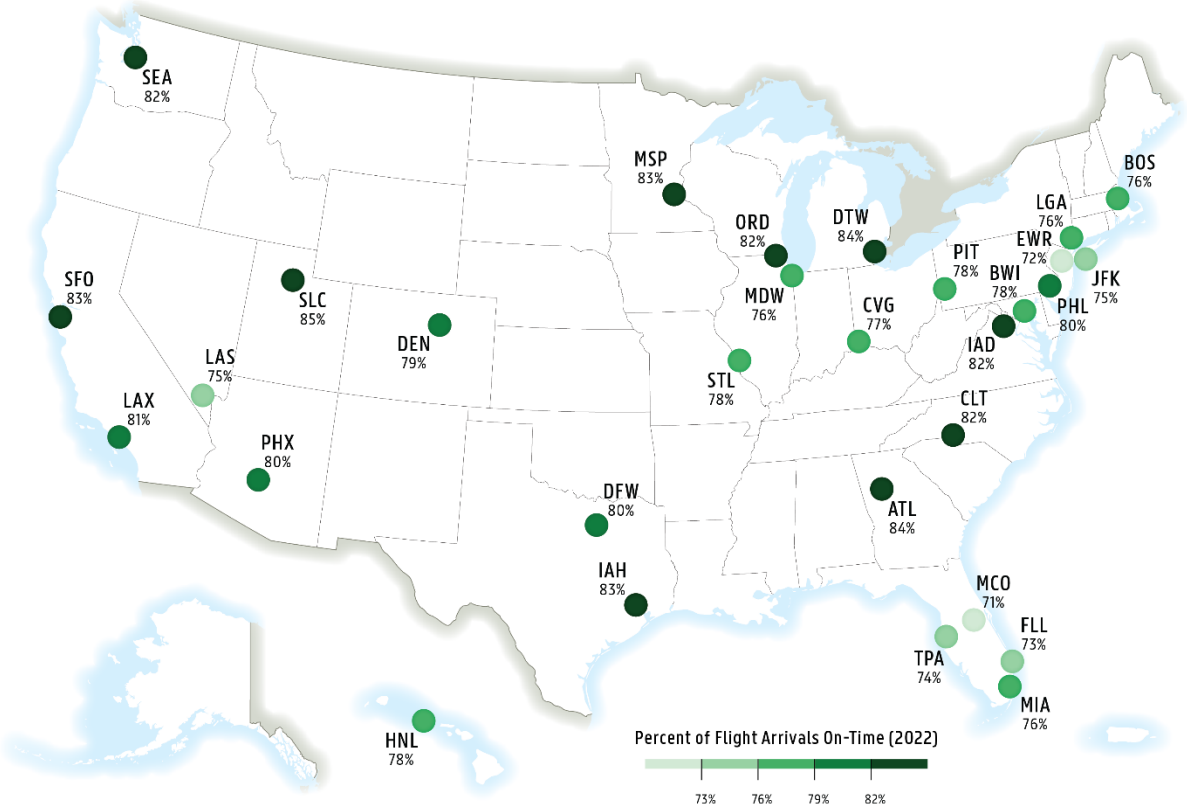

Figure 4: Percent of on-time flight arrivals in 2022 at 30 top airports
Source: Bureau of Transportation Statistics[106]

Travelers have also experienced improvements in flight cancellations. Across the NAS, 2023 ended with the lowest cancellation rate in at least a decade, including the period before the COVID-19 pandemic,

[105] U.S. Department of Transportation, "Fact Sheet on USDOT & FAA Work to Improve Holiday Air Travel And Strengthen Passenger Rights," November 20, 2023, https://www.transportation.gov/briefing-room/fact-sheet-usdot-faa-work-improve-holiday-air-travel-and-strengthen-passenger-rights.

[106] U.S. Department of Transportation, Bureau of Transportation Statistics, "TranStats: Reporting Carrier On-Time Performance (1987-Present)," 2023, https://www.transtats.bts.gov/dl_selectfields.aspx?gnoyr_vq=fgj&go_fu146_anzr=b0-gvzr. Data are based on the most current full-year dataset reported to the public.

and increased consumer protections.[107] DOT regularly publishes updated statistics on topics such as cancellation rates.[108]

In addition to meeting the above condition and performance targets, FAA is committed to making aviation cleaner, quieter, and more sustainable.[109] FAA works with industry partners through its Continuous Lower Energy, Emissions, and Noise (CLEEN) Program to develop new aircraft technologies that improve fuel efficiencies and reduce emissions.[110] FAA also plays a leading role in the Sustainable Aviation Fuel (SAF) Grand Challenge, along with the Departments of Agriculture and Energy. The SAF Grand Challenge is a U.S. Government-wide approach to work with industry to reduce costs, enhance sustainability, and expand production and use of SAF. A gallon of SAF must achieve at least a 50-percent reduction in lifecycle greenhouse gas (GHG) emissions compared to conventional jet fuel to count towards the SAF Grand Challenge's ambitious targets of producing 3 billion gallons of SAF by 2030 and 35 billion by 2050.[111]

DOT and FAA also work with international partners, including the other member States of the International Civil Aviation organization (ICAO), to address emissions from international aviation. As noted in Chapter 3, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), a program of ICAO, addresses certain carbon emissions from international aviation. In 2022, at the 41st ICAO Assembly, the United States played an important role in strengthening CORSIA and adopting the Long-Term Aspirational Goal (LTAG) of net-zero carbon emissions by 2050. In 2023, at the Third Conference on Aviation and Alternative Fuels, the United States helped to negotiate the adoption of a Global Framework for SAF that includes an aspirational vision to reduce the carbon intensity of jet fuel used in international aviation by 5 percent by 2030 through the use of SAF, which puts the organization in position for the LTAG.

Rail

Amtrak operates service on more than 21,400 miles of track; however, approximately 73 percent of route-miles are owned by host freight railroads. This means the conditions of most of Amtrak's track infrastructure is dependent on host railroads—the exception being roughly 600 track miles concentrated primarily in the Northeast Corridor (NEC).[112] In general, hours of delay on Amtrak routes have trended up, increasing from about 80,000 hours to 97,000 hours between 2010 and 2019. The hours of delay

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[107] U.S. Department of Transportation, "2023 by the Numbers: More Flights, Fewer Cancellations, More Consumer Protections, January 3, 2024, https://www.transportation.gov/briefing-room/2023-numbers-more-flights-fewer-cancellations-more-consumer-protections.

[108] U.S. Department of Transportation, Bureau of Transportation Statistics, "TranStats: On-Time Performance Reporting Operating Carrier Flight Delays at a Glance," accessed on February 9, 2024, https://www.transtats.bts.gov/homedrillchart_month.asp?5ry_lrn4=fdem&n44_qry=e&5ry_pn44vr4=dde&5ry_nv42146=ddd&hey_fryrp6lrn4=fdfg&hey_fryrp6z106u=j.
U.S. Department of Transportation, Office of Aviation Consumer Protection, *Air Travel Consumer Report*, 2022, https://www.transportation.gov/sites/dot.gov/files/2022-02/february%202022%20atcr.pdf.
Office of Aviation Consumer Protection, *Air Travel Consumer Report*.
U.S. Department of Transportation, Bureau of Transportation Statistics, "Annual Airline On-Time Rankings 2003-2020," n.d., https://www.bts.dot.gov/topics/airlines-and-airports/annual-airline-time-rankings-2003-2020.

[109] U.S. Department of Transportation, Federal Aviation Administration, "Working to Build a Net-Zero Sustainable Aviation System by 2050," n.d., https://www.faa.gov/sustainability.

[110] U.S. Department of Transportation, Federal Aviation Administration, "Continuous Lower Energy, Emissions, and Noise (CLEEN) Program, 2023, https://www.faa.gov/about/office_org/headquarters_offices/apl/eee/technology_saf_operations/cleen.

[111] U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, Bioenergy Technologies Office, "Sustainable Aviation Fuel Grand Challenge," n.d., https://www.energy.gov/eere/bioenergy/sustainable-aviation-fuel-grand-challenge.

[112] Amtrak, "FY 2022 Company Profile," 2023, https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/nationalfactsheets/amtrak-company-profile-fy2022-020823.pdf.

decreased sharply in 2020. Although most delays are caused by the host railroad (57 percent of Amtrak delays in 2020 can be attributed to host railroads), operational delays and breakdowns are also a source of delay.[113] The increasing age of Amtrak's fleet has affected train availability and reliability. The average age of passenger cars (33.6 years) has increased by 8 years since 2010, while the average age of locomotives (19.1 years) has remained static.[114]

In FY 2022, 74 percent of Amtrak trains were on time arriving at the endpoint of their routes (Figure 5). Of the remaining 26 percent of trains that were delayed, many were due to freight railroads having ownership, and therefore dispatching control, on certain rail lines. The hours of delays have fluctuated over the past two decades, averaging around 87,800 hours annually between 2000 and 2021.[115] In 2020, DOT published a final rule setting forth metrics and a minimum standard to measure the performance and service quality of Amtrak intercity passenger train operations, including metrics relating to on-time performance and train delays, customer service, financial, and public benefits. The on-time performance metric in this rule measures customer on-time performance, as opposed to the on-time performance of a train at the endpoint of its route.[116]

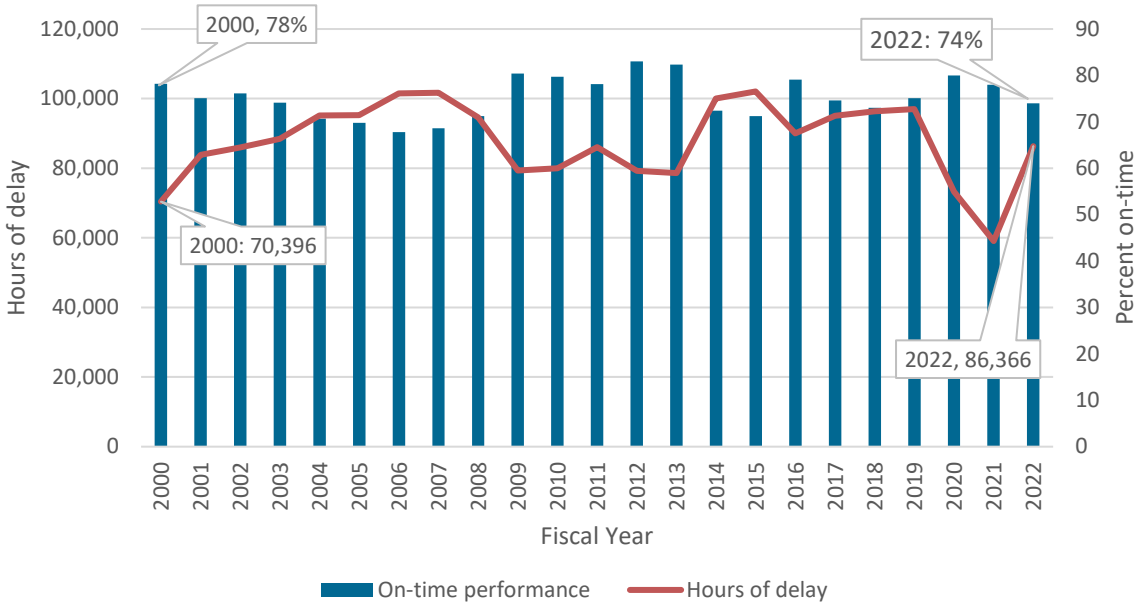

Figure 5: Amtrak On-Time Performance and Delays, FY 2000–2022
Source: Bureau of Transportation Statistics[117]

Ports

Delays and other disruptions at ports can be largely attributed to port congestion. Ports are dealing with larger container vessels needing to dock, due to greater economies of scale and elimination of physical

[113] U.S. Department of Transportation, Bureau of Transportation Statistics, "Amtrak On-Time Performance Trends and Hours of Delay by Cause," 2023, https://www.bts.gov/content/amtrak-time-performance-trends-and-hours-delay-cause.
[114] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 22-25, 2022 https://rosap.ntl.bts.gov/view/dot/65841.
[115] U.S. Department of Transportation, Bureau of Transportation Statistics, "Amtrak On-Time Performance Trends and Hours of Delay by Cause," 2023, https://www.bts.gov/content/amtrak-time-performance-trends-and-hours-delay-cause.
[116] Federal Register, "Metrics and Minimum Standards for Intercity Passenger Rail Service," 85 FR 17835, 2020, https://www.govinfo.gov/app/details/FR-2020-03-31/2020-06245.
[117] U.S. Department of Transportation, Bureau of Transportation Statistics, "Amtrak On-Time Performance Trends and Hours of Delay by Cause," 2023, https://www.bts.gov/content/amtrak-time-performance-trends-and-hours-delay-cause.

constraints (e.g., the new Panama Canal). As a result, container vessels must wait to berth, leading to port congestion. Port congestion is explained further in the Issues Creating Congestion section below.

The International Maritime Organization released a revised GHG reduction strategy for global shipping in 2023, which establishes a goal to reach net-zero GHG emissions by, or close to, 2050 and to reduce carbon emissions by 40 percent by 2030, compared to 2008. Additionally, the 2023 strategy establishes a goal for the "uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5 percent, striving for 10 percent, of the energy used by international shipping by 2030" and the further development of "a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity."[118]

The cruise industry has committed to these emissions reductions goals, as well. Almost all new-build ships being constructed today through 2028 are scheduled to be fitted with shoreside power capabilities. Plugging into shoreside electricity while in port allows a ship to turn off its own generators, reducing emissions by up to 98 percent, depending on the mix of energy sources. However, less than 2 percent of the world's cruise terminals currently have shoreside power. Cruise lines are increasingly using alternative fuels for their primary propulsion engines as well. A recent report found that 60 percent of the ships scheduled to enter service between 2023 and 2028 will rely on liquefied natural gas (LNG) for their primary propulsion plants.[119] It has been estimated that LNG can reduce a cruise ship's GHG emissions by approximately 30 percent when compared to diesel.[120]

Multimodal Connections

For many long-distance travelers and tourists, a seamless experience from front door to destination requires the availability and integration of various modes (Figure 6). The Major Travel and Tourism Facilities and Corridors of Regional Significance section of this report describes a multimodal network to help identify mobility gaps across users, modes, and geographic boundaries. This network will include an analysis of key national facilities and travel corridors to identify where gaps in multimodal connectivity exist and to facilitate critical long-distance travel to and within the United States.

[118] International Maritime Organization, *2023 IMO Strategy on Reduction of GHG Emissions from Ships*, Resolution MEPC.377(80), 2023, https://wwwcdn.imo.org/localresources/en/mediacentre/pressbriefings/documents/clean%20version%20of%20annex%201.pdf.

[119] Cruise Lines International Association, *2023 State of the Cruise Industry Report*, 2023, https://cruising.org/en/news-and-research/research/2023/march/2023-state-of-the-cruise-industry-report.

[120] Aakko-Saksa, Päivi T., Kati Lehtoranta, Niina Kuittinen, Anssi Järvinen, Jukka-Pekka Jalkanen, Kent Johnson, Heejung Jung, Leonidas Ntziachristos, Stéphanie Gagné, Chiori Takahashi, Panu Karjalainen, Topi Rönkkö, and Hilkka Timonen. "Reduction in greenhouse gas and other emissions from ship engines: Current trends and future options." *Progress in Energy and Combustion Science* 94: 1-26. https://doi.org/10.1016/j.pecs.2022.101055.

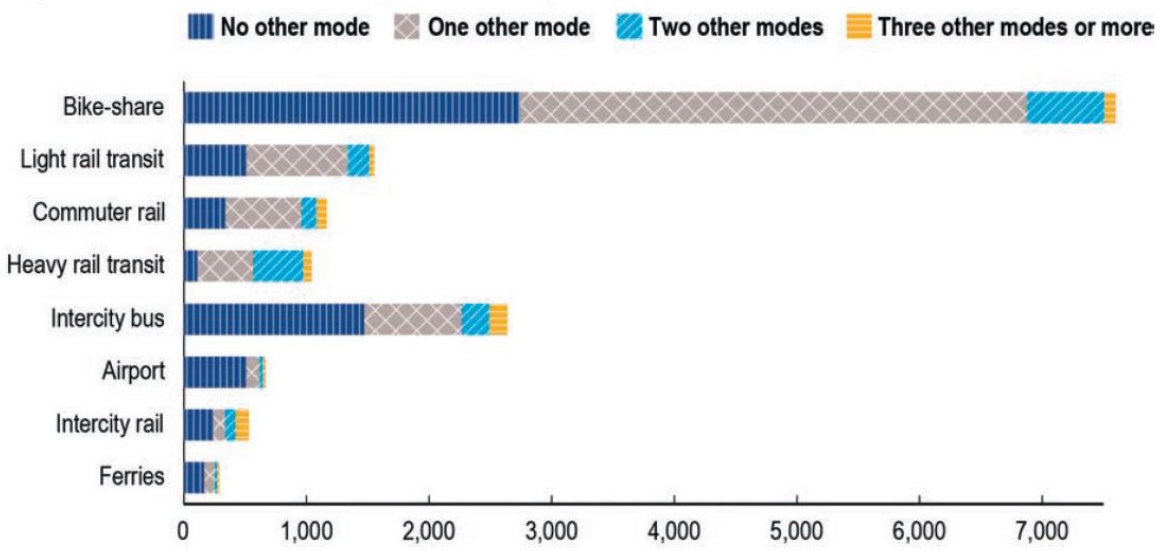

Figure 6: Intermodal Passenger Facilities by Mode
Source: Bureau of Transportation Statistics[121]

Presently, limited operational and usage data exists for multimodal connections, presenting an additional barrier to addressing mobility and last-mile gaps. Of the approximately 15,500 intercity and transit rail, air, bus, ferry, and bikeshare stations in the United States in 2022, about 61 percent offer travelers the ability to connect to other public passenger transportation modes. Of this 61 percent, 46 percent connect to one other mode, 11 percent connect to two other modes, and 4 percent connect to three or more other modes (e.g., bus, air, rail, ferry, or bikeshare). After bikeshare, the transit modes that have the highest percentage of multimodal connections are heavy rail transit (approximately 89 percent of 1,043 facilities), commuter rail (71 percent of 1,167 facilities), and light rail transit (67 percent of 1,554 facilities).

Among the intercity modes, intercity rail terminals have the highest level of connectivity with other modes (approximately 55 percent of the 530 facilities), followed by intercity bus stops (44 percent of the 2,639 stops), and airports (24 percent of the 666 airports).[122] In New York City, the AirTrain is one example of a multimodal connection that collects usage data. The AirTrain connects John F. Kennedy International Airport with local rail and bus transport options. In 2022, 18.2 million riders used the AirTrain.[123]

Issues Creating Congestion

This section identifies the issues on the national transportation network that create significant congestion problems across modes, as well as the specific issues affecting each mode. In transportation, congestion is usually described in terms of excess demand on a portion of the system at a particular time resulting in slower than anticipated travel. Congestion is easily recognizable across modes—roads and highways filled with vehicles, longer dwell times at key rail terminals, longer waiting times for

[121] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 2022 https://rosap.ntl.bts.gov/view/dot/65841.
[122] Bureau of Transportation Statistics, *Transportation Statistics Annual Report.*
[123] Port Authority of New York and New Jersey, *2022 Annual Airport Traffic Report*, 2023, https://www.panynj.gov/airports/en/statistics-general-info.html.

boarding at ports, and extended takeoff and landing wait times at airports. Congestion degrades productivity, influences travel decisions, and deprives travelers of leisure time.

An increase in the volume of people accessing the transportation system places greater demand on the transportation network, testing the capacities of existing infrastructure, which can result in congestion and bottlenecks, most notably during peak morning and evening periods. Prior to the BIL, the United States has lagged in adequately repairing and modernizing the Nation's highways, bridges, transit assets, rail facilities, airport and air traffic facilities, and ports and waterways. As a result, the Nation's infrastructure is failing to keep up with growing transportation needs and parts of the system have fallen into disrepair.[124] Furthermore, systematic problems such as equipment shortages, short-term labor disruptions (e.g., resulting from the COVID-19 pandemic), ongoing shortages in key occupations (e.g., truck drivers, rail workers, airline pilots), inefficient operating practices at terminals and border crossings, traffic backups at toll booths, and outdated technologies all limit the national transportation system's capacity to accommodate increasing demand.

A national transportation system operating at the limits of its capacity cannot respond to external shocks caused by safety incidents or extreme weather events, which further exacerbate congestion. DOT seeks to address four root issues that cause congestion:

1. **Insufficient Investment.** Transportation system conditions are affected by normal wear from use and damage from age and environmental factors.[125] Sufficient, state-of-the-art public infrastructure such as safe roads and bridges or climate-friendly transportation are essential to America's competitiveness and economic growth. The World Economic Forum ranks the United States as 2nd overall in national competitiveness; despite this, in terms of quality of infrastructure, the United States ranks 13th—largely because of insufficient investment in the Nation's infrastructure over the past several decades.[126, 127, 128]

   Between 1952 and 1967, the U.S. Government's fixed asset investments for public infrastructure remained steady at approximately 6 to 7 percent of GDP. However, this declined to an estimated 5 percent throughout the 1970s and 1980s, followed by 4 percent in the 1990s and 2000s, to around 3.5 percent from 2010 to 2020.[129] This decrease in investment has left parts of the national transportation network with substandard conditions and insufficient capacity to support increased travel demand or withstand climate change impacts. These factors contribute to increased congestion on the Nation's roads and highways. The American Society of Civil Engineers' (ASCE) 2021 Report Card for America's Infrastructure gave the United States a 'C-'. Although this is an improvement from the 'D+' in 2017, the Nation's infrastructure still has many deficiencies.[130] In addition, the Public Infrastructure grades vary across infrastructure type,

[124] U.S. Department of Transportation, *U.S. DOT Strategic Plan FY 2022–2026*, 2022, https://www.transportation.gov/mission/us-dot-strategic-plan-fy-2022-2026.
[125] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 1-3, 2022 https://rosap.ntl.bts.gov/view/dot/65841..
[126] The World Economic Forum's Global Competitiveness Index 4.0 measures national competitiveness, which is defined as the set of institutions, policies and factors that determine the level of productivity, across 141 economies.
[127] World Economic Forum, *The Global Competitiveness Report 2019*, 2019, https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf.
[128] The White House, "Modernizing U.S. Infrastructure: The Bipartisan Infrastructure Law," 2021, https://www.whitehouse.gov/cea/written-materials/2021/11/15/the-time-is-now-to-modernize-u-s-infrastructure/.
[129] Federal Reserve Bank of St. Louis, "Government Investment on the Decline," 2021, https://fredblog.stlouisfed.org/2021/10/government-investment-on-the-decline/.
[130] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org/.

ranging from a 'D-' to a 'B' for infrastructure that is pertinent to long-distance and tourism travel (See Table 2 comparing ASCE's 2013, 2017, and 2021 Infrastructure Report Cards).

Critical infrastructure such as bridges and tunnels are closed on occasion due to unsafe conditions or for construction. Poor roadway conditions cause drivers to slow down, leading to traffic congestion. Outdated technology and intermittent disruption of traffic flow by control devices such as railroad grade crossings and poorly timed traffic lights and signals can add to travel time. Inadequate operating practices, specifically at terminals and border crossings, can lead to traffic backups at toll booths. Systematic problems such as equipment shortages, short-term labor disruptions, and short- and long-term labor shortages can result in cancelled trips.

All these situations create delays throughout the network, worsening congestion. The section on Condition and Performance of the National Transportation Network earlier in this chapter and Chapter 5: Travel and Tourism Indicators and Issues, of this report summarize the available volume, congestion, and performance trends for surface transportation, air travel, passenger rail, ports, and multimodal connections in greater detail. Infrastructure investments facilitate travel and tourism by improving conditions, increasing capacity, enhancing safety, and creating multimodal connections.

Table 2: America's Infrastructure Report Card, 2013, 2017, 2021

Public Infrastructure	2013	2017	2021	Conditions 2013–2021
Overall Score	**D+**	**D+**	**C-**	**Improved**
Aviation	D	D	D+	Improved
Bridges	C+	C+	C	Worsened
Dams	D	D	D	No Change
Energy	D+	D+	C-	Improved
Inland Waterways	D-	D	D+	Improved
Levees	D-	D	D	Improved
Ports	C	C+	B-	Improved
Rail	C+	B	B	Improved
Roads	D	D	D	No Change
Stormwater	N/A	N/A	D	N/A
Transit	D	D-	D-	Worsened

Source: American Society of Civil Engineers[131]

2. **Insufficient Capacity.** The physical and operational capacity of infrastructure and services to handle demand, disruptions, and extreme weather events affects the overall performance of the transportation system.[132] Capacity refers to the maximum volume any given transportation asset, system, or network can support. The number and width of lanes and shoulders, the number of rail lines and train cars or buses and bus routes that run on any given day, the number of flights that take off or the number of airlines that operate from any given airport, and

[131] American Society of Civil Engineers Foundation, "2021 Report Card."
American Society of Civil Engineers Foundation, "2013 Report Card for America's Infrastructure," 2013, https://2013.infrastructurereportcard.org;
American Society of Civil Engineers Foundation, "2017 Report Card for America's Infrastructure," 2017, https://2017.infrastructurereportcard.org; American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[132] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 1-3, 2022 https://rosap.ntl.bts.gov/view/dot/65841.

the number of port slips or anchors for vessels at any given port are a few measures of capacity. At its core, congestion is often a result of a supply and demand imbalance. When travel demand is greater than the capacity of existing infrastructure, which is most typically seen at peak times of the day, it causes bottlenecks or delays in the normal flow of transportation, which results in congestion.[133]

As mentioned above, insufficient infrastructure investment has led to decreased transportation system and network capacity. When paired with increased travel demand, this can create instances where demand exceeds capacity, especially during peak periods and in highly visited or densely populated regions. Additionally, freight transportation is increasing, which adds more demand to the transportation network, creates increased bottlenecks, and significantly contributes to surface transportation congestion that affects the movement of goods and people.[134] In recent years, the transportation system's insufficient capacity across modes has taken the form of cars and buses stalled in traffic, airplanes taxiing and delayed on crowded runways, and subways and trains packed with travelers.

3. **Vulnerability to Climate Change.** Transportation system conditions are affected by damage from environmental factors, while transportation system performance is affected by the physical and operational capacity of infrastructure and services in response to extreme weather events.[135] Climate change disruptions can lead to extensive safety risks, closures, and delays, ultimately exacerbating congestion issues. Environmental conditions caused by climate change, such as increased extreme weather events, can change driver behavior in a way that impacts traffic flow.[136] Heavy rain slows traffic by 3 to 15 percent on average, while heavy snow slows traffic by 5 to 40 percent.[137] Other extreme weather events—such as hurricanes, flooding, wildfires, tornadoes, and mudslides—can shut down transportation assets and systems, as well as destroy critical infrastructure.

   In 2020, a record-high 22 weather and climate disaster events occurred across the United States, including seven tropical cyclones, 13 severe storms, one related to a drought, and one related to a wildfire. Losses from each of these events exceeded $1 billion and resulted in a combined $95 billion in damages nationally.[138] In 2021, there were 20 extreme weather events with combined damages totaling $145 billion. In the first 9 months of 2022, the United States experienced 15 distinct, billion-dollar weather and climate disasters.[139]

   However, transportation demand does not necessarily decrease because of unsafe conditions, closures, or delays due to damage from extreme weather events. Rather, strains to the existing network must often be redistributed to other surrounding facilities and systems, which increases demand on the limited capacity for those surrounding areas (meaning that impacts in one region can readily affect another), resulting in widespread congestion. GHG emissions

[133] Bottlenecks are caused by converging traffic at highway intersections and railroad junctions, steep grades on highways and rail lines, lane reductions on highways and single-track portions of railroads, and locks and constrained channels on waterways.
[134] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 2022 https://rosap.ntl.bts.gov/view/dot/65841.
[135] Bureau of Transportation Statistics, *Transportation Statistics Annual Report.*
[136] U.S. Department of Transportation, Federal Highway Administration, "How Do Weather Events Impact Roads?," n.d., https://ops.fhwa.dot.gov/weather/q1_roadimpact.htm.
[137] Federal Highway Administration, "How Do Weather Events Impact Roads?"
[138] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 2022, https://rosap.ntl.bts.gov/view/dot/65841.
[139] Bureau of Transportation Statistics, *Transportation Statistics Annual Report.*

largely contribute to rapid climate change and global warming, thereby increasing the likelihood of extreme weather events and consequently worsening congestion.

Transportation emissions largely contribute to air pollution and GHGs, which in turn accelerate climate change and result in a greater number of the types of extreme weather events that have damaged existing aging infrastructure not built with resiliency in mind. In 2021, the U.S. transportation sector was responsible for 29 percent of the total economy's emissions: light-duty vehicles, used most prominently in long-distance travel, account for 58 percent of the transportation sector's emissions.[140] Environmental conditions and safety incidents are also interrelated, as bad weather often leads to an increase in safety incidents. Given all this, it is critical the transportation system is resilient to withstand unsafe conditions, delays, and closures due to extreme weather events, specifically at ports and airports.

Congestion by Transportation Mode

In addition to these root causes, there are unique factors that contribute to congestion in each mode of transportation.

Roadways

The American Society of Civil Engineers' 2021 Report Card for America's Infrastructure scored U.S. roads at a 'D', bridges at a 'C', and transit at a 'D-'.[141] In 2022, 43,000 U.S. bridges were in poor condition.[142] As of July 2023, growing wear and tear on the road network has left 40 percent of major roads in "poor" or "mediocre" condition.[143] Poor pavement conditions can cause vehicle wear and flat tires, and can contribute to traffic congestion and fatal crashes. (Highways consistently contribute more than 95 percent of all transportation-related fatalities every year.[144])

Similarly, most existing infrastructure was not built with resiliency in mind and is extremely vulnerable to climate change and associated extreme weather events. More than 60,000 miles of U.S. roads and bridges are located in coastal floodplains, making these assets much more vulnerable to extreme storms and hurricanes.[145] Poor infrastructure conditions and outdated system technologies can lead to road closures and delays, as well as service delays and cancellations, across all modes of transportation, thereby resulting in slower travel speeds and increased congestion.

In addition, as discussed elsewhere in this report, VMT growth that outstrips capacity can lead to severe traffic congestion under certain conditions.[146] As previously noted, peak-period travel demand exceeds available highway capacity in many areas of the country.[147] Traffic congestion—typified by slower speeds, longer trips times, and increased vehicular queuing—costs the U.S. economy over $160 billion

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[140] U.S. Environmental Protection Agency, "Fast Facts on Transportation Greenhouse Gas Emissions," 2023, epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions.
[141] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[142] U.S. Department of Transportation, Bureau of Transportation Statistics, "Condition of US Highway Bridges," 2023, https://www.bts.gov/content/condition-us-highway-bridges.
[143] TRIP, "Key facts about the U.S. transportation system," July, 2023,https://tripnet.org/wp-content/uploads/2020/04/TRIP_Fact_Sheet_NATL.pdf. .
[144] U.S. Department of Transportation, Bureau of Transportation Statistics, "Transportation Fatalities by Mode," 2023, https://www.bts.gov/content/transportation-fatalities-mode.
[145] The White House, "Fact Sheet: The Bipartisan Infrastructure Deal Boosts Clean Energy Jobs, Strengthens Resilience, and Advances Environmental Justice," 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/08/fact-sheet-the-bipartisan-infrastructure-deal-boosts-clean-energy-jobs-strengthens-resilience-and-advances-environmental-justice/.
[146] The White House, "Fact Sheet: The Bipartisan Infrastructure Deal Boosts Clean Energy."
[147] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 2022, https://rosap.ntl.bts.gov/view/dot/65841.

per year, with motorists losing more than $1,000 each year in wasted time and fuel.[148,149] Tourist travel in the United States occurs primarily in personal vehicles, and intercity bus and motor coach are also significant modes of travel.[150] Thus, an increase in annual travel is likely to be accompanied by an increase in VMT, thereby worsening congestion.

Further, the Nation's intermodal freight network is critical for meeting the everyday needs of communities and businesses. As such, the growth in freight demand is a large contributor to congestion in urban areas and on intercity routes, and long-distance freight movements are often a significant contributor to local congestion. In 2020, commercial trucks accounted for 10.4 percent of highway VMT.[151,152] Although freight movements are often intermodal, trucks carry most of the tonnage and value of freight in the United States. Trucks carry greater than 12.7 billion tons of freight valued at more than $13 trillion (2017 USD) annually in the United States, representing 64 percent of all the freight moved in the United States by weight and 72 percent by value, which also contributes to total VMT.[153] Growing freight demand increases congestion at freight bottlenecks, places where freight and passenger service conflict with one another, and where there is insufficient room for local pickup and delivery, loading and unloading, or truck parking. As demand for goods and services continues to grow, so will the occurrence of supply chain bottlenecks throughout the country (Table 3).

Table 3: Top 10 Major Freight Highway Bottlenecks Based Upon Truck-hours of Delay per Mile, 2019

Rank	Road	Urban Area	State	Generalized Bottleneck Location/Congested Corridor	Delay/Mile
1	I-95/I-295	New York	NY/ NJ	I-278/I-678 to NJ side of GW Bridge/SR-4	263,116
2	I-90/I-94	Chicago	IL	I-94N to I-55	140,942
3	I-605	Los Angeles	CA	I-5 to SR-60	139,777
4	I-35	Austin	TX	Airport Blvd. to Stassney Ln.	111,359
5	I-610	Houston	TX	I-69 to I-10	104,009
6	I-678	New York	NY	I-495 to Belt Parkway & I-295/I-95 to south end Bronx-Whitestone Bridge	100,237
7	I-405	Los Angeles	CA	At SR-73 & I-105 to SR-42 Manchester Blvd.	95,686
8	I-290	Chicago	IL	I-90/I-94 to I-290	94,778
9	I-69/US-59	Houston	TX	Buffalo Speedway to I-45	89,185
10	I-278	New York	NY	I-95/I-678 to Grand Central Pkwy. And SR-27 Prospect Expy. To SR-29 Queens Blvd.	88,339

Source: Federal Highway Administration[154, 155]

[148] U.S. Department of Transportation, Federal Highway Administration, "Public Road Mileage - VMT - Lane Miles 1900 – 2020," 2021, https://www.fhwa.dot.gov/policyinformation/statistics/2020/vmt421c.cfm

[149] The White House, "Fact Sheet: The American Jobs Plan," 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/31/fact-sheet-the-american-jobs-plan/.

[150] U.S. Department of Transportation, Bureau of Transportation Statistics, "American Travel Survey," 2021, https://www.bts.gov/browse-statistical-products-and-data/surveys/american-travel-survey.

[151] U.S. Department of Transportation, Bureau of Transportation Statistics, "Share of Highway Vehicle-miles traveled by Vehicle Type," 2022, https://data.bts.gov/stories/s/Freight-Transportation-System-Extent-Use/r3vy-npqd#system-use.

[152] U.S. Department of Transportation, Bureau of Transportation Statistics "Average Daily Long-Haul Truck Traffic on the National Highway System," 2019, https://data.bts.gov/stories/s/Freight-Transportation-System-Extent-Use/r3vy-npqd#system-use.

[153] U.S. Department of Transportation, Federal Highway Administration, "Freight Analysis Framework," 2023, https://ops.fhwa.dot.gov/freight/freight_analysis/faf/.

[154] U.S. Department of Transportation, Federal Highway Administration, "National List of Major Freight Highway Bottlenecks and Congested Corridors Federal Highway Administration (FHWA) Freight Mobility Trends: Truck Hours of Delay, 2019," 2019, https://ops.fhwa.dot.gov/freight/freight_analysis/mobility_trends/national_list_2019.htm.

[155] FHWA uses the National Performance Management Research Data Set (NPMRDS) tool to identify bottlenecks.

Delay per mile was calculated for each Interstate segment using the 2019 National Performance Management Research Data Set (NPMRDS) travel-time data as follows:[156]

- Delay was calculated for each 15-minute period as the difference between actual travel time and reference travel time.[157]
- Delay for each 15-minute period was multiplied by 15-minute truck volumes.[158] Delay for each 15-minute period was aggregated to get annual truck-hours of delay.
- The total truck-hours of delay were then divided by the segment length to get total truck-hours of delay per mile, allowing for the comparison of all roadway sections across the NHS.

The top bottleneck locations were then compared with the bottlenecks identified by States in their 2018 Baseline Performance Reports and FHWA Office of Freight Management coordinated the locations with the FHWA Division Offices and State DOTs for review and comment.

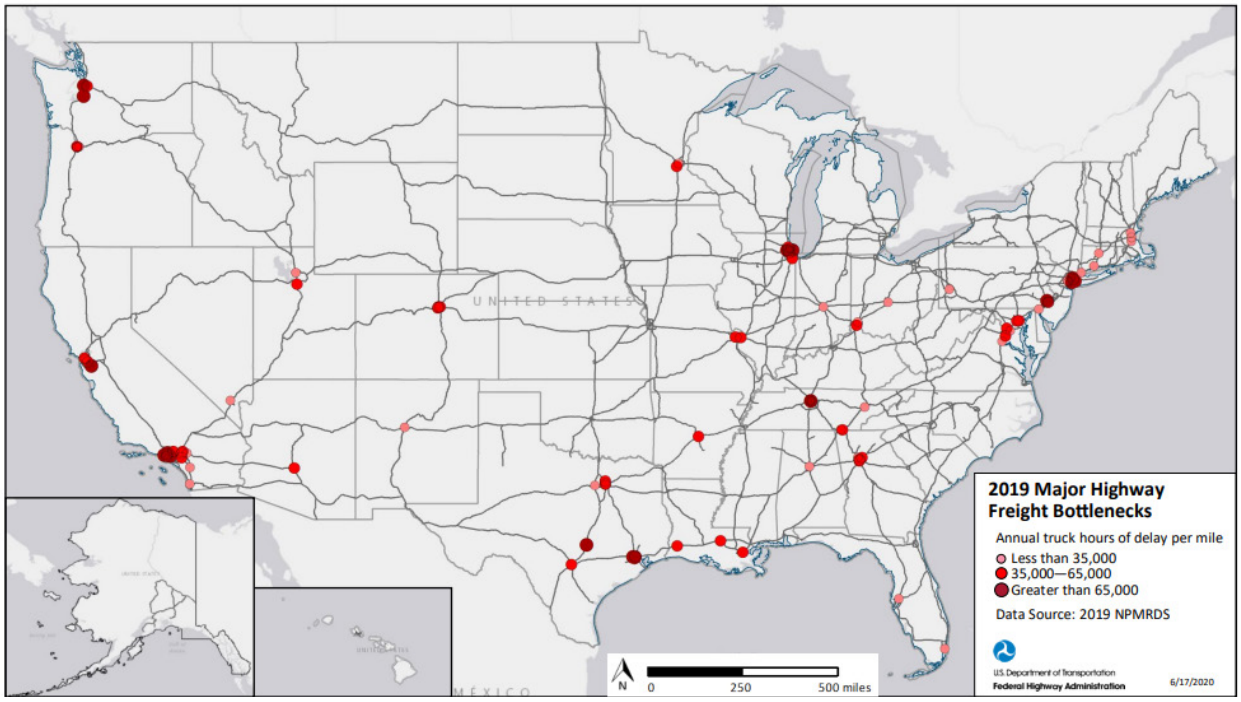

Figure 7: Major Freight Highway Bottlenecks Based Upon Truck-hours of Delay per Mile, 2019
Source: Federal Highway Administration[159]

Major congested points and bottlenecks largely occur in metropolitan areas (Figure 7), where truck traffic mixes with other traffic, and along major interstate highways connecting major metropolitan areas. In 2019, the top 10 major freight highway bottlenecks (based upon truck-hours of delay per mile) were concentrated in the New York / New Jersey region; Chicago, Illinois; Los Angeles, California; and

[156] The process was completed for 2017–2019 to compare trends year to year. The use of delay per mile for assessing bottlenecks is a consistent measure that allows for comparing performance over the entire Interstate system year to year across all States. Truck hours of delay are quantified along corridors, as opposed to individual points, to consider the full delay that a truck would experience driving along a congested corridor. Annual Truck Hours of Delay per Mile is determined at the most congested segment of the corridor.
[157] Reference travel time is based on 85th percentile speed during off-peak and overnight time periods.
[158] Truck volumes are estimated from Annual Average Daily Truck Traffic using typical time-of-day traffic volumes.
[159] U.S. Department of Transportation, Federal Highway Administration, "National List of Major Freight Highway Bottlenecks and Congested Corridors Federal Highway Administration (FHWA) Freight Mobility Trends: Truck Hours of Delay, 2019," 2019, https://ops.fhwa.dot.gov/freight/freight_analysis/mobility_trends/national_list_2019.htm.

Texas. The number one freight highway bottleneck area is on I-95/I-295 in New York and New Jersey between I-278/I-678 to the New Jersey side of the George Washington Bridge/SR-4 (Table 3, Rank #1). This bottleneck represents 263,116 truck-hours of delay per mile, which is an 87 percent greater delay per mile than on I-90/I-94 in Chicago between I-94N to I-55 (Table 3, Rank #2) with 140,942 truck-hours of delay per mile and a 198 percent greater delay per mile than on I-278 in New York City between I-95/I-678 and Grand Central Parkway and SR-27 Prospect Expressway to SR-29 Queens Boulevard (Table 3, Rank #10) with 88,339 truck-hours of delay per mile.

Some freight bottlenecks can be attributed to challenges unique to trucks (e.g., bridges with weight or clearance restrictions, steep grades, frequent adverse weather, facility constraints). However, the existing infrastructure capacity will likely not be sufficient to accommodate growing freight demand. Restrictions on freight movement, such as the lack of parking and spaces for trucks in dense urban areas, limited intermodal freight connectivity and access, and limited delivery and loading areas, are all issues that create increased congestion. For example, freight intermodal connectors provide access between major intermodal facilities, such as ports and truck/pipeline terminals, and the NHS making them vital for truck movement, and yet, freight intermodal connectors account for less than one percent of total NHS mileage (2,593 miles in 2022).[160]

In addition, FHWA's 2015 Jason's Law Truck Parking Survey Results and Comparative Analysis (Truck Parking Survey) showed the demand for truck parking spaces exceeded supply, indicating an increased shortage of truck parking spaces at public facilities such as State rest areas and welcome centers, and noting that projected increases in freight volume would only exacerbate the problem.[161,162] FHWA's 2019 update to the Truck Parking Survey confirms that even though there was a 6 percent increase in public parking spaces and an 11 percent increase in private parking spaces from 2014 to 2019, this parking shortage still exists. Shortages occur at every time of the day, in every State, and throughout the year in key corridors such as the I-95 Corridor, Pacific corridors, and States in proximity to Chicago. In 2019, there were approximately 313,000 truck parking spaces nationally, averaging 142 parking spaces per 100 miles of NHS; only 8.5 percent of truck parking spaces are located within the 32 urbanized areas with the greatest freight origins/destinations (38 percent of truck freight tonnage).[163] If parking is not readily available, lack of truck parking can lead to roadway congestion and slowdowns for other vehicles, as well as safety concerns.

Traffic congestion today is still lower than in 2019, but congestion will likely increase as the world continues to recover from COVID-19 pandemic. The United States will see a rise in VMT as people return to more traditional commutes, public transportation and freight demand grows, and the Nation experiences an overall increase in travel and tourism. In 2022, the typical U.S. driver lost approximately 51 hours to congestion (nearly one hour per week), which cost the driver approximately $869 in lost time; between 2021 and 2022, most downtowns saw increases in vehicle volumes as well as travel times.[164]

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[160] U.S. Department of Transportation, Bureau of Transportation Statistics, "Freight Intermodal Connectors on the National Highway System by State," 2022, data.bts.gov/stories/s/Freight-Transportation-System-Extent-Use/r3vy-npqd.
[161] U.S. Department of Transportation, Federal Highway Administration, "Jason's Law Truck Parking Survey Results and Comparative Analysis," 2015, ops.fhwa.dot.gov/freight/infrastructure/truck_parking/jasons_law/truckparkingsurvey/index.htm.
[162] U.S. Department of Transportation, Bureau of Transportation Statistics, "Parking Facilities by State," 2022, data.bts.gov/stories/s/Freight-Transportation-System-Extent-Use/r3vy-npqd.
[163] U.S. Department of Transportation, Federal Highway Administration, *Jason's Law Commercial Motor Vehicle Parking Survey and Comparative Assessment*, 2020, https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/jasons_law/truckparkingsurvey/jasons_law.pdf.
[164] Inrix, "2022 Global Traffic Scorecard," 2022, inrix.com/scorecard/.

Air

The American Society of Civil Engineers' 2021 Report Card for America's Infrastructure scored U.S. aviation infrastructure at a 'D+' and estimated $237 billion in needed upgrades and repairs.[165] Of that figure, the FAA owns and maintains facilities with a backlog of $5.3 billion in sustainment needs.[166] Aviation congestion will likely continue to worsen as airports and airways in the United States cannot adequately support increased annual travel. In 2022, the FAA completed a national capacity evaluation to identify airports that are runway capacity constrained, or at risk of becoming runway capacity constrained by 2026 and 2031. The evaluation concluded that 11 airports are expected to be runway capacity constrained in 2026, increasing to 14 airports in 2031. An additional 16 airports are at risk of significant congestion by 2031.[167] Twenty-nine of the 30 airports identified in the FAA report are included in the top 50 airports for enplanements, including 8 of the top 10 international gateway airports identified in this report (see Chapter 5 for further discussion).[168] By 2026, 20 percent of the top 10 international gateway airports are expected to be congested, 20 percent are expected to be capacity constrained, and 40 percent are expected to be severely capacity constrained. By 2031, 10 percent of the top 10 international gateway airports identified in this report are expected to be congested, 20 percent are expected to be capacity constrained, and 50 percent are expected to be severely capacity constrained.[169]

Rail

Though trucks carry most of the tonnage and value of freight in the United States, railroads also carry significant volumes over long distances. Similar to the way passenger cars and trucks compete for space on the highway system, passenger trains and freight trains compete for space on the railroad network. This intermodal demand, along with supply chain issues, labor shortages, operating practices, and aging infrastructure, contributes train delays and cancellations, thereby increasing congestion.

The American Society of Civil Engineers' 2021 Report Card for America's Infrastructure scored U.S. rail at a 'B'.[170] As discussed in the *Condition and Performance of the National Transportation Network* section, Amtrak operates service on more than 21,400 miles of track; however, approximately 73 percent of route-miles are owned by host freight railroads. Given this, the conditions of most of Amtrak's track infrastructure depend on host railroads. In general, hours of delay on Amtrak routes have trended up, increasing from about 80,000 hours to 97,000 hours between 2010 and 2019. In FY 2021, 22 percent of Amtrak trains were delayed, many of which were due to freight railroads having ownership, and therefore the dispatching control, on certain rail lines.[171] Though most delays to Amtrak trains are caused by host railroads, operational delays and breakdowns are also a source of delay.

A significant barrier to improving rail service is aging infrastructure.[172] Aging infrastructure, such as the Hudson River Tunnel along the NEC that provides commuter and passenger rail service between New

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[165] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[166] U.S. Department of Transportation, Office of the Secretary, *Budget Highlights 2024*, 2023, https://www.transportation.gov/sites/dot.gov/files/2023-03/BudgetHL2024_Mar09_3pm_508.pdf.
[167] U.S. Department of Transportation, Federal Aviation Administration, *National Plan of Integrated Airport Systems (NPIAS) 2023-2027*, 2022, https://www.faa.gov/sites/faa.gov/files/npias-2023-2027-narrative.pdf.
[168] The National Capacity Outlook of the National Plan of Integrated Airport Systems (NPIAS) 2023-2027 does not include IAD and IAH.
[169] U.S. Department of Transportation, Federal Aviation Administration, *National Plan of Integrated Airport Systems (NPIAS) 2023-2027*, 2022, https://www.faa.gov/sites/faa.gov/files/npias-2023-2027-narrative.pdf.
[170] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[171] U.S. Department of Transportation, Bureau of Transportation Statistics, "Amtrak On-Time Performance Trends and Hours of Delay by Cause," 2023, https://www.bts.gov/content/amtrak-time-performance-trends-and-hours-delay-cause.
[172] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 2022, https://rosap.ntl.bts.gov/view/dot/65841.

Jersey and New York City, require frequent closures for maintenance. These closures cause delays on a route that is already at high capacity. Despite being built to early 20th century standards opening in 1910, the North River Tunnel is the only passenger rail tunnel connecting New York and New Jersey, and facilitates more than 200,000 passenger trips per weekday on more than 450 Amtrak and NJ Transit trains servicing New York Penn Station.[173] Superstorm Sandy flooded millions of gallons of salt water into the tunnel in 2012; 11 years later, remnants of the seawater that entered the tunnel during that storm continue to harm the concrete, steel, tracks, electrical power and electrical components, and signaling within the tunnel.[174] Because of this, the tunnel requires regular and occasional emergency maintenance that disrupts service for hundreds of thousands of riders; in 2020 passengers experienced 12,653 minutes of delay across 54 different days because of aging, damaged infrastructure.[175] Work on the project to build a new Hudson River rail tunnel and rehabilitate the existing North River Tunnel has begun.[176]

In terms of transit rail, the Nation's transit backlog includes 2,200 rail cars and hundreds of miles of track and guideway, signals, and power systems in need of replacement.[177] Without modernizing the aging rail infrastructure, increased demand for both freight and passenger rail will only worsen congestion issues.

Ports

The Nation's 300+ coastal and inland ports are significant drivers of the U.S. economy, supporting 30.8 million jobs in 2018 and 26 percent of the total GDP.[178] In addition, ports have a critical role in helping a community recover from a natural or manmade disaster, as goods can be transported via oceans and inland waterways to communities in need when other trade routes are blocked, berths can accommodate emergency vessels and personnel, and ports can support force deployment in a situation where homeland protection is needed. U.S. inland ports are mostly located on the Great Lakes or in the inland waterway network and are frequently in rural areas; meanwhile, U.S. seaports are most often located in or adjacent to large coastal metropolitan areas. [179]

Increased congestion is more likely in areas with higher population densities along with greater supply chain and intermodal transportation demands, such as large coastal metropolitan areas, where freight vessels and passenger cruise and ferry vessels are more likely to interact and utilize the same port facilities. Port congestion, most typically characterized by the dwell time vessels must wait for a port or anchorage, occurs when several vessels are waiting outside a port, to load or unload, because of a full terminal. In 2021, the average dwell time of container vessels at the top 25 U.S. container ports was 32 hours, up 3.9 hours from 28.1 hours in 2020.[180] Ports on both the East and West Coast are experiencing record setting volume levels—for example, the Port of Savannah, the fourth largest container port in the United States has experienced a surge in the number of ships at sea and containers to process.[181] In

[173] The White House, "Fact Sheet: President Biden Announces Funding for Major Transportation Projects Funded by Bipartisan Infrastructure Law," 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/01/31/fact-sheet-president-biden-announces-funding-for-major-transportation-projects-funded-by-bipartisan-infrastructure-law/.
[174] The White House, "Fact Sheet: President Biden Announces Funding."
[175] The White House, "Fact Sheet: President Biden Announces Funding."
[176] Gateway Development Commission, "Gateway Program," n.d., https://www.gatewayprogram.org/.
[177] U.S. Department of Transportation, Office of the Secretary, *Budget Highlights 2024*, 2023, https://www.transportation.gov/sites/dot.gov/files/2023-03/BudgetHL2024_Mar09_3pm_508.pdf.
[178] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[179] American Society of Civil Engineers Foundation, "2021 Report Card."
[180] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2022*, 2022, https://rosap.ntl.bts.gov/view/dot/65841.
[181] The White House, "Recent Progress and Actions on Port Congestion," 2021, https://www.whitehouse.gov/briefing-room/blog/2021/11/10/recent-progress-and-actions-on-port-congestion/.

addition, the maximum vessel size has doubled over the last 15 years and tonnage at the top 25 ports grew by 4.4 percent from 2015-2019. [182] Since the number of ports or anchorage slips is fixed, without increased infrastructure investment to support expanded capacities at ports, increased demand can often exceed existing capacity and cause port congestion.

The American Society of Civil Engineers' 2021 Report Card for America's Infrastructure scored U.S. ports at a 'B-''. Only nine percent of intermodal connector pavement—the portions of roadway connecting ports to other modes—are in good or very condition, meaning that 91 percent of intermodal connector pavement is in worse condition than "good." Port infrastructure such as docks, piers, and channel harbors are a challenge to maintain in harsh marine environments, which often includes corrosion from saltwater and de-icing salts, constant wet and dry cycles, temperature variations, etc., all of which accelerate the rate of infrastructure decline.

The American Society of Civil Engineers' 2021 Report Card for America's Infrastructure scored U.S. inland waterways at a 'D+'. Inland waterway infrastructure includes locks, dams, and navigation channels, and the U.S. freight network's "water highway" is largely made up of approximately 12,000 miles of inland navigation channels along the Mississippi River and its tributaries, as well as the Columbia, Sacramento, and San Joaquin Rivers on the West Coast, and an additional 11,000 miles of intracoastal waterways owned and operated by the U.S. Army Corps of Engineers (USACE). Inland waterways are faced with a $6.8 billion backlog in construction projects and ongoing lock closures, with most of the 218 total lock chambers on the USACE waterways well past their 50-year design life. This harms the industries that rely on the waterways to get their goods to market and results in estimated delays that cost up to $739 per hour for an average tow or $44 million per year according to the U.S. Department of Agriculture. That said, one barge on the inland waterways can move as many as 70 tractor trailers or 16 train cars; therefore, infrastructure investments in inland waterways can help move agricultural exports and relieve strain on other transportation modes that would otherwise result in congestion.

The DOT Strategic Plan includes a strategic objective for lifecycle and preventative maintenance to keep the Nation's infrastructure in a state-of-good-repair.[183] In 2017, however, the DOT's Maritime Administration initiated an internal review, which found that ongoing planning frequently fails to target state-of-good-repair projects and could be better at considering resiliency to threats like weather, especially extreme weather events as a result of climate change and earthquakes.[184] As such, the Maritime Administration instituted a risk-based asset management program for port owners and operators to utilize; meanwhile, investments in port infrastructure, derived from various funding sources to include Federal, State, and local funding, as well as private sector revenue streams, are largely focused on capacity and efficiency enhancements.[185]

Approximately 1.4 billion tons of foreign trade cargo, including more than 11 million containers, arrives at U.S. seaports each year and over 11 million international passengers begin their cruises via U.S. seaports.[186] Meanwhile, inland waterways move nearly 830 million tons of cargo annually.[187] A key

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[182] All statistics used in the last two paragraphs of Page of 68 come from the American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[183] U.S. Department of Transportation, *U.S. DOT Strategic Plan FY 2022–2026*, 2022, https://www.transportation.gov/mission/us-dot-strategic-plan-fy-2022-2026.
[184] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[185] American Society of Civil Engineers Foundation, "2021 Report Card."
[186] American Association of Port Authorities, "Security," n.d., https://www.aapa-ports.org/advocating/content.aspx?ItemNumber=21149.
[187] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org/cat-item/inland-waterways-infrastructure/.

challenge to restoring velocity and fluidity to ports is the shrinking amount of space in ports themselves; whereas the Ports of Los Angeles and Long Beach handled 17 percent more imported containers by November 2021 compared to the previous year-to-date record, the amount of space available to store containers and the amount of land in the Southern California warehouse system did not increase at the same rate, resulting in containers piling up at the ports, slowing down the system and increasing congestion.[188] In addition to freight, passenger ferries and cruises also rely on port infrastructure. Cruise tourism may rebound faster than international tourism arrivals. The Cruise Lines International Association (CLIA) Cruise Forecasts projects the cruise passenger volume will reach 106 percent of 2019 levels in 2023, with 31.5 million passengers sailing, compared to the United Nations World Tourism Organization's (UNWTO) projection that international tourist arrivals will reach 80 to 95 percent of 2019 levels in 2023. Given this growing cruise demand, the CLIA-member cruise line fleet of ships is projected to exceed 300 ocean-going vessels for the first time in 2024.[189]

A port's success relies on the intermodal infrastructure outside of its gates, which is often congested or in poor condition.[190] For example, as of 2018, the Port of Miami (PortMiami) was the busiest passenger port in the world, with approximately 5.6 million cruise passengers traveling through PortMiami annually along with $27 billion of cargo.[191] In addition, PortMiami cruise operations are home to a $250 million-terminal for Royal Caribbean cruise line, which can berth the cruise line's two largest ships, each of which accommodate 5,500 passengers.[192] Prior to the completion of the Port of Miami Tunnel, which provides a direct connection between PortMiami, MacArthur Causeway, and Interstate 395, port traffic traveled along Port Boulevard onto the surface streets of Downtown Miami, resulting in intermodal congestion.[193] Once completed, the project constructed a new link to PortMiami, providing a route for trucks to avoid traveling the streets of Downtown Miami and a direct link for cruise passengers arriving at or departing from Miami International Airport, alleviating congestion. The project has improved access to PortMiami cruise terminals, especially for tourists traveling through Miami, and has had positive impacts on Downtown Miami to include decreased congestion in the city's core and improved safety for pedestrians and bicyclists.[194]

[188] The White House, "Recent Progress and Actions on Port Congestion," 2021, https://www.whitehouse.gov/briefing-room/blog/2021/11/10/recent-progress-and-actions-on-port-congestion/.
[189] Cruise Lines International Association, *2023 State of the Cruise Industry Report*, 2023, https://cruising.org/en/news-and-research/research/2023/march/2023-state-of-the-cruise-industry-report.
[190] American Society of Civil Engineers Foundation, "2021 Report Card for America's Infrastructure," 2021, https://infrastructurereportcard.org.
[191] PortMiami, "Port Guide 2018-19," 2019, https://www.miamidade.gov/portmiami/library/stats-brochure-2019.pdf.
[192] Amy Reyes, "Here's a first look at Royal Caribbean's new Terminal A at PortMiami, built to accommodate their biggest ships," *Miami Herald*, February 7, 2019, https://www.miamiherald.com/miami-com/hotels-motels/article225810475.html.
[193] U.S. Department of Transportation, *National Travel & Tourism Infrastructure Strategic Plan FY 2020-2024*, 2021, https://www.transportation.gov/sites/dot.gov/files/2021-01/national%20travel%20and%20tourism%20infrastucture%20strategic%20plan%20fy%202020-2024.pdf.
[194] U.S. Department of Transportation, *National Travel & Tourism Infrastructure Strategic Plan.*

5. Travel and Tourism Indicators and Issues

This chapter starts with a review of the effects of the COVID-19 pandemic on travel and tourism for highways, aviation, rail, and ports, as well as forecasts for each. The chapter proceeds to describe the major travel and tourism facilities and corridors of regional significance for each of the modes. It concludes with an overview of potential issues that could cause barriers to long-distance passenger travel.

Revisiting Data Sources, Quality, and Limitations

Before proceeding to travel and tourism indicators and issues, it merits revisiting the point noted earlier that the data available for analysis and forecasting are limited and, in cases where otherwise unavailable, drawn from sources that may not be publicly available such as from industry associations. Moreover, long-distance travel data are not consistently collected across DOT, and, even when it is collected, may have limitations. For example, the NextGen National Highway Travel Survey National Passenger OD Data (NHTS) provides detail on travel movements across several modes, but its value is limited by the 300-mile-origin and -destination zones. The NHTS does not isolate passenger port trips, necessitating a second source, in this case the Maritime Administration (MARAD). The MARAD port data delineates passenger boarding counts but does not include trip destination.

A comparison of the metrics for one mode with another is difficult, or even impossible, because of the lack of normalized data. Normalized data across modes would permit an analyst to uniformly measure, track, and forecast long-distance travel and tourism trips. Person-trips and person-miles traveled are two examples of normalized data units that could be analyzed across modes. While these units can be more easily extracted and collected for some modes (air, rail, and cruise), they are more difficult to gather for other transportation modes (personal vehicles, transit, pedestrian, and bicycle). A limitation of the NTTISP, and the Multimodal Travel and Tourism Network discussed later in this chapter, is a reliance on vehicle-miles traveled on the highway network as a proxy for roadway travel since person-miles traveled data at the individual level is currently not collected. More targeted data collection in the future, through travel surveys and trip diaries, can help approximate these data, as can the use and analysis of anonymized cell phone data. In the future, these measures can be used to more accurately capture long-distance and tourism travel.

In addition, datasets for different modes do not share the same reporting periods. The timeframes for forecasts of port travel forecasts do not match that of airports. FAA provides airport-level passenger forecasts for the next several decades, while a five-year forecast of global cruise travel, of which the U.S. composes a large portion, is used as an estimate for future U.S. long-distance port travel. The future Amtrak growth cited is a goal for the next seven years. A consistent modernization of data collection in long-distance travel, with metric consistency and modal detail, will help future research and analysis not only by DOT, but also for travel and tourism infrastructure stakeholders.

For historical background, in the process of updating its “Tourism Statistics International Standards” in 2007, the United Nations World Tourism Organization documented a longstanding issue with tourism data with a note about tourism data:

> “…despite the evident rise of tourism as an economic development tool in numerous localities, policymakers continue to reduce this sector to a marginal status (not on par with manufacturing

> or producer services) partly because of the suspect nature of travel and tourism related data. The data that are available very often come from organizations that promote tourism (like the Travel Industry Association or the World Travel and Tourism Council) and given their pro-industry agenda one may well be justified of regarding these data with a degree of caution."[195]

It is likely that, without scientifically designed, independent travel survey instruments that are bespoke to long-distance travel and tourism, this measurement issue will remain unresolved.

General Travel and Tourism

COVID-19's Impact and Travel and Tourism Today

Before the COVID-19 pandemic, long-distance travel and tourism trips were steadily increasing in volume. [196] Over the last decade, annual domestic tourism, of which long-distance travel is one of many components, increased from 2.0 billion domestic tourist trips in 2010 to 2.3 billion in 2019 according to the United States Travel Association.[197] Long-distance travel across all transportation modes endured unprecedented disruption beginning in March 2020 because of the pandemic. Annual domestic tourism dropped drastically to 1.6 billion person-trips, a decrease of approximately 32 percent from 2019. Overall, domestic tourism rebounded to 2.0 billion domestic person-trips in 2021 but had not yet reached pre-pandemic levels.[198]

Domestic Long-Distance Travel Forecasts

In 2022, there were 2.25 billion domestic long-distance person-trips (air and auto) taken in the United States according to the U.S. Travel Association (USTA).[199] Due to the COVID-19 pandemic and people traveling less for business by auto and air, leisure travel made up approximately 84 percent of these trips (compared to 80 percent in 2019). USTA forecasts that domestic long-distance trips will increase by 13.3-percent overall between 2022 and 2026 (Table 4) with a 9.6 percent growth rate for leisure travel and 30.2 percent for business.

[195] United Nations World Tourism Organization, "Updating Tourism Statistics International Standards," 2007, https://unstats.un.org/unsd/tradeserv/egts/comments_unwto.pdf.
[196] United Nations World Tourism Organization, "Global and Regional Tourism Performance," n.d., https://www.unwto.org/tourism-data/global-and-regional-tourism-performance.
[197] U.S. Travel Association, "U.S. Travel and Tourism Overview Fact Sheet 2019," 2019, https://www.ustravel.org/system/files/media_root/document/Research_Fact-Sheet_US-Travel-and-Tourism-Overview.pdf.
[198] U.S. Travel Association, "Summer 2023 Forecast," 2023, https://www.ustravel.org/sites/default/files/2023-06/us_travel-forecast_summer2023.pdf.
[199] U.S. Travel Association, "Summer 2023 Forecast."

Table 4: Combined Domestic Long-Distance Air and Auto Travel Forecast, 2022–2026

Person Trip Types	2022 (Actual)	Travel Forecast				
		2023	2024	2025	2026	4 Year % Change (2022-26)
Person Trips (billions)	2.25	2.32	2.41	2.49	2.55	13.3%
Business	0.37	0.41	0.45	0.47	0.48	30.2%
Leisure	1.88	1.91	1.97	2.02	2.06	9.6%
Person Trips (yearly % change)	11.4%	3.1%	3.9%	3.1%	2.3%	-
Business	48.6%	11.7%	7.8%	5.0%	3.0%	-
Leisure	6.2%	1.4%	3.1%	2.7%	2.1%	-

Source: U.S. Travel Association [200]

International Long-Distance Travel Forecasts

The United States was the destination for 79.4 million international trips in 2019. In 2020, that number dropped by 76 percent to 19.2 million and only slightly improved to 22.1 million in 2021.[201] In 2022 after pandemic travel restrictions were eased, international visitors grew to 50.9 million. Visitors from Canada and Mexico made 52.8 percent of those trips, with Canada overtaking Mexico as the top source market in 2022 after dropping below Mexico in 2020 and 2021.[202] Europe has followed a similar recovery path as the United States, with European international Revenue Passenger Kilometers, a metric of air traffic volumes, reaching 90.8 percent of 2019 levels in April 2023. Additionally, international tourist arrival counts in Europe have reached 95 percent of 2019 levels.[203]

Although global annual travel dropped drastically in 2020 due to the pandemic, it began steadily rising again in 2021 and has continued to rise, with over 960 million tourists traveling internationally in 2022 (or 66 percent of pre-pandemic levels).[204] The USTA's forecasts are optimistic about a full recovery from the pandemic, as it forecasts international visitation to reach near pre-pandemic levels in 2024, with 78.6 million visitors and to surpass pre-pandemic levels by 2025 with 87.8 million annual international arrivals (compared to 79.4 million in 2019).[205]

Highway

COVID-19's Impact and Travel and Tourism Today

In the United States, most long-distance travel occurs in personal vehicles.[206] In 2022, long-distance trips made up 2.5 percent of total vehicle-miles traveled, using an estimate based on the Federal Highway

[200] U.S. Travel Association, Travel Forecasts 2021-2026, 2023, https://www.ustravel.org/sites/default/files/2023-06/us_travel-forecast_summer2023.pdf.
[201] For additional context, beginning in 1980, annual global travel has steadily increased from 277 million international arrivals to nearly 1.5 billion in 2019, 80 million (5 percent) of whom visited the United States. (United Nations World Tourism Organization, "UNWTO Tourism Data Dashboard," n.d., https://www.unwto.org/tourism-data/unwto-tourism-dashboard.)
[202] U.S. Travel Association, "Summer 2023 Forecast," 2023, https://www.ustravel.org/sites/default/files/2023-06/us_travel-forecast_summer2023.pdf.
[203] European Travel Commission, "Europe's Tourism Rebound Continues Into 2023, Driven by Strong Travel Enthusiasm," 2023, https://etc-corporate.org/news/europes-tourism-rebound-continues-into-2023-driven-by-strong-travel-enthusiasm/.
[204] United Nations World Tourism Organization, "Tourism on Track for Full Recovery as New Data Shows Strong Start to 2023," 2023 https://www.unwto.org/taxonomy/term/347.
[205] U.S. Travel Association, "Summer 2023 Forecast," 2023, https://www.ustravel.org/sites/default/files/2023-06/us_travel-forecast_summer2023.pdf.
[206] U.S. Department of Transportation, Federal Highway Administration, "Next-Generation National Household Travel Survey OD Data Portal," 2023, nhts.ornl.gov/od/summary/.

Administration NextGen National Highway Transportation Survey.[207] Intercity bus and motor coach are also significant modes of long-distance travel, but data collected on intercity bus travel is inconsistent. In 2015, the most recent year with data available, there were approximately 600 million passenger trips taken by motor coach, nearly as many as U.S. airlines and 20 times as many as Amtrak.[208,209,210] VMT by the combined movements of U.S. and Canadian motor coaches (19.2 billion) amount to fewer than 0.7 percent of U.S.-only VMT by personal vehicles (2.83 trillion).[211,212] However, it is worth noting the only data available for comparison are recorded during the COVID-19 pandemic and may not accurately represent the proportion of motor coach trips to personal vehicle trips pre- and post-pandemic.

As referenced earlier, as VMT data are readily available, it is used as a proxy for analyzing long-distance highway travel. Since 1990, decreases in VMT only occurred a few times (from 2007 to 2008, 2008 to 2009, and 2010 to 2011) and were each due to economic recessions. Notably, VMT measured at the national level decreased by 11 percent from 2019 to 2020 due to the pandemic and associated lockdown. Based on preliminary estimates for 2022 of 3.17 trillion, VMT had nearly recovered to the pre-pandemic level of 3.28 trillion in 2019 (see Figure 8).

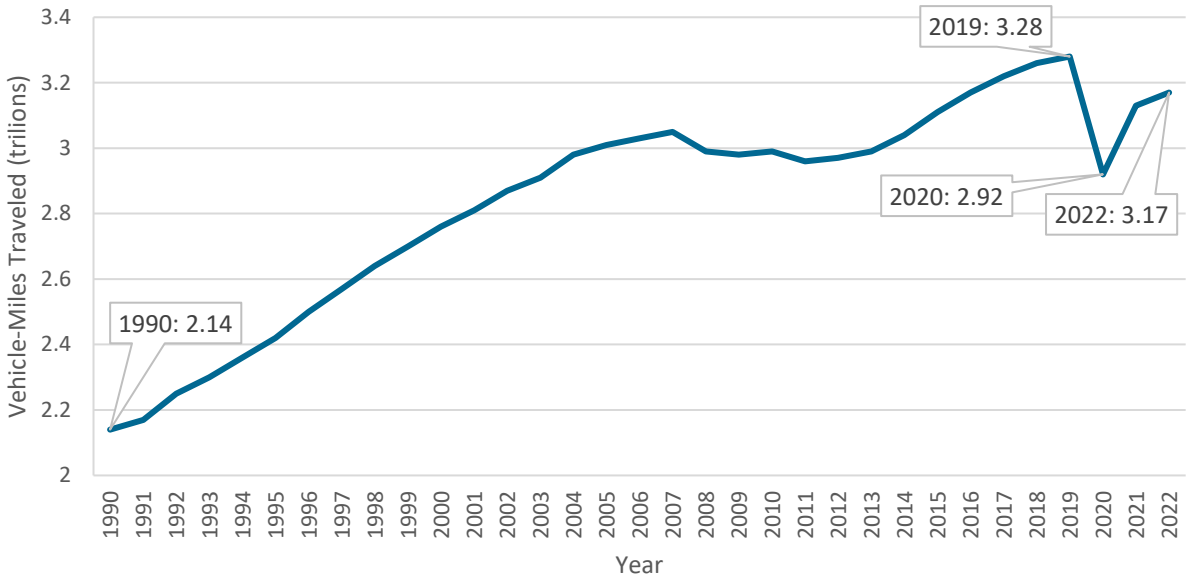

Figure 8: Annual Vehicle-miles traveled, 1990–2022

Source: Federal Highway Administration[213]

Note: 2022 data are based on a preliminary estimate.

[207] Federal Highway Administration, "Next-Generation National Household Travel Survey."

[208] American Bus Association, Motorcoach Census: A Study of the Size and Activity of the *Motorcoach Industry in the United States and Canada in 2015*, 2017, https://www.buses.org/assets/images/uploads/pdf/Motorcoach_Census_2015.pdf

[209] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2020*, 2020, https://doi.org/10.21949/1520449.

[210] U.S. Department of Transportation, Bureau of Transportation Statistics, "Amtrak Ridership: FY2000–FY2015," 2016, https://www.bts.gov/archive/publications/passenger_travel_2016/tables/fig2_20.

[211] American Bus Association, Motorcoach Census: A Study of the Size and Activity of the *Motorcoach Industry in the United States and Canada in 2020*, 2022, https://www.buses.org/assets/images/uploads/pdf/Motorcoach_Census_Survey_2020.pdf.

[212] U.S. Department of Transportation, Federal Highway Administration, "December 2020 Traffic Volume Trends," 2020, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/20dectvt/.

[213] U.S. Department of Transportation, Federal Highway Administration, "Public Road Mileage, Lane-Miles, and VMT 1993 – 2020," 2021, https://www.fhwa.dot.gov/policyinformation/statistics/2020/vmt421c.cfm.
U.S. Department of Transportation, Bureau of Transportation Statistics, "Roadway Vehicle-Miles Traveled (VMT) and VMT per Lane-Mile by Functional Class," 2023, https://www.bts.gov/content/roadway-vehicle-miles-traveled-vmt-and-vmt-lane-mile-functional-class.

Forecasts

Despite a reduction in 2020 caused by the COVID-19 pandemic, VMT for light-duty vehicles (i.e., passenger vehicles) are projected to increase by 17 percent over the next 30 years based on FHWA forecasts using a 2019 baseline.[214] However, this projection does not identify the growth of long-distance VMT. According to the FHWA's Traffic Volume Trends, a monthly report based on hourly traffic count data reported by the States, the year-to-date estimate for VMT as of October 2023 is 2.71 trillion. In October 2019, estimates were roughly 2.72 trillion, demonstrating a recovery toward pre-pandemic VMT.[215,216] Light-duty vehicles continue as the largest component of travel demand, comprising 90 percent of total VMT.

Air

COVID-19's Impact and Travel and Tourism Today

Air travel and enplanements (passenger boardings) at U.S. commercial airports generally increased between 1995 and 2019, reaching an all-time high of 924 million in 2019 (Figure 9). As air travel generally consists of distances greater than 50 miles, air travel data and forecasts address long distance travel. In 2020, due to the COVID-19 pandemic, enplanements at U.S. airports fell by about 45 percent to 512 million.[217] Air travel maintains a strong correlation to a healthy global economy, suggesting future economic growth is expected to correlate with an upward trajectory in air travel, following the temporary drop in enplanements experienced during the pandemic.

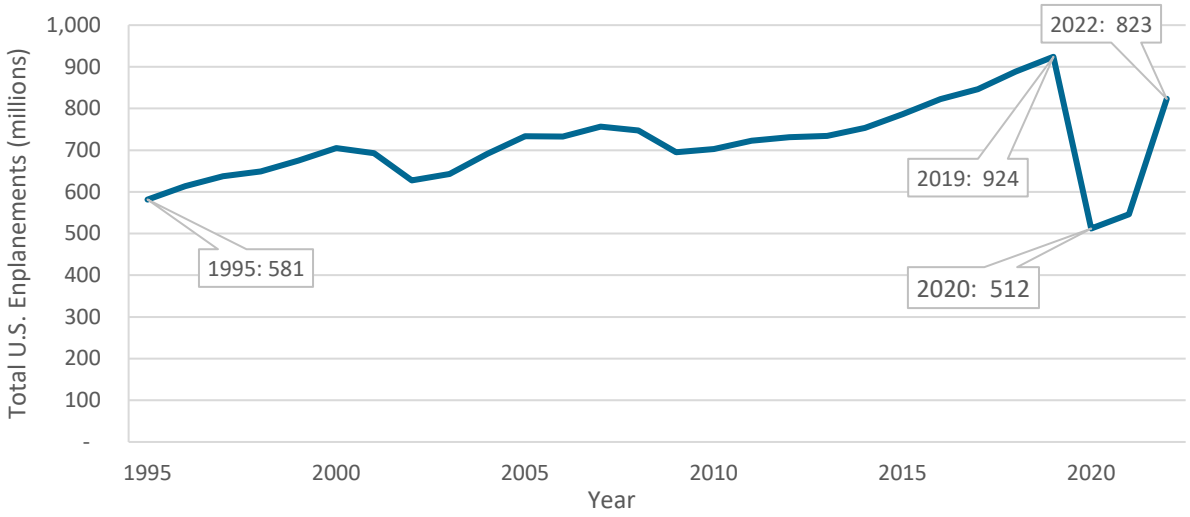

Figure 9: Annual U.S. Enplanements, 1995–2022
Source: Federal Aviation Administration[218]

[214] U.S. Department of Transportation, Federal Highway Administration, "Special Tabulations: 2023 FHWA Forecasts of Vehicle-miles traveled (VMT)," 2023, https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm.
[215] U.S. Department of Transportation, Federal Highway Administration, "Traffic Volume Trends," 2023, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm.
[216] U.S. Department of Transportation, Federal Highway Administration, "Special Tabulations: 2023 FHWA Forecasts of Vehicle-miles traveled (VMT)," 2023, https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm.
[217] U.S. Department of Transportation, Federal Aviation Administration, "Terminal Area Forecast (TAF)," n.d., https://taf.faa.gov/.
[218] Federal Aviation Administration, "Terminal Area Forecast (TAF)."

Of the top 30 airports in 2019, only three have seen an increase in enplanements in 2022 above 2019 levels (with the largest increase at Miami International Airport at 11.8 percent). Two airports have nearly recovered to pre-pandemic levels, while the remaining 25 continued to see fewer enplanements in 2022 (with the largest decrease at San Francisco, CA, at -26.5 percent) (Table 5).

Table 5: Major Airport Hub Enplanements: 3-Year Change Before and After the COVID-19 Pandemic

Airport	2019 Enplanements	2022 Enplanements	% Change (2019–2022)
Atlanta, GA (ATL)*	53,505,795	45,396,001	-15.16
Los Angeles, CA (LAX)*	42,939,104	32,326,616	-24.71
Chicago, IL (ORD)*	40,871,223	33,120,474	-18.96
Dallas/Fort Worth, TX (DFW)*	35,778,573	35,345,138	-1.21
Denver, CO (DEN)	33,592,945	33,773,832	0.54
New York, NY (JFK)*	31,036,655	26,919,982	-13.26
San Francisco, CA (SFO)*	27,779,230	20,411,420	-26.52
Seattle, WA (SEA)	25,001,762	22,157,862	-11.37
Las Vegas, NV (LAS)	24,728,361	25,480,500	3.04
Orlando, FL (MCO)	24,562,271	24,469,733	-0.38
Charlotte, NC (CLT)	24,199,688	23,100,300	-4.54
Newark, NJ (EWR)*	23,160,763	21,572,147	-6.86
Phoenix, AZ (PHX)	22,433,552	21,852,586	-2.59
Houston, TX (IAH)*	21,905,309	19,814,052	-9.55
Miami, FL (MIA)*	21,421,031	23,949,892	11.81
Boston, MA (BOS)	20,699,377	17,443,775	-15.73
Minneapolis/St. Paul, MN (MSP)	19,192,917	15,242,089	-20.58
Detroit, MI (DTW)	18,143,040	13,751,197	-24.21
Fort Lauderdale, FL (FLL)	17,950,989	15,370,165	-14.38
Philadelphia, PA (PHL)	16,006,389	12,421,168	-22.40
New York, NY (LGA)	15,393,601	14,367,463	-6.67
Baltimore, MD (BWI)	13,284,687	11,151,169	-16.06
Salt Lake City, UT (SLC)	12,840,841	12,383,843	-3.56
San Diego, CA (SAN)	12,648,692	11,162,224	-11.75
Dulles, VA (IAD)*	11,884,117	10,266,324	-13.61
Washington, DC (DCA)	11,595,454	11,553,850	-0.36
Tampa, FL (TPA)	10,978,756	10,539,459	-4.00
Chicago, IL (MDW)	10,081,781	9,650,281	-4.28
Honolulu, HI (HNL)	9,988,678	8,828,395	-11.62
Portland, OR (PDX)	9,797,408	7,241,882	-26.08

* Denotes top 10 international gateway airports
Source: Bureau of Transportation Statistics[219]

In 2020, the direct sectors of aviation, which include airline and airport operations, aircraft manufacturing and others, amounted to 1.3 percent of GDP, $534.7 billion in economic activity, and

[219] U.S. Department of Transportation, Federal Aviation Administration, "Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports," 2022, https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger.

over 2.5 million jobs.[220] When looking at both direct and catalytic sectors, which includes tourism and other long-distance travel, civil aviation contributed 2.3 percent of GDP, $900 billion in total economic activity, and supported almost 5 million jobs.[221] While these values are significant, they reflect about a 50 percent decrease when compared to 2019 due to the effects of COVID-19 pandemic.[222]

Forecasts

The outlook for air travel has improved moderately since a reassessment of enplanement data in 2022 (see Figure 10). While actual enplanements were roughly half the originally forecasted value in 2020 due to the pandemic, the updated forecasts project a return to 2019 enplanements in 2023 and a realignment with initial forecasts after 2036.[223] Forecasts showed enplanements increasing to 1.8 billion in 2050, an increase of 118.7 percent from 2022 (Figure 10).

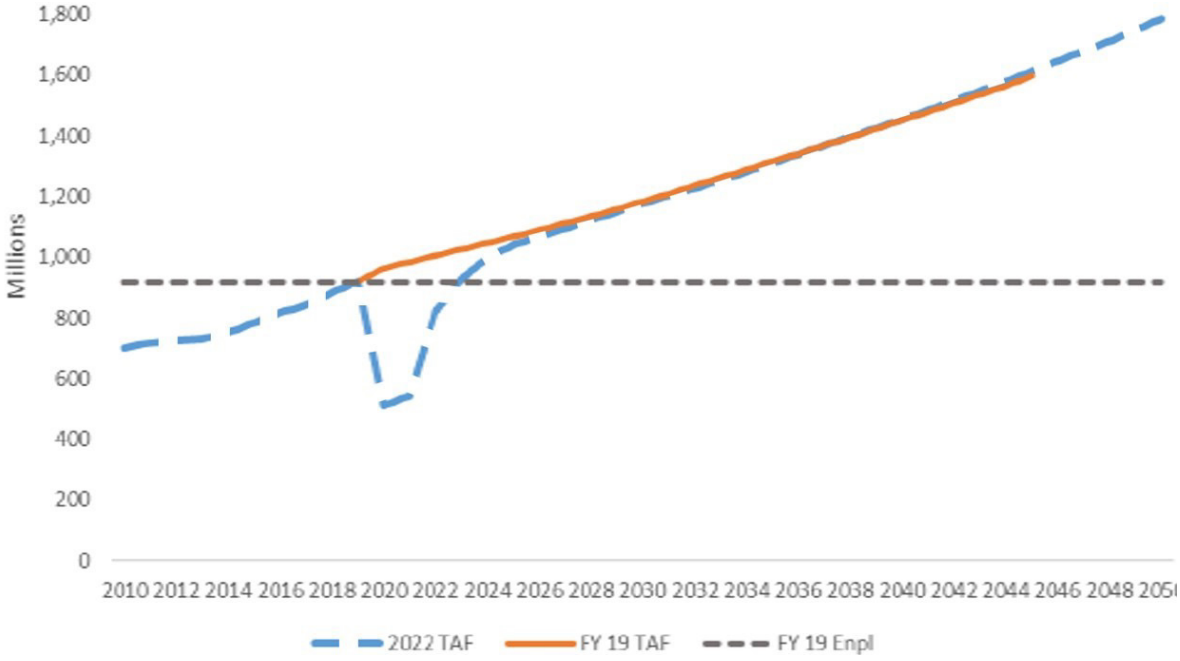

Figure 10: Annual U.S. Enplanements and Forecasting Pre- and Post-COVID-19, 2010–2050
Source: Federal Aviation Administration[224]

An increase in enplanements of at least 15 percent is forecasted by 2040 for each of the top 50 airports in 2019 (Table 6). The airports forecasted to have the greatest increase over this period are Austin, TX (139 percent); Nashville, TN (117 percent); San Jose, CA (90 percent); New York, NY (JFK) (79 percent); and Las Vegas, NV (77 percent). Thirty-five of the top 50 airports are forecasted to experience growth of more than 50 percent.

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[220] U.S. Department of Transportation, Federal Aviation Administration, *The Economic Impact of U.S. Civil Aviation: 2020*, 2022, https://www.faa.gov/sites/faa.gov/files/2022-08/2022-APL-038%202022_economic%20impact_report.pdf.
[221] The terms 'direct' and 'catalytic' are used to categorize the various sectors within the civil aviation industry. These sectors provide goods and services that are related to, and partially dependent upon, civil aviation, but their main function is not to support aviation. The sectors categorized as 'catalytic' are visitor expenditures and travel arrangers.
[222] U.S. Department of Transportation, Federal Aviation Administration, *The Economic Impact of U.S. Civil Aviation: 2020*, 2022, https://www.faa.gov/sites/faa.gov/files/2022-08/2022-APL-038%202022_economic%20impact_report.pdf.
[223] Indicated years are fiscal years.
[224] U.S. Department of Transportation, Federal Aviation Administration, "FAA Final 2022 Terminal Area Forecast Overview," 2023, https://www.faa.gov/data_research/aviation/taf.

Table 6: Forecast Percent Change in Enplanements for Top 50 Airports, 2019–2040

Airport	2019 Enplanements	2040 Enplanements	% Change (2019–2040)
Atlanta, GA (ATL)*	53,505,795	78,082,040	45.9
Los Angeles, CA (LAX)*	42,939,104	64,523,633	50.3
Chicago, IL (ORD)*	40,871,223	58,566,750	43.3
Dallas-Fort Worth, TX (DFW)*	35,778,573	57,240,073	60.0
Denver, CO (DEN)	33,592,945	57,404,009	70.9
New York, NY (JFK)*	31,036,655	55,656,597	79.3
San Francisco, CA (SFO)*	27,779,230	48,993,049	76.4
Seattle, WA (SEA)	25,001,762	41,334,635	65.3
Las Vegas, NV (LAS)	24,728,361	43,747,659	76.9
Orlando, FL (MCO)	24,562,271	42,224,362	71.9
Charlotte, NC (CLT)	24,199,688	38,709,391	60.0
Newark, NJ (EWR)*	23,160,763	38,127,620	64.6
Phoenix, AZ (PHX)	22,433,552	36,866,077	64.3
Houston, TX (IAH)*	21,905,309	34,838,262	59.0
Miami, FL (MIA)*	21,421,031	36,011,271	68.1
Boston, MA (BOS)	20,699,377	32,391,842	56.5
Minneapolis/St. Paul, MN (MSP)	19,192,917	26,273,263	36.9
Detroit, MI (DTW)	18,143,040	22,952,633	26.5
Fort Lauderdale, FL (FLL)	17,950,989	29,612,177	65.0
Philadelphia, PA (PHL)	16,006,389	21,757,670	35.9
New York, NY (LGA)	15,393,601	19,044,375	23.7
Baltimore, MD (BWI)	13,284,687	21,478,512	61.7
Salt Lake City, UT (SLC)	12,840,841	19,454,091	51.5
San Diego, CA (SAN)	12,648,692	22,366,572	76.8
Dulles, VA (IAD)*	11,884,117	18,763,252	57.9
Washington, DC (DCA)	11,595,454	14,716,560	26.9
Tampa, FL (TPA)	10,978,756	16,699,369	52.1
Chicago, IL (MDW)	10,081,781	17,826,948	76.8
Honolulu, HI (HNL)	9,988,678	15,783,509	58.0
Portland, OR (PDX)	9,797,408	15,310,997	56.3
Raleigh-Durham, NC (RDU)	8,935,654	11,306,413	26.5
Nashville, TN (BNA)	8,507,410	18,477,480	117.2
Austin, TX (AUS)	8,080,506	19,311,922	139.0
Dallas, TX (DAL)	7,773,759	8,986,689	15.6
St. Louis, MO (STL)	7,688,152	10,809,354	40.6
San Jose, CA (SJC)	7,069,614	13,418,454	89.8
Houston, TX (HOU)	6,919,429	11,286,056	63.1
New Orleans, LA (MSY)	6,874,111	10,687,435	55.5
Oakland, CA (OAK)	6,560,230	10,469,068	59.6
Sacramento, CA (SMF)	6,454,413	10,694,130	65.7

Airport	2019 Enplanements	2040 Enplanements	% Change (2019–2040)
Kansas City, MO (MCI)	5,759,419	8,801,036	52.8
Irvine, CA (SNA)	5,153,276	8,335,463	61.8
San Antonio, TX (SAT)	5,044,024	8,157,293	61.7
Fort Myers, FL (RSW)	5,022,980	7,112,406	41.6
Cleveland, OH (CLE)	4,894,541	6,777,674	38.5
Pittsburgh, PA (PIT)	4,715,947	5,917,274	25.5
Indianapolis, IN (IND)	4,709,183	7,151,178	51.9
Carolina, PR (SJU)	4,590,117	6,353,436	38.4
Hebron, KY (CVG)	4,413,457	6,743,129	52.8
Columbus, OH (CMH)	4,172,067	5,720,031	37.1

* Denotes top ten international gateway airports in 2022
Source: Federal Aviation Administration[225] [226]

Rail

In the following subsection, Amtrak is used as a proxy for passenger rail service.

COVID-19's Impact and Travel and Tourism Today

Amtrak operates a nationwide rail network, serving over 500 destinations in 46 States, the District of Columbia, and three Canadian provinces.[227] In 2019, Amtrak ridership hit an all-time high of 32 million passengers. During the COVID-19 pandemic, ridership dropped to 12.2 million passengers in 2021, or 38 percent of 2019 ridership. In 2022, ridership rebounded to 22.9 million passengers, or 72 percent of 2019 ridership (Figure 11). Between FYs 2020 and 2022, Amtrak added, restored, or expanded 11 services following a decrease in service due to the pandemic, including restoring pre-pandemic service frequency to all long-distance trains across the national network. This returned service in some capacity to nearly every route that had operated pre-pandemic.[228] As urbanization continues to increase, especially throughout the Northeast, Amtrak is set to take advantage of this trend through its current and planned passenger rail services.

[225] U.S. Department of Transportation, Federal Aviation Administration, "Terminal Area Forecast (TAF)," n.d., https://taf.faa.gov/.
[226] U.S. Department of Transportation, Federal Aviation Administration, "Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports - Previous Years," 2023, https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/previous_years#2019.
[227] Amtrak, "FY 2022 Company Profile," n.d., https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/nationalfactsheets/Amtrak-Company-Profile-FY2022-072523.pdf.
[228] Amtrak, "FY 2022 Company Profile."

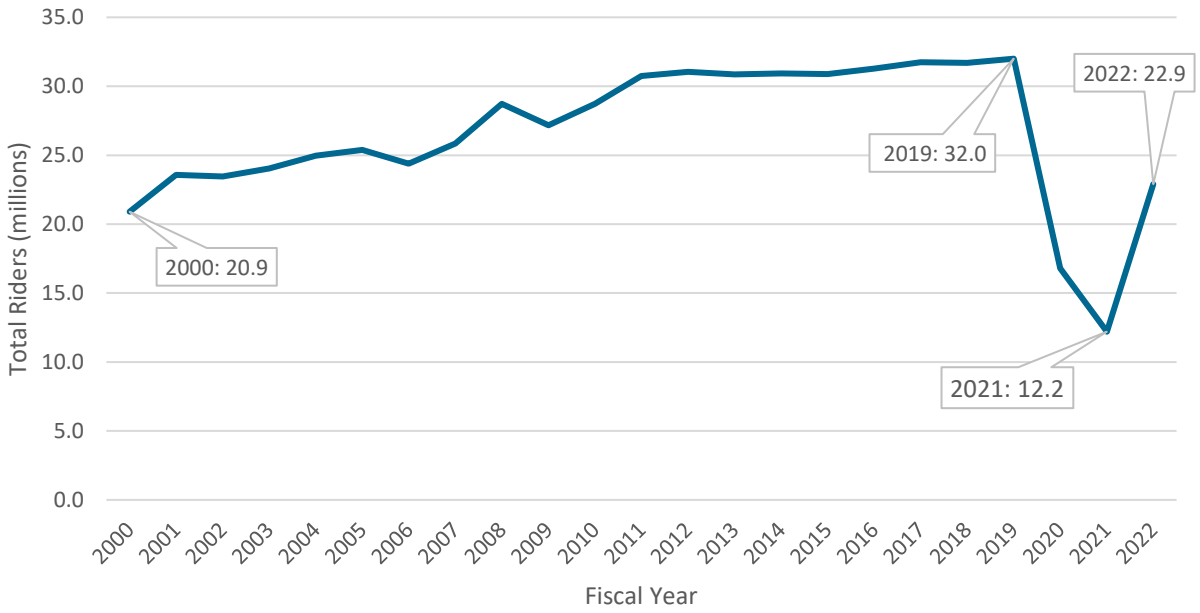

Figure 11: Amtrak Ridership, FY 2000–2022

Source: Bureau of Transportation Statistics, Amtrak[229, 230]

While annual ridership rebounded overall in 2022 from the low of 2021, Amtrak travel was concentrated in a few areas. Ridership was especially strong along the Northeast Corridor (NEC) (between the District of Columbia–New York–Boston), followed by the Greater Chicago area and along the West Coast (Figure 12).

[229] U.S. Department of Transportation, Bureau of Transportation Statistics, "Figure 2-20 Amtrak Ridership: FY2000–FY2015," 2016, https://www.bts.gov/archive/publications/passenger_travel_2016/tables/fig2_20.

[230] Amtrak, "Amtrak FY16 Ridership & Revenue," n.d., https://media.amtrak.com/wp-content/uploads/2015/10/Amtrak-FY16-Ridership-and-Revenue-Fact-Sheet-4_17_17-mm-edits.pdf; Amtrak, "Amtrak FY18 Ridership," n.d., https://media.amtrak.com/wp-content/uploads/2018/11/FY18-Ridership-Fact-Sheet-1.pdf;
Amtrak, "Amtrak FY20 Ridership," n.d., http://media.amtrak.com/wp-content/uploads/2020/12/FY20-Year-End-Ridership.pdf; and
Amtrak, "Amtrak FY22 Ridership," n.d., https://media.amtrak.com/wp-content/uploads/2022/11/FY22-Year-End-Revenue-and-Ridership.pdf.

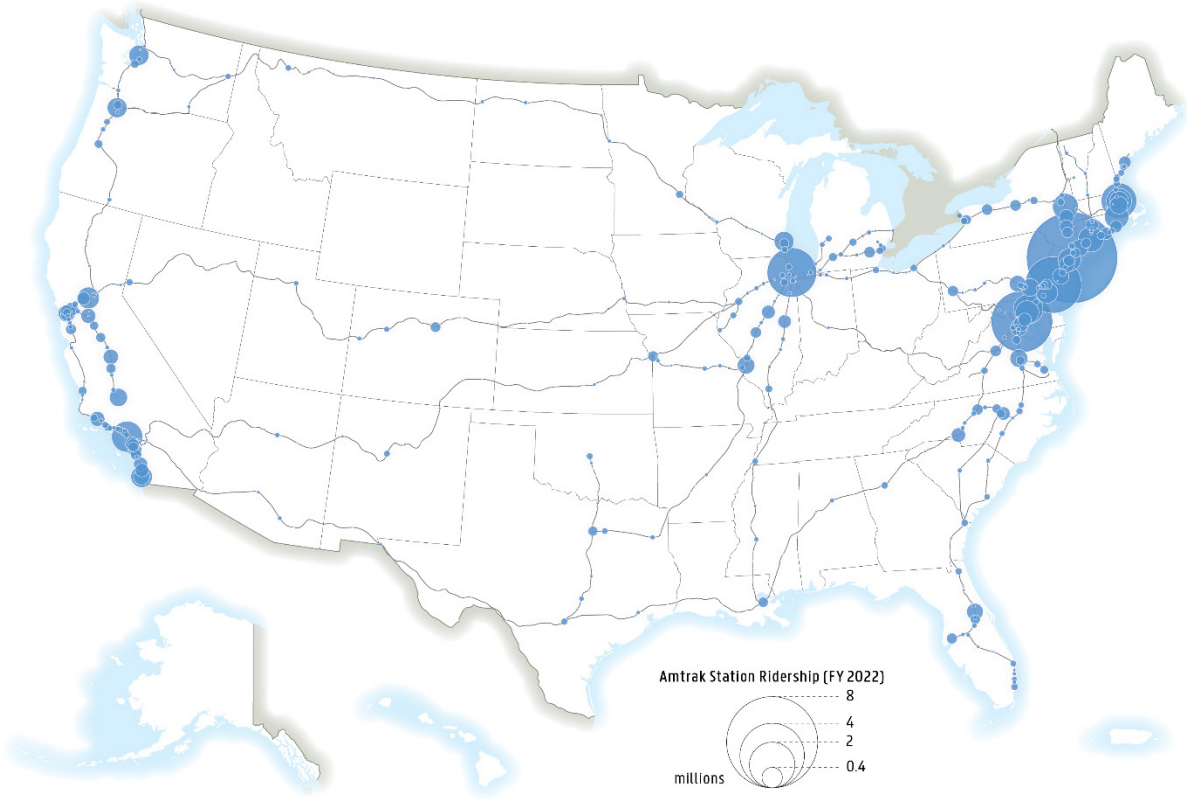

Figure 12: Amtrak Routes and Yearly Ridership by Station, FY 2022
Source: Bureau of Transportation Statistics[231]

Each route in the Amtrak system is part of one of the three service lines: the NEC, State Supported, or Long Distance. Ridership across all three Amtrak service lines decreased year-to-year for FY 2019–2021 and then began increasing again in FY 2022 (Table 7). The NEC, including Amtrak's high-speed Acela Express, accounted for approximately 40 percent of all Amtrak ridership in 2022 with 9.2 million passengers. Other routes, like New York's southern Empire Service and California's Pacific Surfliner, each transported more than one million riders as well.

Table 7: Amtrak Ridership, FY 2019–2022

Service Line	FY19 Ridership	FY20 Ridership	FY21 Ridership	FY22 Ridership
Northeast Corridor	12,525,602	6,147,481	4,408,825	9,235,694
State Supported*	15,380,097	8,004,373	5,519,931	10,201,399
Long Distance	4,420,844	2,689,499	2,238,050	3,493,406
All Routes	32,017,686	16,841,353	12,166,806	22,930,499

*State supported routes are routes 750 miles or less outside of the Northeast Corridor[232]
Source: Amtrak[233]

[231] U.S. Department of Transportation, Bureau of Transportation Statistics, "Amtrak Ridership," n.d., https://www.bts.dot.gov/browse-statistical-products-and-data/state-transportation-statistics/amtrak-ridership.
[232] The State-Amtrak Intercity Passenger Rail Committee, "Home," n.d., https://www.saiprc.com/
[233] Amtrak, "Amtrak FY22 Ridership," n.d., https://media.amtrak.com/wp-content/uploads/2022/11/FY22-Year-End-Revenue-and-Ridership.pdf.

Forecasts

In the absense of a 20-year forecast, Amtrak expects ridership to increase by 2027 across all service line types (Figure 13). Ridership on long-distance lines is forecast to increase only slightly, while travel is expected to increase at a higher rate on the NEC and State-supported service lines. These increases are likely due to increasing population density and travel in urbanized metropolitan regions, which can make passenger rail a more attractive transportation option for travelers. Amtrak also anticipates adding new State-supported service during this period, including additional frequencies on existing routes and several new State-supported routes.[234]

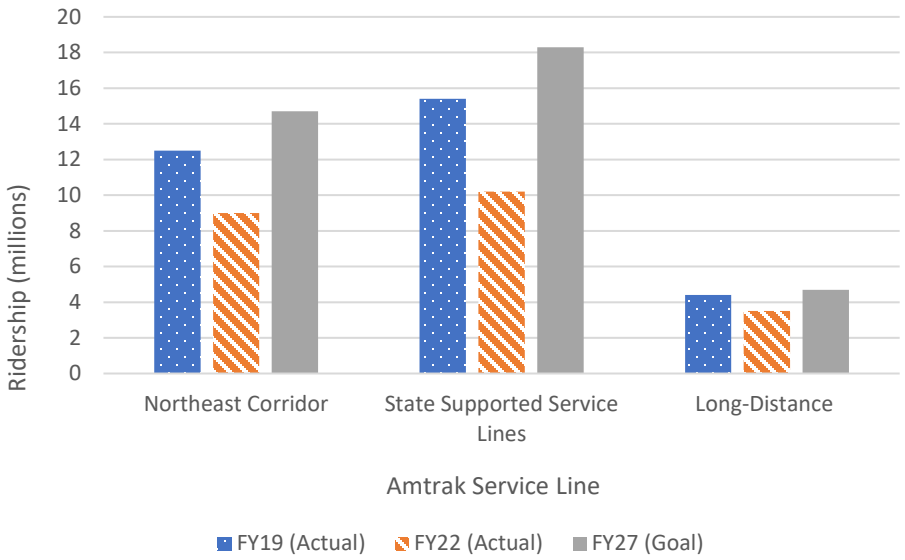

Figure 13: Amtrak Service Ridership by Line for FY 2019 and 2022 and FY 2027 Forecast
Source: Amtrak[235]

Ports

COVID-19's Impact and Travel and Tourism Today

In 2019, there were 14.2 million cruise passengers at U.S. ports (Figure 14). Due to the pandemic, the number of cruise ship passengers decreased by 81 percent from 2019 to 2020 to 2.7 million passengers and then again by approximately 19 percent from 2020 to 2021 to 2.2 million passengers.[236] Cruise passenger volume recovered significantly in 2022, with 11.9 million passengers, reaching 84 percent of 2019 passenger volume.

[234] Amtrak, "Five-Year Plans: Amtrak's FY 2022-2027 Service and Asset Line Plans," n.d., https://www.amtrak.com/content/dam/projects/dotcom/english/public/documents/corporate/businessplanning/Amtrak-Service-Asset-Line-Plans-FY22-27.pdf.
[235] Amtrak, "Five-Year Plans."
[236] Cruise Lines International Association, *2022 Global Market Report*, 2023, https://cruising.org/-/media/clia-media/research/2023/2022-1r-clia-001-overview-global-final.ashx.

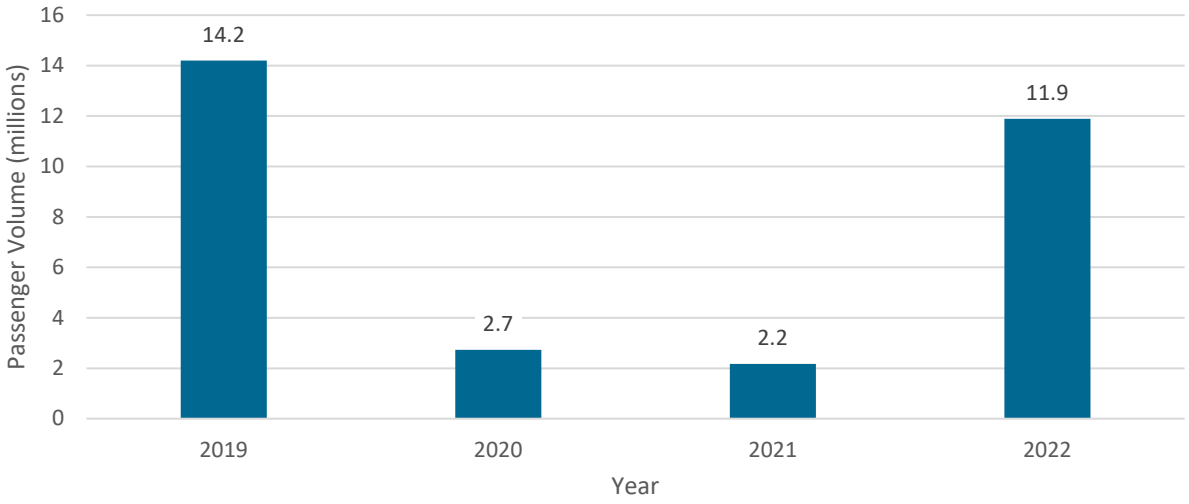

Figure 14: U.S. Cruise Industry Yearly Revenue Passengers, 2019–2022
Source: Cruise Lines International Association[237]

Cruise embarkation data were not available specific to the United States, so North American cruise data from Cruise Lines International (CLIA) is cited in this section. Cruise embarkations from ports in the United States and the rest of North America were on an increasing trajectory before the COVID-19 pandemic. CLIA data show that 10.45 million passengers embarked on a cruise from a North American port in 2007; by 2019, embarkations grew to 15.41 million. Due to the pandemic, in 2021, cruise passenger embarkations from North America reached a low point of 2.22 million passengers which recovered to 12.59 million 2022 (see Figure 15).

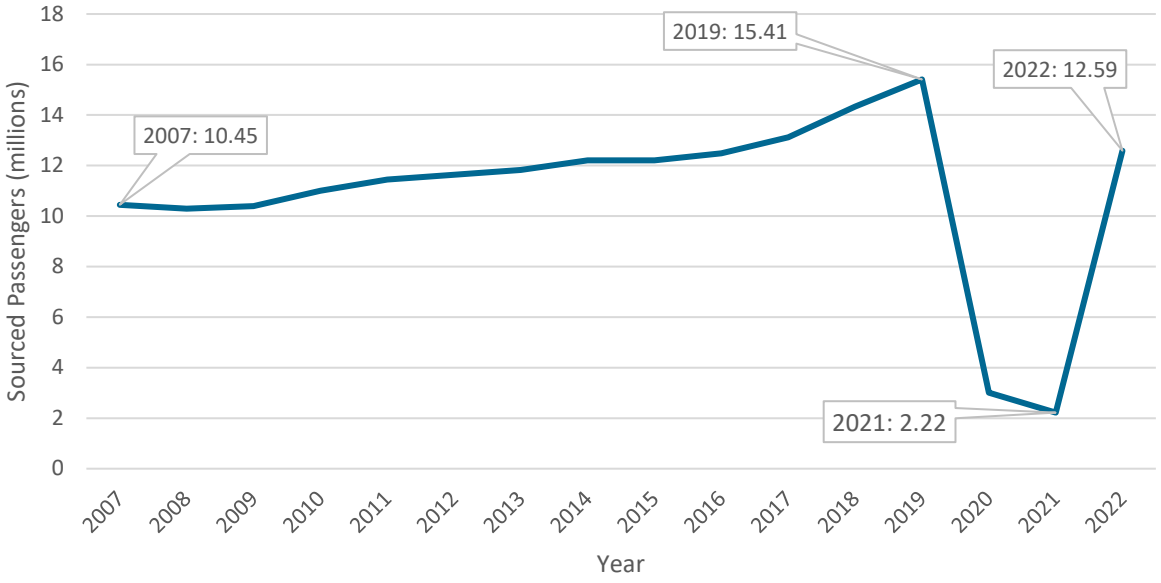

Figure 15: Passengers at North American Ports, 2007–2022
Source: Cruise Lines International Association[238]

[237] Cruise Lines International Association, *2022 Global Market Report.*
[238] Cruise Lines International Association, *2022 North American Market Report*, 2022, https://cruising.org/en/news-and-research/research/2023/august/2022-north-american-market-report.

Several ports experienced an increase in passenger cruise attendance between 2019 and 2022, after a significant drop in 2020 and 2021 due to the COVID-19 pandemic (Figure 16). The overall volume of passengers has now increased but has yet to return to pre-pandemic levels. Sitka, Alaska, and Los Angeles, California, for example, exhibited an increase of 25 percent or more in revenue passengers from 2019 to 2022. However, ports such as Miami and Tampa, Florida; Boston, Massachusetts; and San Juan, Puerto Rico, experienced at least a 25-percent decrease in revenue passengers in this same timeframe.

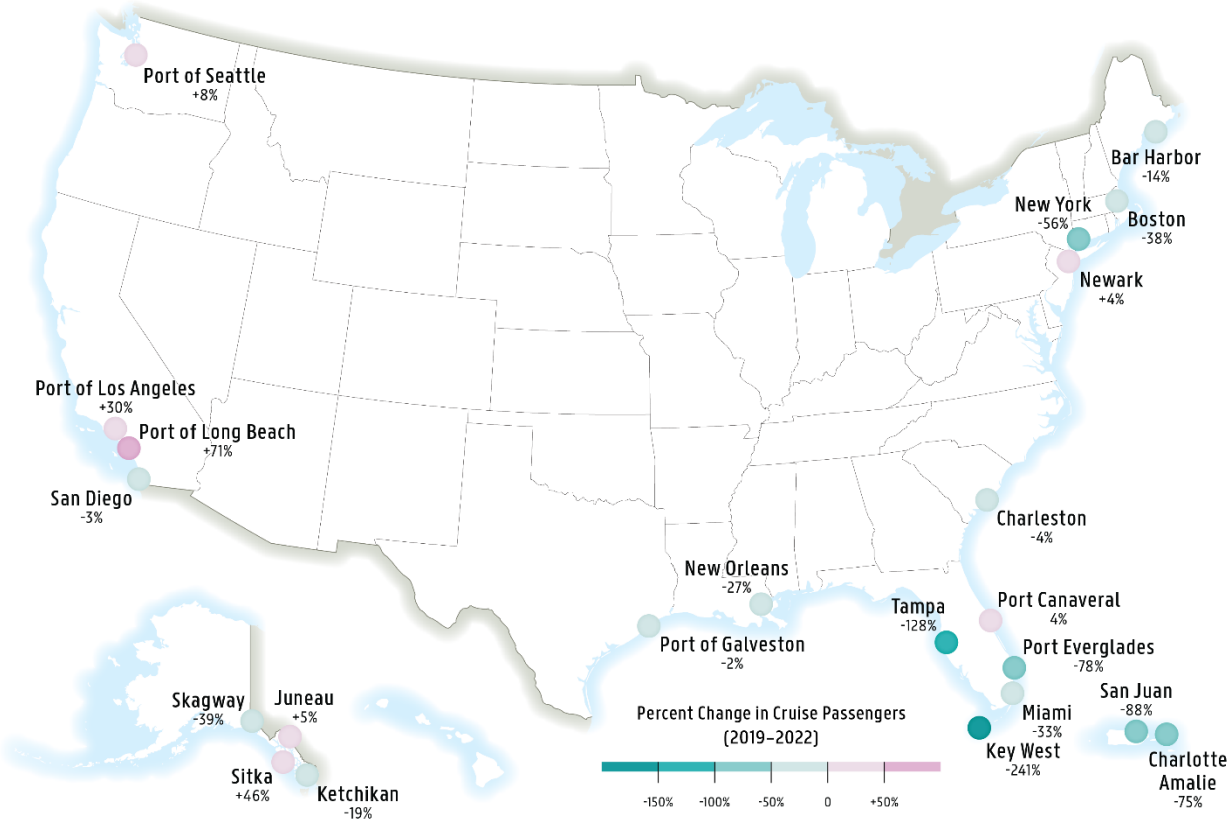

Figure 16: Percent Change in Revenue Passengers for Major Cruise Ports, 2019–2022
Source: Maritime Administration[239]

Forecasts

CLIA forecasts that the number of ocean-going cruise passengers globally will nearly double from 20.4 million in 2022 to 39.5 million in 2027, and that the passenger cruise industry in the United States is expected to continue to grow in the coming years.[240]

[239] U.S. Department of Transportation, Maritime Administration.
[240] Cruise Lines International Association, *2023 State of the Cruise Industry Report*, 2023, https://cruising.org/en/news-and-research/research/2023/march/2023-state-of-the-cruise-industry-report.

Major Travel and Tourism Facilities and Corridors of Regional Significance

The FAST Act required that the NTTISP include an identification of the major travel and tourism related transportation facilities and corridors for current and future travel.[241] Similarly, NACTTI's final report recommended that DOT define a national travel and tourism infrastructure network with such elements as national highway system corridors serving top U.S. road-trip destinations; commercial service airports with the top international and domestic enplanements; passenger rail networks including Amtrak, State-supported and private sector lines; ports that accommodate significant volumes of cruise passengers; America's marine highway routes; rural and urban roads that provide access to Federal and Tribal lands, National Parks, coastal communities, and other major attractions; and multimodal systems and attractions.[242] DOT identified certain criteria described below to describe a national Multimodal Travel and Tourism Network (MTTN). DOT expects the data collected under the proposed Travel and Tourism Data Program will help refine and expand the MTTN to cover additional recommendations of the NACTTI and others to the benefit of planners, private-sector stakeholders, and the public.

Multimodal Travel and Tourism Network

The MTTN is comprised of major highways, major airports, major cruise ports, and major passenger rail. DOT recognizes the current data limitations in creating such a network related to highway and multimodal travel (Figure 17a–d).[243] As such, the MTTN is an illustrative and informational resource. The MTTN does not provide project exclusive or preferred Federal transportation funding.

As reported by DOT's Bureau of Transportation Statistics in its 2021 Transportation Statistics Annual Report, most passenger travel in the United States occurs on highways, which accounted for nearly 5.6 trillion passenger miles in 2019.[244] Proportionately in 2019, passenger travel on highways accounted for 87.6 percent of the total passenger-miles traveled across the different modes including rail (0.1 percent), transit (0.8 percent), and air (11.4 percent).[245,246]

[241] Fixing America's Surface Transportation (FAST) Act, P.L. No. 114-94, 129 Stat. 1428 (2015), https://www.govinfo.gov/content/pkg/PLAW-114publ94/html/PLAW-114publ94.htm.
[242] U.S. Department of Transportation, National Advisory Committee on Travel and Tourism Infrastructure, *National Advisory Committee on Travel and Tourism Infrastructure Final Report*, 2021, https://www.transportation.gov/policy-initiatives/traveltourismcommittee/nactti-final-report.
[243] 90 percent is an arbitrary threshold that the authors used to identify "major" components of the MTTN.
[244] U.S. Department of Transportation, Bureau of Transportation Statistics, *Transportation Statistics Annual Report 2021*, 2021, https://www.bts.dot.gov/sites/bts.dot.gov/files/2022-01/TSAR_FULL%20BOOK-12-31-2021.pdf.
[245] One passenger-mile is equal to one passenger carried one mile. For example, 10 passengers carried 10 miles would equal 100 passenger miles.
[246] U.S. Government Accountability Office, *Travel and Tourism: DOT Should Improve Strategic Planning and Data Collection*, 2023, https://www.gao.gov/assets/gao-23-105967.pdf.

Figure 17a: Combined MTTN
Source: Volpe Center[247]

[247] Figure 17a combines data sources used in Figures 18-24.

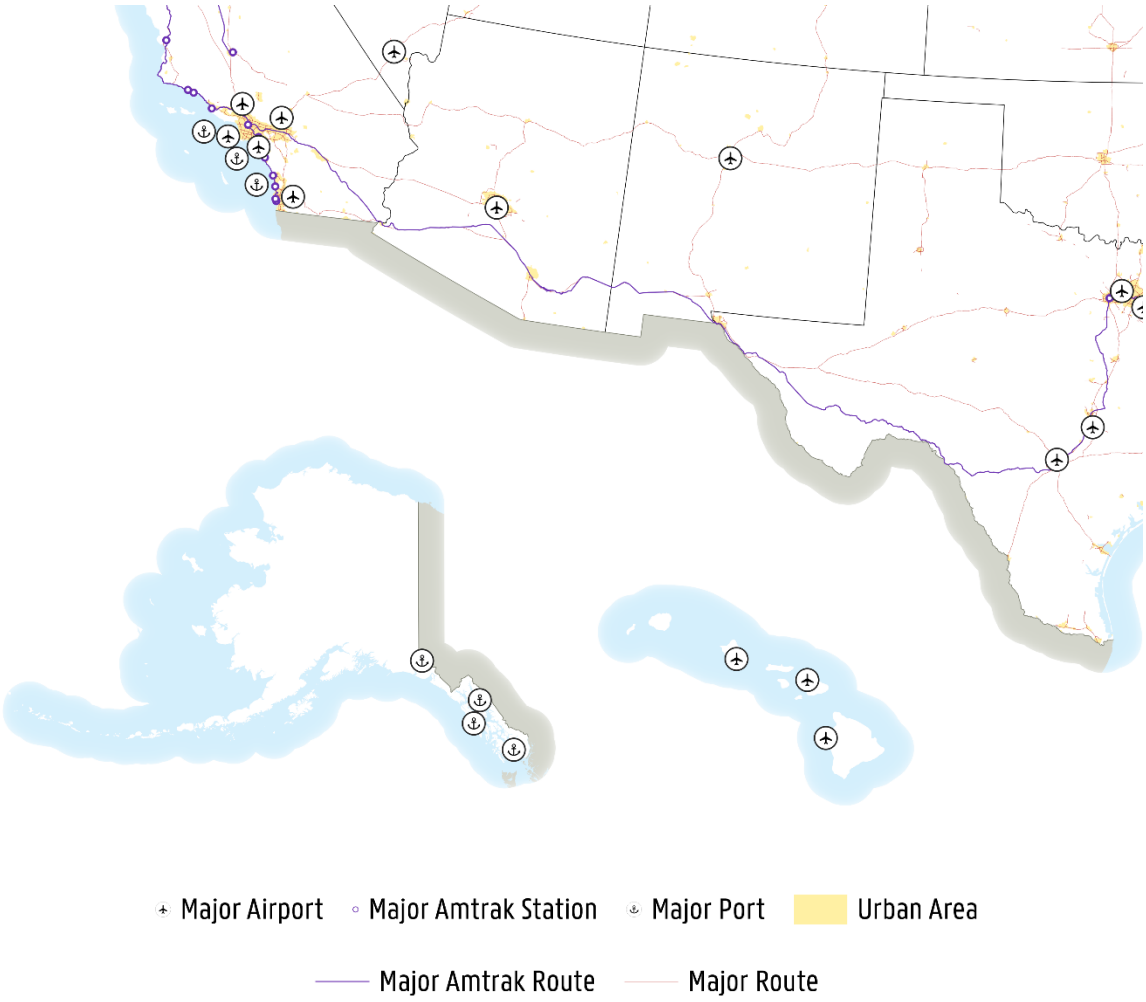

Figure 17b: Combined MTTN
Source: Volpe Center[248]

[248] Figure 17b combines data sources used in Figures 18-24.

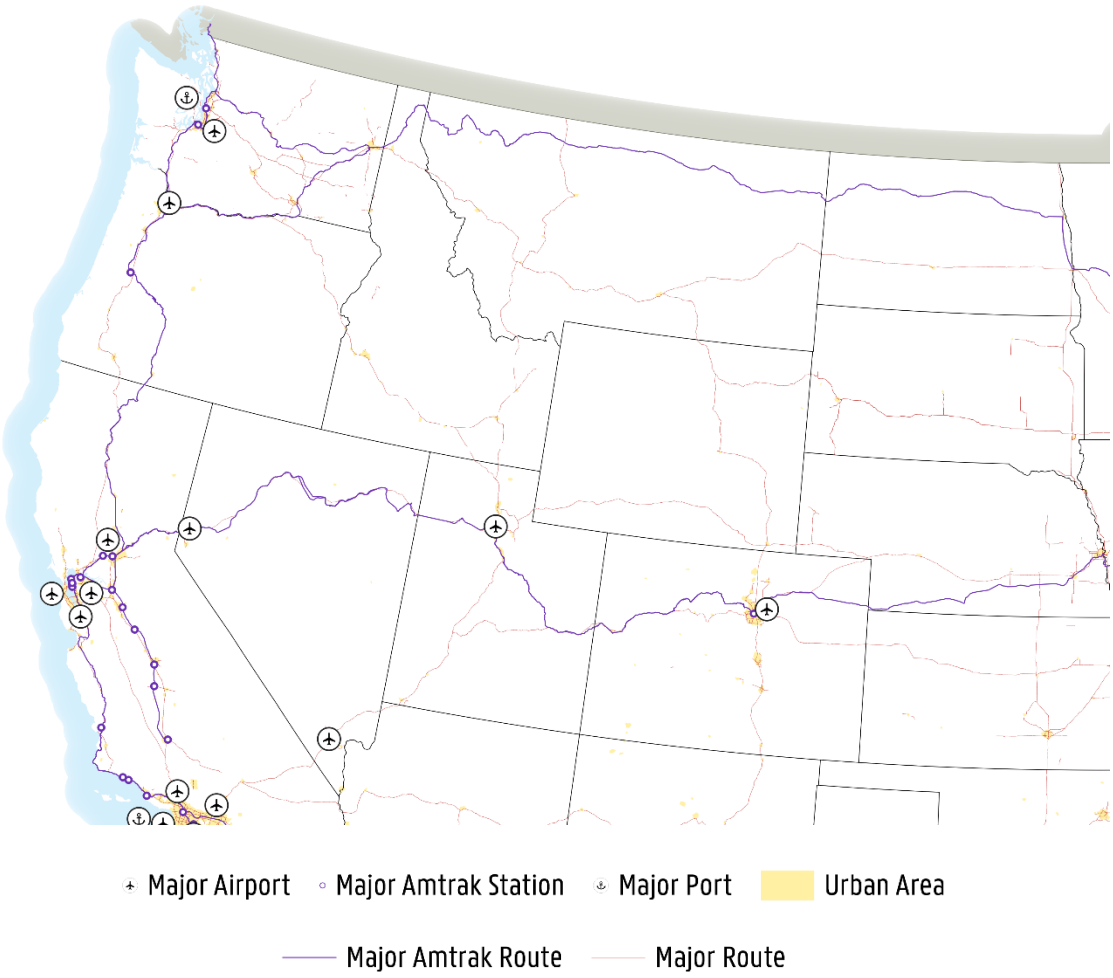

Figure 17c: Combined MTTN
Source: Volpe Center[249]

[249] Figure 17c combines data sources used in Figures 18-24.

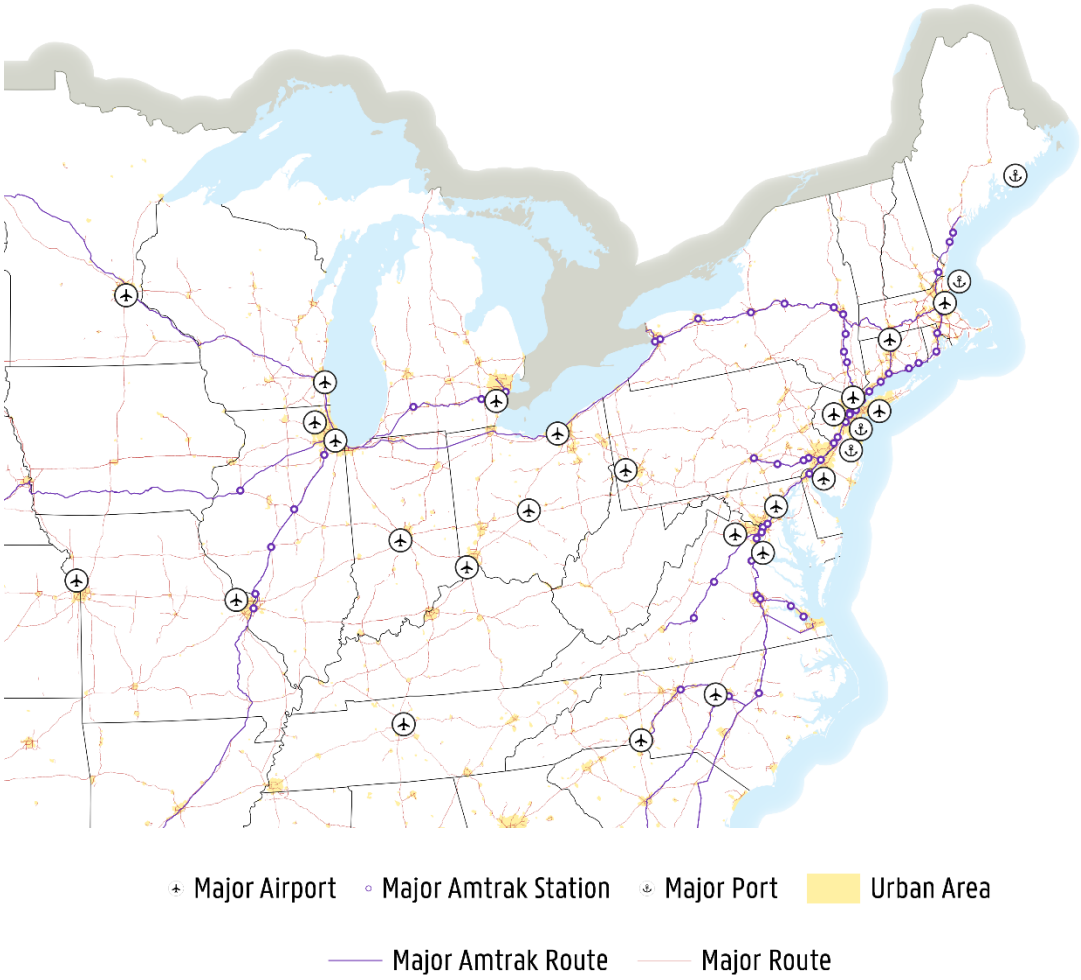

Figure 17d: Combined MTTN
Source: Volpe Center[250]

[250] Figure 17d combines data sources used in Figures 18-24.

Major Highway Network

U.S. DOT developed a Highway MTTN map (Figure 18) using the set of criteria listed below.

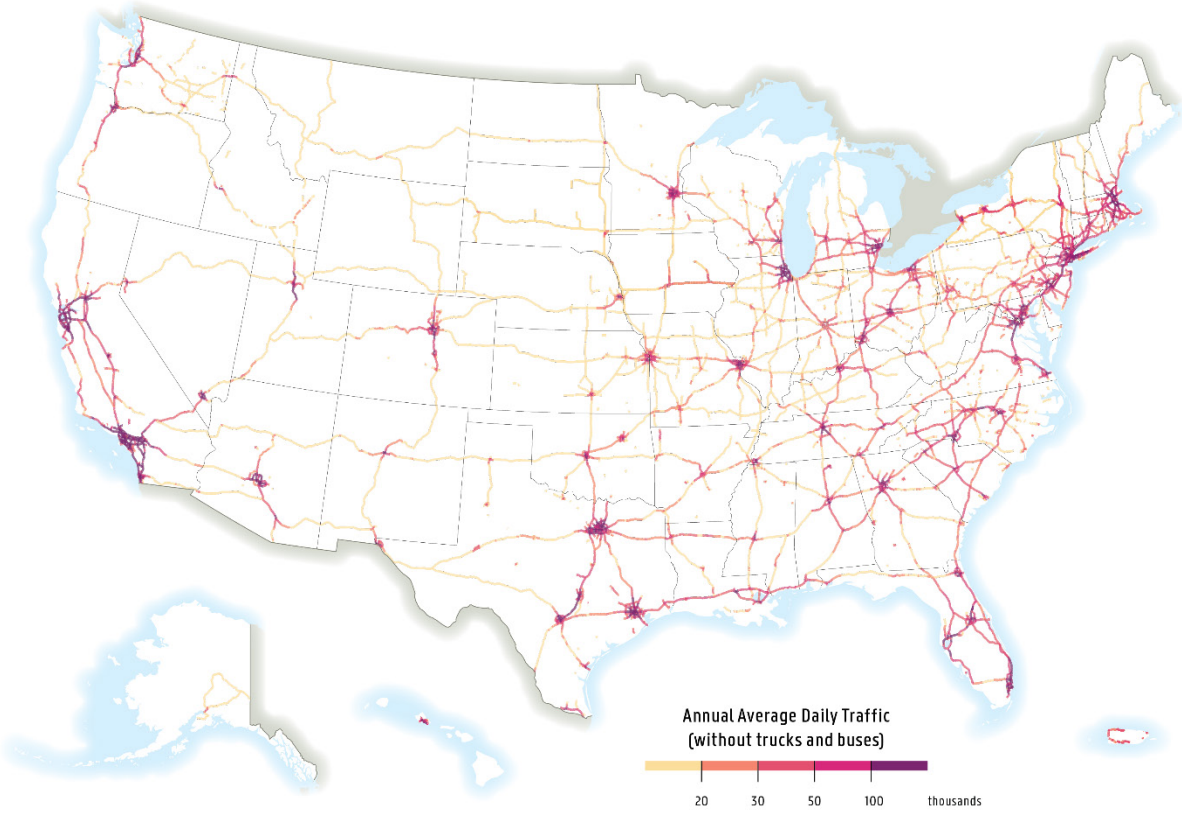

Figure 18: Highway MTTN
Source: Volpe Center[251]

Highway Criteria:

- **National Highway System (NHS)**: Includes all NHS Interstates and other Freeways and Expressways (functional classification 1 and 2 routes). Filtering the NHS based on functional class rather than AADT minimizes the number of connectivity gaps created by strict AADT criteria. Urban roadways were excluded from the AADT coverage analysis because they are assumed to consist of a greater proportion of commuters and other short-distance travelers. This subset of roads includes the majority (87 percent) of rural NHS mileage with average annual daily traffic (AADT) over 20,000 (excluding trucks and buses) in 2019. Due to data limitations, there is no dataset specific to long-distance travel and tourism used to determine the Major Highway Network.

The highway component of the MTTN consists of approximately 72,532 centerline miles of major, NHS functional class 1 and 2 routes. This network encompasses almost 33 percent of the NHS, but less than 2 percent of the Nation's total public road system of approximately 4.2 million miles. The areas of

[251] U.S. Department of Transportation, Federal Highway Administration, Highway Performance Monitoring System (HPMS), 2015, https://highways.dot.gov/safety/data-analysis-tools/rsdp/rsdp-tools/highway-performance-monitoring-system-hpms.

highest AADT are concentrated between Boston and Washington, DC, with other concentrations of high AADT around Detroit, Chicago, Atlanta, Orlando, Dallas, Houston, San Francisco, and Los Angeles. Regionally, AADT is highest in the Northeast, followed by the Midwest and Southeast, along with some high concentration areas along the West Coast; AADT is lowest in the Mountain West.

In 2022, 8.4 billion total long-distance vehicle trips originated in the United States. The most long-distance vehicle trips originated in California, with 1.1 billion vehicle trips (13 percent of the total vehicle trips), followed by Texas with 796 million long-distance vehicle trips (9 percent of the total) and then Florida with 490 million long-distance vehicle trips (6 percent of the total).[252]

In 2022, 8.4 billion total long-distance vehicle trips concluded in the United States. The most long-distance vehicle trips concluded in California, with 1.0 billion long-distance vehicle trips (13 percent of the total), followed by Texas with 800 million long-distance vehicle trips (10 percent of the total) and then Florida with 508 million long-distance vehicle trips (6 percent of the total).[253]

America's Byways

"America's Byways" is the umbrella term for 184 distinct roads designated by the U.S. Secretary of Transportation that include National Scenic Byways and All-American Roads.[254] To be designated as a National Scenic Byway, a byway must meet the criteria for at least one of six intrinsic qualities: archeological, cultural, historic, natural, recreational, or scenic. To be designated as an All-American Road, a byway must meet criteria for at least two intrinsic qualities: have one-of-a-kind features and be considered a "destination unto itself," meaning people travel to and along the roadway for that unique experience. As specified by FHWA, each byway must have a corridor management plan that provides for "the conservation and enhancement of the byway's intrinsic qualities as well as the promotion of tourism and economic development."[255] Other byways, such as National Forest Scenic Byways and BLM Back Country Byways, are designations for America's Byways and other scenic and unique roads in those lands. While these byways are used by and attract tourists and long-distance travel, most do not experience a high volume of traffic and are therefore not included in the MTTN.

Regional Corridors

The FHWA NextGen NHTS National Passenger Origin-Destination (OD) Data includes 2022 annualized trip count data. This is disaggregated into multiple trip length segments of 0 to 10 miles, 10 to 25 miles, 25 to 50 miles, 50 to 75 miles, 75 to 100 miles, 100 to 150 miles, 150 to 300 miles, and greater than 300 miles by zone throughout the country. Trips greater than 50 miles are considered long-distance travel, however many zones are greater than 50 square miles, resulting in significant numbers of long vehicle trips within a single zone. As a result, these are considered travel hubs for long-distance vehicle travel. The top three origin-destination pairs for vehicle trips greater than 50 miles in 2022 were Los Angeles–Long Beach–Anaheim to Riverside–San Bernardino–Ontario, Calif., with 179.7 million trips, Los Angeles–Long Beach–Anaheim to Riverside–San Bernardino–Ontario, Calif. (all starting and ending within the

[252] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.
[253] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS."
[254] U.S. Department of Transportation, Federal Highway Administration, "America's Byways," n.d., https://fhwaapps.fhwa.dot.gov/bywaysp.
[255] Federal Register, "National Scenic Byways Program," 95-12211, 1995, https://www.govinfo.gov/content/pkg/FR-1995-05-18/html/95-12211.htm

zone) with 109.9 million trips, and Houston–The Woodlands–Sugar Lands, Tex. (all starting and ending within the zone) with 88.5 million trips.[256]

An OD analysis for trips greater than 150 miles was also performed to eliminate the majority of, but not all, intrazonal trips; for zones that are larger than 150 square miles, trips can still begin and finish within the same zone.[257] Florida, Maryland, New York, North Carolina, California, Texas, Nevada, and Pennsylvania were among the top 10 origin-destination pairs for vehicle trips greater than 150 miles in 2021 (Table 8). The top three origin-destination pairs for vehicle trips greater than 150 miles in 2021 were trips between Miami–Fort Lauderdale–West Palm Beach and ending in Orlando–Kissimmee–Sanford, Fla. with approximately 38 million trips; followed by trips between Tampa–St. Petersburg–Clearwater, Fla., and ending in Miami-Fort Lauderdale-West Palm Beach, Fla., with 22.7 million trips; and trips between Baltimore–Columbia–Towson, Md., and New York–Newark–Jersey City, N.Y.–N.J.–Pa. with 16.7 million trips (Table 8).

There are several corridors of significance for long-distance vehicle travel in Florida, notably with Miami-Fort Lauderdale–West Palm Beach as an origin or destination point for each origin-destination pair in Florida, as well as other corridors of significance between New York–Newark–Jersey City, N.Y.–N.J.–Pa. and both Baltimore–Columbia–Towson, Md., and Washington–Arlington–Alexandria, D.C.–Va.–Md.–W.Va., as well as between Los Angeles–Long Beach–Anaheim, Calif., and Las Vegas–Henderson–Paradise, Nev.[258]

[256] U.S. Department of Transportation, Federal Highway Administration, "2021 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.
[257] U.S. Department of Transportation, Federal Highway Administration, Traveler Analysis Framework: Planned Passenger Travel Origin Destination Zone Information," 2023, https://www.fhwa.dot.gov/policyinformation/analysisframework/04.cfm.
[258] U.S. Department of Transportation, Federal Highway Administration, "2021 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.

Table 8: Top 10 150+ Mile Vehicle Origin-Destination Pairs, 2021

Rank	Zone 1	Zone 2	Zone 1 State	Zone 2 State	Trip Count
1	Miami-Fort Lauderdale-West Palm Beach, FL	Orlando-Kissimmee-Sanford, FL	FL	FL	37,975,501
2	Tampa-St. Petersburg-Clearwater, FL	Miami-Fort Lauderdale-West Palm Beach, FL	FL	FL	22,690,986
3	Baltimore-Columbia-Towson, MD	New York-Newark-Jersey City, NY-NJ-PA	MD	NY	16,710,595
4	Miami-Fort Lauderdale-West Palm Beach, FL	Cape Coral-Fort Myers, FL	FL	FL	16,174,965
5	Washington-Arlington-Alexandria, DC-VA-MD-WV	New York-Newark-Jersey City, NY-NJ-PA	MD	NY	13,775,371
6	Charlotte-Concord-Gastonia, NC-SC	Raleigh, NC	NC	NC	11,906,484
7	Los Angeles-Long Beach-Anaheim, CA	Las Vegas-Henderson-Paradise, NV	CA	NV	11,587,824
8	Austin-Round Rock, TX	Houston-The Woodlands-Sugar Land, TX	TX	TX	11,558,753
9	San Antonio-New Braunfels, TX	Houston-The Woodlands-Sugar Land, TX	TX	TX	9,535,688
10	Washington-Arlington-Alexandria, DC-VA-MD-WV	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	MD	PA	7,291,696

Source: Federal Highway Administration[259]

Intercity Bus Atlas

The latest version of the Intercity Bus Atlas (ICBA) lists 6,453 stops and 719 routes (219,296 miles). While the ICBA is incomplete and ridership data are not available for specific routes—which represents a significant limitation in analyzing intercity bus travel and tourism—it remains one of the best available sources of American intercity bus service data. Much of the ICBA is concentrated in the Northeast, primarily between Washington, D.C., and Boston. There are many routes and stops along the California and Florida coasts as well (Figure 19).

[259] Federal Highway Administration, "2021 NextGen NHTS."

Figure 19: Intercity Bus Atlas
Source: Bureau of Transportation Statistics[260]

Major Airport Network

U.S. DOT developed an Airport MTTN map (Figure 20) using the set of criteria listed below.

Airport Criteria:

- **Enplanements**: Includes all commercial airports that represent 90 percent of enplanements (passenger boardings) in 2022.

The airport component of the MTTN consists of 63 major airports, the majority of which are located along the east and west coasts, with Atlanta having the most enplanements in 2022. Among the Airport MTTN, the Northeast has the most airports represented, followed by Florida, California, and Texas. The Mountain West region has the fewest MTTN airports.

In 2022, there were 731.2 million domestic air trips originated in the United States. The most long-distance air trips originated in California, with 83.5 million air trips (11 percent of the total air trips),

[260] U.S. Department of Transportation, Bureau of Transportation Statistics, "Intercity Bus Atlas: Data, Maps, & Apps," n.d., https://www.bts.gov/intercity-busing/data-maps-and-apps.

followed by Florida with 78.6 million air trips (11 percent of total air trips) and then Texas with 78.2 million air trips (10 percent of total air trips).[261]

The most long-distance air trips concluded in California, with 84 million air trips (11 percent of the total air trips), followed by Texas with 77.3 million air trips (11 percent of total air trips) and then Florida with 76.5 million air trips (10 percent of total air trips).[262]

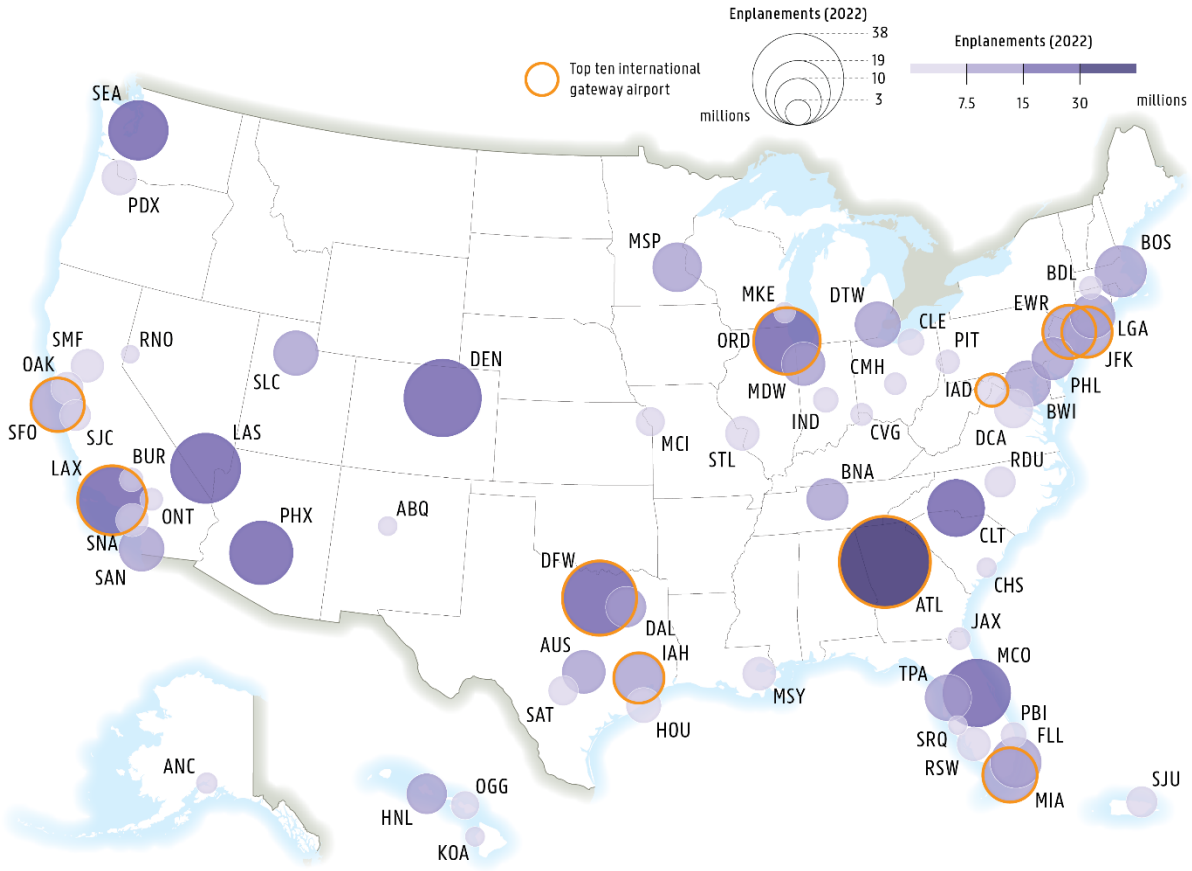

Figure 20: Airport MTTN

Source: Volpe Center[263, 264]

Note: The airport circles are scaled to their respective enplanement totals.

Regional Corridors

The origin-destination data for air trips greater than 50 miles show major intercity air connections, rather than intra-zone connections highlighted for highway travel. The top three origin-destination pairs for air travel trips greater than 50 miles in 2022 were trips originating in Miami–Fort Lauderdale–West Palm Beach, Fla., and ending in New York–Newark–Jersey City, N.Y.–N.J.–Pa., with 7.9 million trips (all trips ending in N.Y.), followed by trips originating in Los Angeles–Long Beach–Anaheim and ending in San

[261] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.
[262] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS."
[263] U.S. Department of Transportation, Federal Aviation Administration, "Terminal Area Forecast (TAF)," n.d., https://taf.faa.gov/.
[264] U.S. Department of Transportation, Federal Aviation Administration, "Airport Rankings 2022," 2022, https://www.bts.gov/topics/airlines-and-airports/airport-rankings-2022.

Francisco–Oakland–Hayward, Calif., with 6.2 million trips, and lastly, trips originating in Atlanta–Sandy Springs–Roswell, Ga. and ending in Miami–Fort Lauderdale–West Palm Beach, Fla., with 5.3 million trips.[265]

For air trips greater than 150 miles, California, Florida, New York, Georgia, New Jersey, Nevada, Illinois, and Arizona were among the top 10 origin-destination pairs in 2021 (see Figure 21). The top three origin-destination pairs for air trips greater than 150 miles in 2021 were trips between San Francisco–Oakland–Hayward and Los Angeles–Long Beach–Anaheim, Calif., with 5.9 million trips, then trips between Miami–Fort Lauderdale–West Palm Beach, Fla., and New York–Newark–Jersey City, N.Y.–N.J.–Pa. with 5.4 million trips, and lastly, trips between Miami–Fort Lauderdale–West Palm Beach, Fla., and Atlanta–Sandy Springs–Roswell, Ga. with 4.5 million trips. There is a corridor of significance for long distance air travel between San Francisco–Oakland–Hayward and Los Angeles–Long Beach–Anaheim, Calif., as well as other corridors of significance between New York–Newark–Jersey City, N.Y.–N.J.–Pa., and Miami–Fort Lauderdale–West Palm Beach and Orlando–Kissimmee–Sanford, Fla., as well as between Miami–Fort Lauderdale–West Palm Beach, Fla., and Atlanta–Sandy Springs–Roswell, Ga. (Figure 21). Additionally, there is a corridor of significance for long distance air travel trips originating in Las Vegas-Henderson-Paradise, Nev. and ending in Los Angeles-Long Beach-Anaheim, Calif.

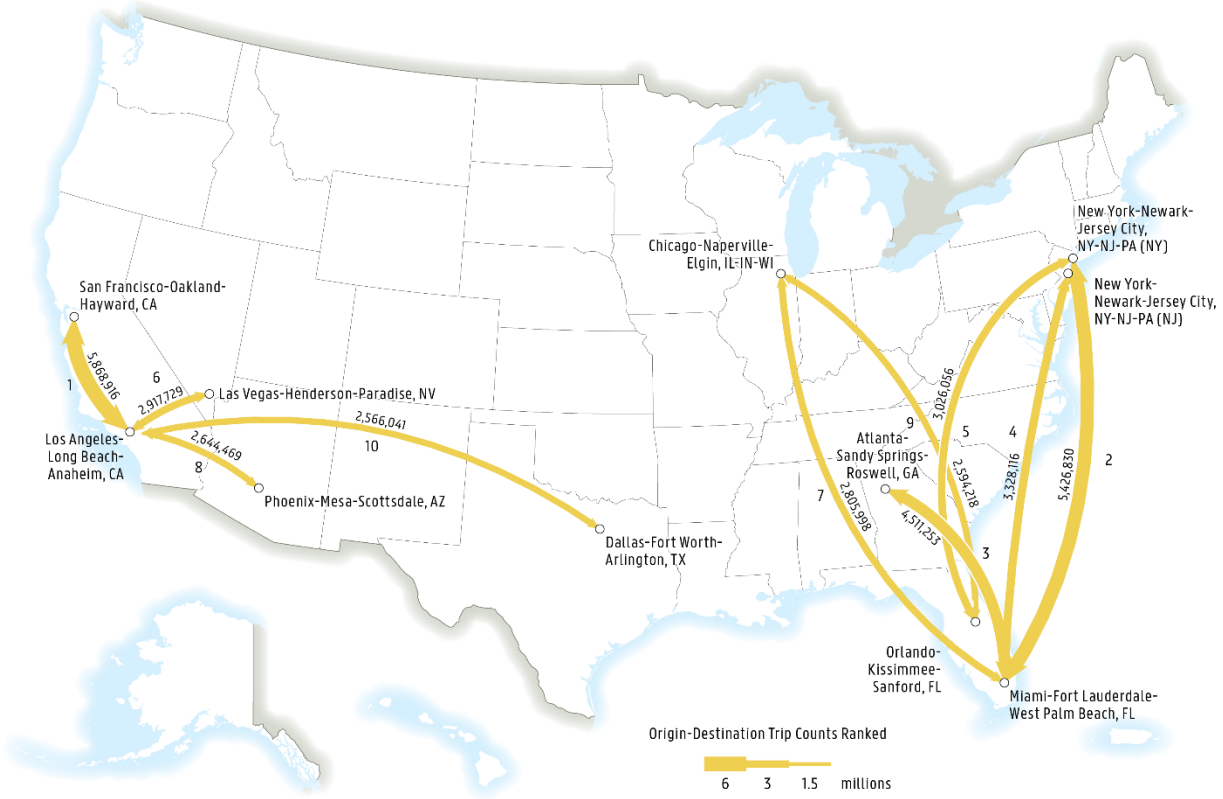

Figure 21: Top 10 Origin-Destination Pairs for 150+ Mile Flights in 2022

Note: Arrows are for visualization purposes only and do not represent actual trip paths.

Source: Federal Highway Administration[266]

[265] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.

[266] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.

Medium- and Small-sized Commercial Airports

While many airports do not meet the threshold criterion for the Airport MTTN, smaller airports serve as critical connections to distant destinations for travelers and tourists, whether for family reunions or the great outdoors (Figure 22). The overall U.S. commercial aviation market has shown robust recovery following the COVID-19 pandemic. However, supply chain challenges, labor shortages, and escalating costs have impacted smaller markets disproportionately more than large ones. Going forward, medium- and smaller-sized markets will likely continue to grow, although large markets will do so somewhat faster.

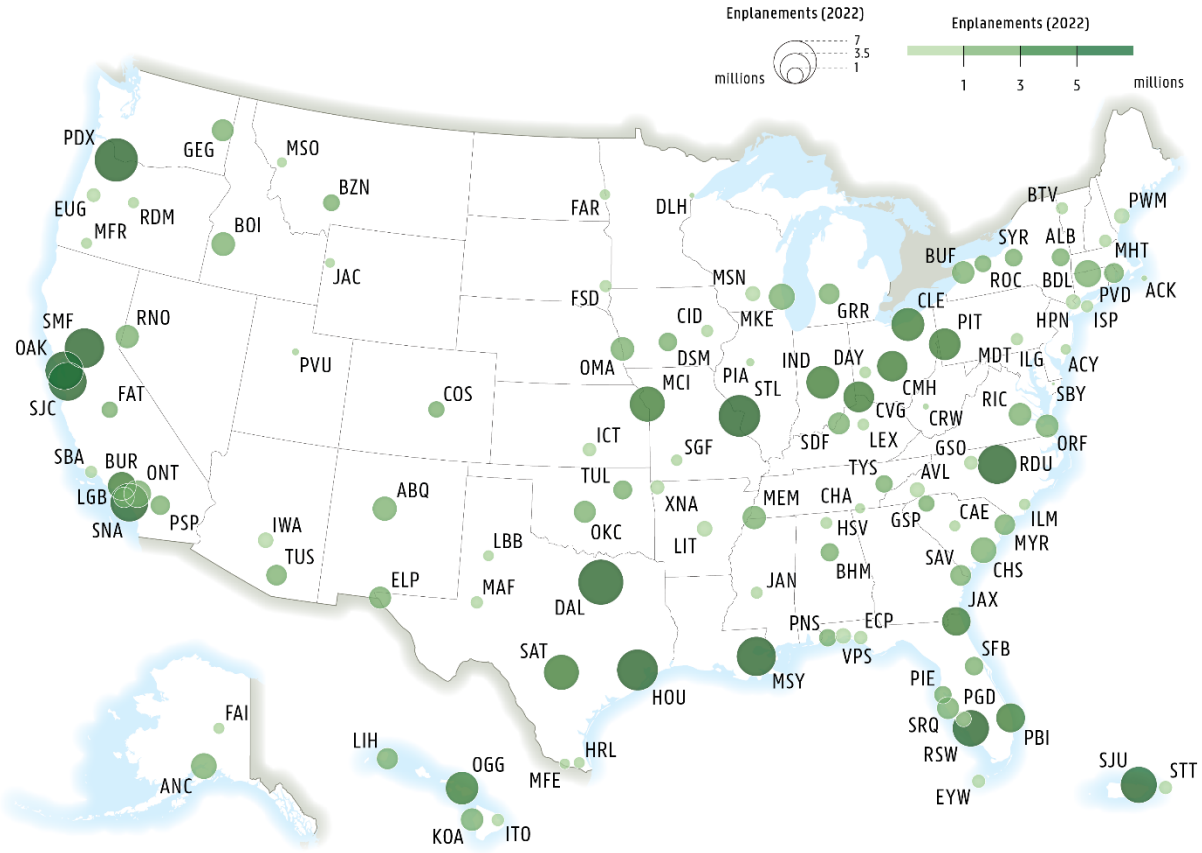

Figure 22: Medium- and Small-sized Commercial Airports

Source: Federal Aviation Administration[267]

Note: The airport circles are scaled to their respective enplanement totals and include nonhub and small and medium hub airports.

[267] U.S. Department of Transportation, Federal Aviation Administration, "Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports," n.d., https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger.

Major Passenger Rail Network

U.S. DOT developed a Passenger Rail MTTN map (Figure 23) using the criteria below.

Rail Criteria:

- **Amtrak Ridership**: Includes Amtrak stations and routes that represent 90 percent of Amtrak ridership in fiscal year 2022 (boardings and alightings).[268,269]

The passenger rail component of the MTTN consists of both railways and rail stations, which includes 19,047 route miles of high-volume railways and 115 high-volume stations. This represents 87 percent and 24 percent of the Nation's railway route miles and stations, respectively.

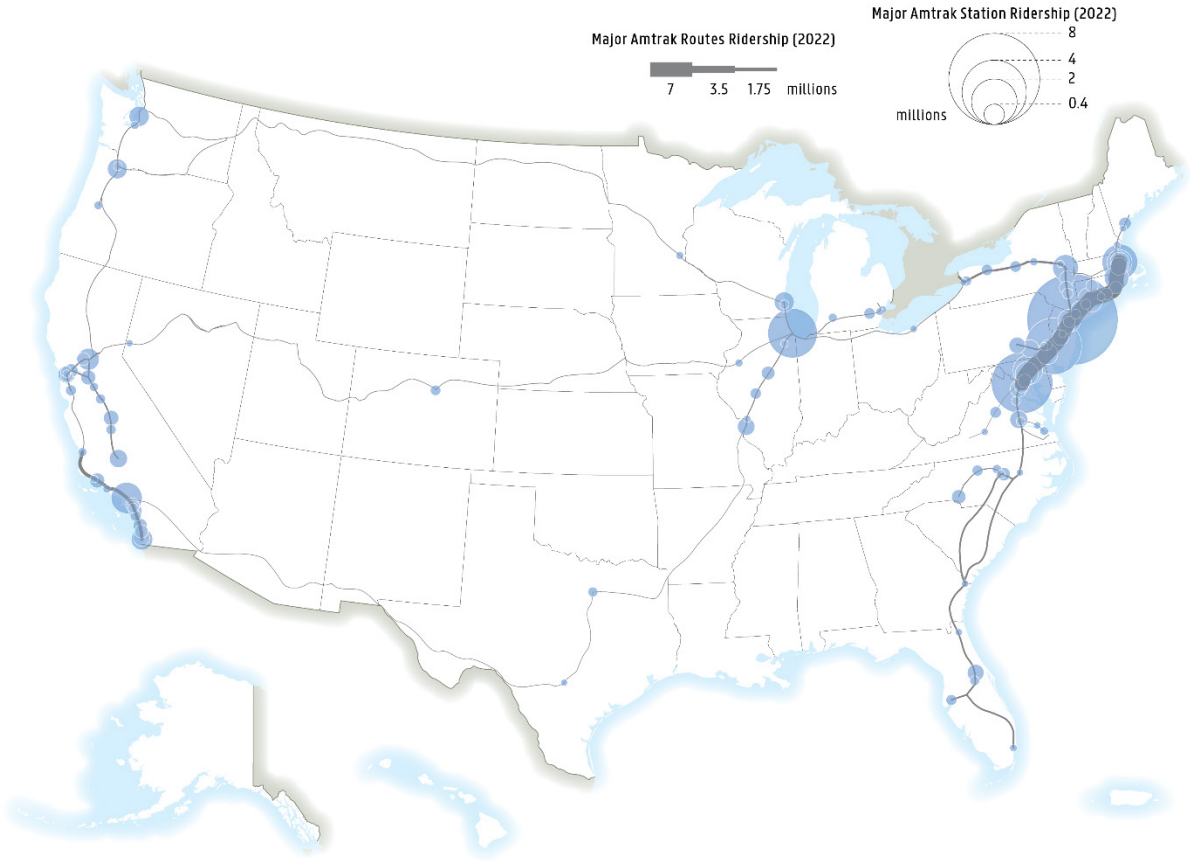

Figure 23: Passenger Rail MTTN
Source: Volpe Center[270]

[268] U.S. Department of Transportation, Bureau of Transportation Statistics, "Amtrak Ridership," n.d., https://www.bts.dot.gov/browse-statistical-products-and-data/state-transportation-statistics/amtrak-ridership.
[269] Stations that meet these criteria but that are not located along a major rail line, as defined above, are excluded.
[270] Amtrak, "Amtrak FY22 Ridership," n.d., https://media.amtrak.com/wp-content/uploads/2022/11/FY22-Year-End-Revenue-and-Ridership.pdf.

Amtrak station boardings and alightings are highest in New York City, Philadelphia, and Washington, DC Amtrak route ridership is highest in the Northeast on the Northeast Corridor (NEC) and Acela routes, which typically operate with higher frequencies than other Amtrak routes. Ridership is also high in the Southeast, such as the Silver Service/Palmetto route between New York and Miami, and southern California with the Pacific Surfliner route. The remaining routes and stations experience comparatively low levels of ridership; many stations across the country are only served by one train a day in each direction, including some at inconvenient times in the middle of the night. Regionally, Amtrak ridership is highly concentrated in the Northeast, with significant levels in the Southeast, Midwest, and California, but relatively minimal throughout the rest of the country.[271]

In 2022, there were 135 million total long-distance rail (commuter rail and Amtrak) trips in the United States.[272] The most long-distance rail trips originated in New York, with 42.3 million rail trips (31 percent of total rail trips), followed by New Jersey and Illinois each with 8.8 million, each of which composes 7 percent of total rail trips.

The most long-distance rail trips concluded in New York, with 45.5 million rail trips (34 percent of total rail trips), followed by New Jersey with 9.7 million (7 percent of total rail trips) and then Pennsylvania with 9.5 million (6 percent of total rail trips).

Regional Corridors

As with the highway network, origin-destination data for rail trips greater than 50 miles show over 70 percent of trips start and finish in the same zone. The top three origin-destination pairs for rail trips greater than 50 miles in 2022 were New York–Newark–Jersey City, N.Y.–N.J.–Pa. with 16.1 million trips (all trips starting and ending in N.Y.), Boston–Cambridge–Newton, Mass.–N.H. with 1.7 million (all trips starting and ending in Mass.), and Philadelphia–Camden–Wilmington, Pa.–N.J.–Del.–Md. with 1.5 million (all trips starting and ending in Pa.).[273]

The top three origin-destination pairs for rail trips greater than 150 miles in 2022 were trips originating and ending in New York–Newark–Jersey City, N.Y.–N.J.–Pa. (NY) with 1.78 million trips,[274] then trips between Boston–Cambridge–Newton, Mass.–N.H. and New York–Newark–Jersey City, N.Y.–N.J.–Pa. (NY) with 1.6 million trips; and lastly, trips between Baltimore–Columbia–Towson, Md. and in New York–Newark–Jersey City, N.Y.–N.J.–Pa. (NY) with 1.5 million trips. The NEC is very significant for rail travel. Most of the top 10 origin-destination pairs for rail trips over 150 miles originated or finished in the New York–Newark–Jersey City, N.Y.–N.J.–Pa. zone. There is a corridor of significance for trips between Washington–Arlington–Alexandria, D.C.–Va.–Md.–W.V., Baltimore–Columbia–Towson, Md., and Boston–Cambridge–Newton, Mass.–N.H., all originating or finishing in New York–Newark–Jersey City, N.Y.–N.J.–Pa.

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[271] In the 2021 NTTISP, the Southwest Chief route between Chicago and Los Angeles was considered a major Amtrak route as it was represented in 90 percent of Amtrak ridership in fiscal year 2019. However, it did not have sufficient ridership in fiscal year 2022 to be considered a major route.

[272] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.

[273] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS."

[274] Some of the zones are larger than 150 square miles, which means that many trips can originate and finish within the same zone. For more information on how the zones are defined by FHWA, please refer to the Traveler Analysis Framework – Planned Passenger Travel Origin Destination Zone Information.

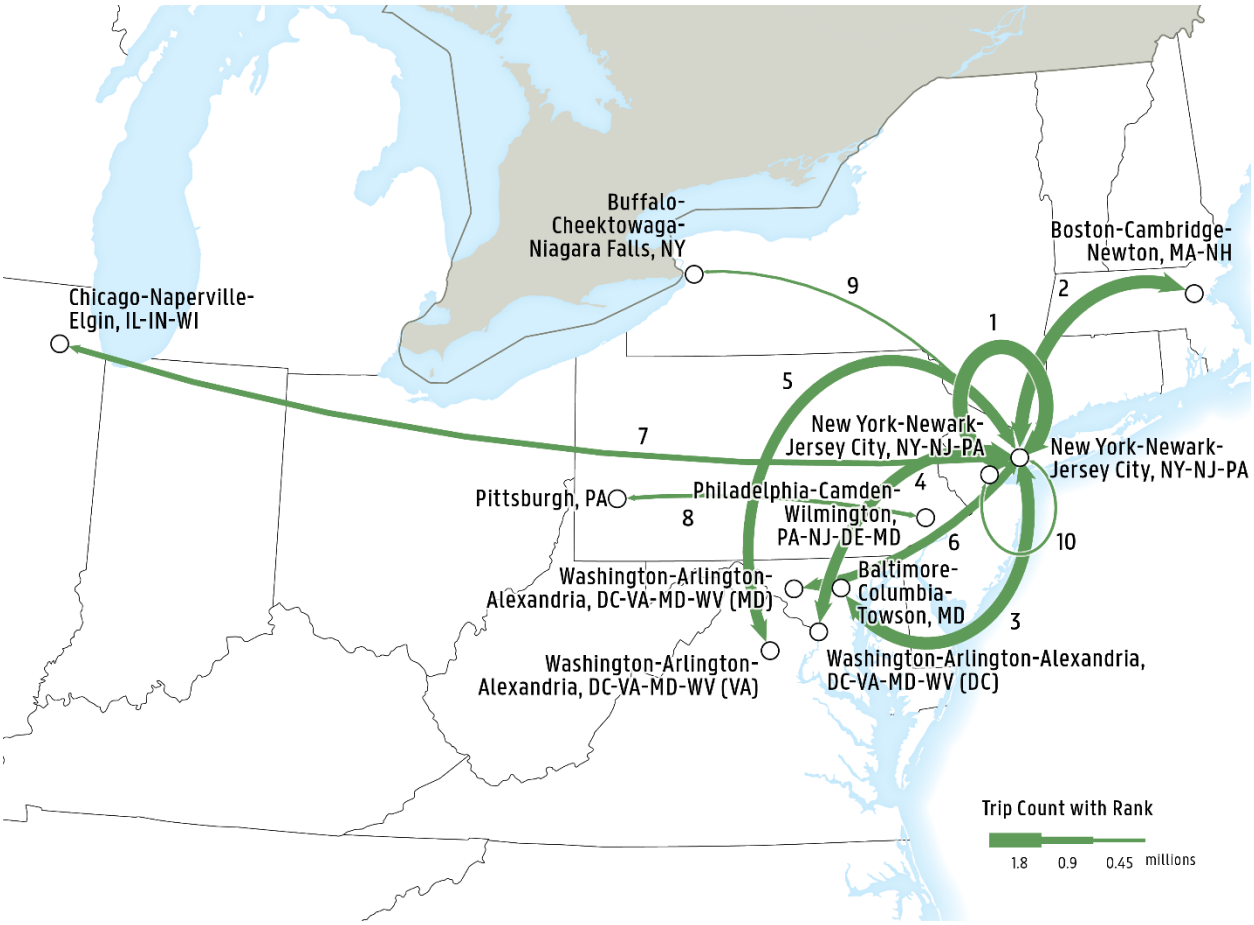

Figure 24: Top 10 Origin-Destination Pairs for 150+ Mile Rail Trips in 2022

Note: Arrows are for visualization purposes only and do not represent actual trip paths. None of the top 10 origin-destination pairs are found outside of the scope of the map.

Source: Federal Highway Administration[275]

Major Port Network

U.S. DOT developed a Port MTTN map (Figure 25) using the set of criteria listed below.

Cruise Port Criteria:

- **Cruise Ship Revenue Passengers**: Includes domestic ports that represent 90 percent of revenue passengers in 2022.

The port component of the MTTN consists of 22 major ports responsible for 90 percent of revenue cruise passengers in 2022. This subset includes approximately 31 percent of the 72 cruise ports for which 2022 revenue passenger data was available from MARAD. Cruise ship revenue passengers are concentrated in Port Canaveral, Miami, and Port Everglades in Florida, as well as in Juneau, Ketchikan, and Skagway in southeastern Alaska. The remaining ports handle relatively few cruise ship revenue passengers.

[275] U.S. Department of Transportation, Federal Highway Administration, "2022 NextGen NHTS National Passenger OD Data," 2023, https://nhts.ornl.gov/od/.

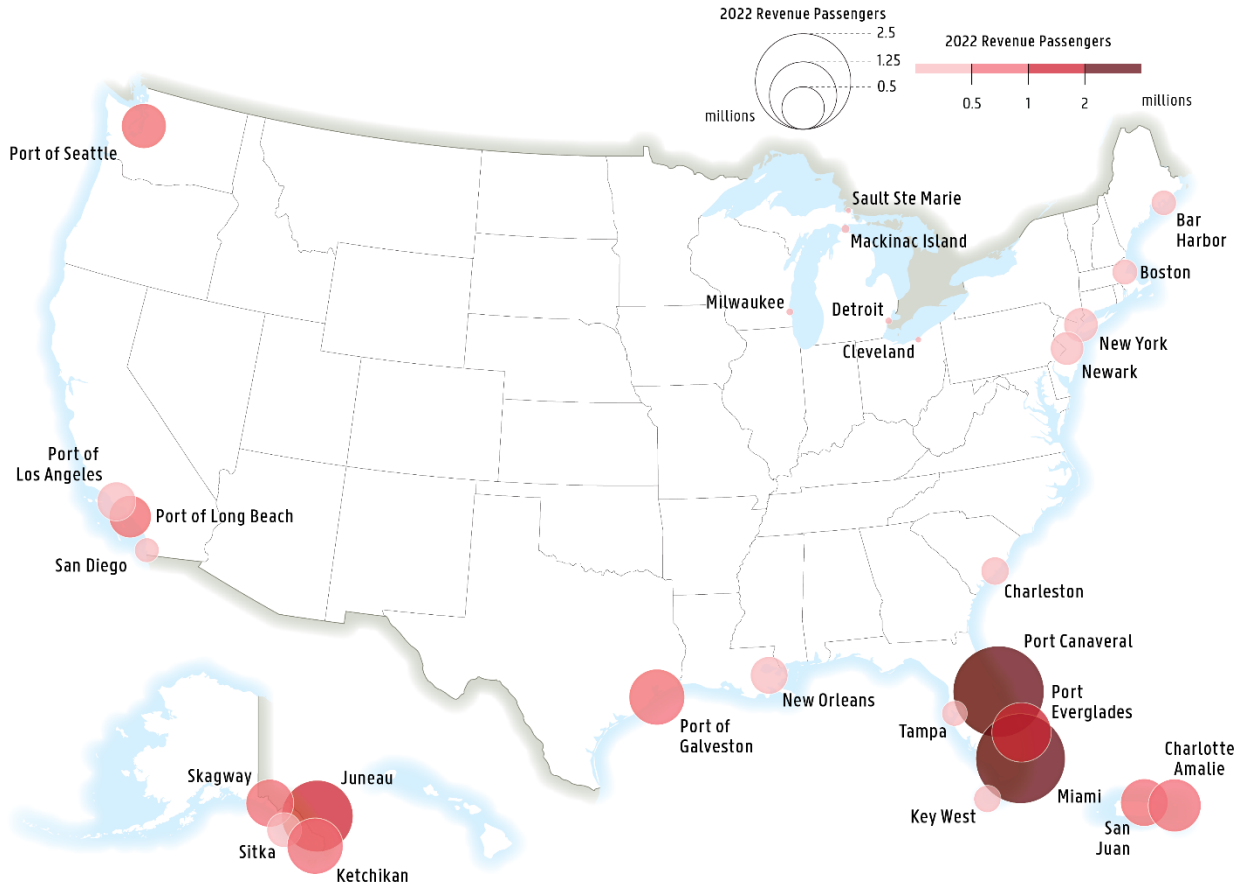

Figure 25: Port MTTN
Source: Maritime Administration[276]
Note: The port circles are scaled to their respective revenue passenger totals.

Great Lakes Port Criteria:

- **Great Lakes Revenue Passengers:** Includes the top five domestic ports with revenue passengers.

The Great Lakes component of the MTTN consists of the top five ports with available data, with Mackinac Island topping the list with 22,784 passengers in 2023. The other four in descending order are Milwaukee, Detroit, Cleveland, and Sault Ste Marie. The number of cruise passengers on the Great Lakes is small but growing.

Barriers to Improved Long-Distance Passenger Travel

The Fixing America's Surface Transportation (FAST) Act requires "an assessment of statutory, regulatory, technological, institutional, financial, and other barriers to improved long-haul passenger travel performance (including opportunities for overcoming the barriers)" to be included as a component of

[276] U.S. Department of Transportation, Maritime Administration, "Ports at a Glance," 2023.

the NTTISP.[277] In general, DOT did not observe statutory, regulatory, technological, institutional, or financial barriers that would block DOT programs or activities to improve long-distance travel.

However, barriers to accessibility and data-driven decision-making can impede travelers from enjoying improved passenger travel and policymakers from conducting quantitative assessments to inform strategic infrastructure investments, respectively.

Accessibility Barriers

Accessibility issues can discourage people with disabilities from traveling and are therefore a barrier to long-distance travel and tourism. DOT is focused on increasing access for people with disabilities by enabling safe and accessible air travel, multimodal access of public transportation facilities, vehicles, and rights-of-way; enabling access to good-paying jobs and business opportunities for people with disabilities; and enabling accessibility of electric vehicles and automated vehicles. In July 2022, DOT announced its Disability Policy Priorities, highlighting the work the Department is undertaking to increase access for people with disabilities across these focus areas.[278]

To assess barriers to accessible air travel, DOT established the Air Carrier Access Act (ACAA) Advisory Committee. The Advisory Committee included representatives of passengers with disabilities, national disability organizations, air carriers, airport operators, contract service providers, aircraft manufacturers, wheelchair manufacturers, and a national organization representing veterans with disabilities. The Advisory Committee made recommendations for DOT and various stakeholders related to ticketing, pre-flight seat assignments, and stowage of assistive devices. Recommendations also pertained to assistance provided to passengers with disabilities at airports and on aircraft, including related training of carrier personnel and contractors.[279]

In March 2022, DOT hosted a widely-attended public meeting on *Air Travel by Persons Who Use Wheelchairs*. During this meeting, members of the public spoke about the difficulties and challenges that many passengers who use wheelchairs, or rely on airlines to provide assistance in getting on and off the aircraft, face while traveling. Individuals were also able to submit written comments on the meeting docket for further consideration by DOT.

At the March 2022 meeting, DOT announced the initiation of a rulemaking to ensure better and safer accommodations for air travelers with disabilities that use wheelchairs. DOT is advancing the rulemaking to address, among other things, requirements for safe and dignified assistance; prompt enplaning, deplaning, and connecting assistance; mishandling of wheelchairs and assistive devices as a per se violation; passenger notifications after a wheelchair is loaded or unloaded from an aircraft; prompt return of delayed wheelchairs or scooters; prompt repair or replacement of damaged wheelchairs or scooters; and enhanced training for certain airline personnel and contractors.

DOT used feedback from the Advisory Committee to develop the Airline Passengers with Disabilities Bill of Rights, which DOT published in July 2022 to empower air travelers with disabilities to assert their

[277] Fixing America's Surface Transportation (FAST) Act, P.L. No. 114-94, Sec. 1431 (2015), govinfo.gov/content/pkg/PLAW-114publ94/html/PLAW-114publ94.htm.
[278] U.S. Department of Transportation, "U.S. Department of Transportation's Disability Policy Priorities," n.d., https://www.transportation.gov/mission/accessibility/priorities.
[279] U.S. Department of Transportation, "Final ACAA Advisory Committee Report," February 4, 2022, https://www.regulations.gov/document/DOT-OST-2018-0204-0040.

rights under the ACAA and to help ensure airline personnel and contractors uphold those rights.[280] In addition, the Advisory Committee recommended that DOT coordinate and lead a public awareness campaign to educate the traveling public on the different types and levels of accommodations that airlines can provide to passengers with disabilities. In October 2023, DOT launched a campaign, #AccessibleAirTravel, to raise awareness about the right of air travelers with disabilities to safe, dignified, and accessible air travel.

In August 2023, DOT issued the ACAA regulation to improve the accessibility of lavatories on single-aisle aircraft. The final rule is intended to ensure that our air transportation system is safe and accessible to individuals with disabilities.

The NTTISP prioritizes reductions in barriers to accessibility (see Chapter 3). Examples of DOT strategies and key performance indicators related to travel and tourism include:

- Reduce the number of wheelchairs and mobility aids that are lost, damaged, or destroyed in air travel.
- Create National Transportation Atlas Database layers for walking networks and accessible transportation facilities.
- Identify and address gaps that impede equitable and accessible visitor experiences on Federal lands and waters, leveraging programs such as FHWA's Federal Lands Access Program.
- Bring 284 Amtrak stations into ADA compliance.
- Ensure 100 percent of Amtrak stations are ADA compliant by 2035.

Quantitative Decision-making Barriers

As noted by a respondent in the Request for Comment and elsewhere in the NTTISP, data collection is key to understanding evolving consumer behavior, industry trends, and recovery strategies. Policymakers, planners, and other stakeholders at Federal, State, Tribal, local, and regional governments require reliable and current data to support decision-making about investments in travel and tourism infrastructure. The selection of infrastructure projects to receive discretionary funding relies on data that are useful in assessing the case for an investment strategy.

Consistent, recent data on long-distance trip purpose, mode use, travel party size, socioeconomic, and demographic data would provide transportation planners and decision-makers with the necessary evidence base to make informed decisions about travel and tourism infrastructure investments. As noted earlier in this report, the American Travel Survey (ATS), the most comprehensive dataset encompassing all modes of long-distance travel, was last conducted in 1995. In 2001, the National Household Travel Survey (NHTS) was established by combining elements of the ATS with the Nationwide Personal Transportation Survey.[281] However, the NHTS does not fully replace the information on long-distance travel that could be gleaned from a modernized and regularly conducted ATS. In another example of an information gap, system usage data that are commonly analyzed to support grant applications to DOT are often better at accounting for peak-period commuting and freight movements than surge impacts from temporary or seasonal visitation. Using more refined and up-to-date travel data

[280] U.S. Department of Transportation, "DOT Announces First-Ever Bill of Rights for Passengers with Disabilities, Calls on Airlines to Seat Families Together Free of Charge," July 8, 2022, https://www.transportation.gov/briefing-room/dot-announces-first-ever-bill-rights-passengers-disabilities-calls-airlines-seat.
[281] U.S. Department of Transportation, Bureau of Transportation Statistics, "American Travel Survey," 2021, https://www.bts.gov/browse-statistical-products-and-data/surveys/american-travel-survey.

would help support the case for travel and tourism investments, particularly in areas with small resident populations that experience significant tourist traffic.

The Travel and Tourism Data Program proposed in the NTTISP (see Chapter 3) and further outlined in Appendix E would close an important information gap in the understanding of long-distance travel that has grown since the 1995 ATS. The need has been exacerbated by the pace of technological change and nature of innovations since then: smartphones (including GPS-enabled navigation apps), Mobility-as-a-Service, in-vehicle electronics, ride-hailing, micromobility, and trends in remote work accelerated by the pandemic and facilitated by telecommunications infrastructure.

6. Infrastructure Investments for Recovery and the Future

Our national transportation system supports the travel and tourism industry by facilitating the movement of people for both leisure and business purposes. Investments in transportation infrastructure can help improve the system's condition and keep it in a state-of-good-repair, increase capacity, enhance safety, and improve connectivity among transportation modes to strengthen connections among communities, regions, and beyond.

The COVID-19 pandemic significantly affected the travel and tourism industry throughout the Nation and across the globe in unprecedented ways. Not only did the pandemic cause a severe public health crisis, but it also created a substantial economic disruption for most Americans. Historically underserved minority and rural communities were disproportionately harmed by the pandemic's economic impacts.[282]

According to the International Trade Administration, the U.S. travel and tourism industry generated $1.9 trillion in economic output, supported 9.5 million jobs, and accounted for 2.9 percent of U.S. GDP in 2019 (pre-pandemic), with international travelers spending more money in the United States than in any other country.[283] By the end of 2020, the U.S. travel and tourism industry's economic output had decreased to $952 billion, and its GDP share had declined from 3.0 percent in 2019 to 1.5 percent in 2020.[284] Small businesses, which account for 83 percent of all travel and tourism businesses, were hit particularly hard.[285] According to the U.S. Small Business Administration, these negative impacts were disproportionately felt by minority-owned businesses: average business earnings dropped by 11 percent for Black business owners, 15 percent for Asian business owners, 7 percent for Latinx business owners, and 2 percent for white business owners. The largest losses were felt in the leisure and hospitality sectors.[286]

While small and rural business development falls outside of DOT's authority, transportation investments, when paired with tourism-inclusive planning and interagency collaboration, have been shown to support travel- and tourism-related economic development. Historic investments in transportation infrastructure including the Bipartisan Infrastructure Law (BIL), the Inflation Reduction

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[282] U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning & Evaluation, *The Impact of the First Year of the COVID-19 Pandemic and Recession on Families With Low Incomes*, 2021, https://aspe.hhs.gov/sites/default/files/2021-09/low-income-covid-19-impacts.pdf.

[283] U.S. Department of Commerce, International Trade Administration, "Travel & Tourism," n.d., https://www.trade.gov/travel-tourism-industry.

[284] U.S. Department of Commerce, International Trade Administration, National Travel and Tourism Office, *Interim Study and Report to Congress on the Effects of the Covid–19 Pandemic on the Travel and Tourism Industry in the United States*, 13-14, 2023, https://www.trade.gov/sites/default/files/2023-06/interim%20report%20to%20congress%20-%20effects%20of%20the%20covid19%20pandemic_final_0.pdf.

[285] U.S. Travel Association, "U.S. Travel Applauds Small Business Relief Bill," 2020, https://www.ustravel.org/press/us-travel-applauds-small-business-relief-bill.

[286] U.S. Small Business Administration, Office of Advocacy, *The Impacts of COVID-19 on Racial Disparities in Small Business Earnings*, 2022, https://advocacy.sba.gov/wp-content/uploads/2022/08/report_covid-and-racial-disparities_508c.pdf.

Act (IRA), and the Great American Outdoors Act (GAOA) are therefore well-positioned to support economic recovery from COVID-19 pandemic within the travel and tourism sector.[287]

The BIL also further expanded DOT's specific travel and tourism responsibilities. One requirement calls for DOT to update the NTTISP to address the impacts of the pandemic and identify recovery opportunities with a focus on "small, underserved, minority, and rural businesses in the travel and tourism industry." This section outlines recovery-specific efforts relevant to travel and tourism and highlights DOT programs with the potential to continue to revive the travel and tourism economy in the wake of the pandemic while simultaneously investing in a 21st century transportation system that prepares U.S. transportation infrastructure to support travel and tourism into the future.

Recovery Efforts

From the beginning of the COVID-19 pandemic, DOT has played an active role in the U.S. Government's response. DOT served as a member of the White House Coronavirus Task Force, which was created to help support the Administration's efforts to contain and mitigate the spread of the virus as well as to ensure the continuation of critical infrastructure support and relief for the American people. This involvement, in turn, provided financial assistance to reduce negative impacts to the travel and tourism industry resulting from the impacts of decreased long-distance travel in response to travel restrictions.

On March 27, 2020, about two weeks after the global pandemic lockdown began, Congress passed the Coronavirus Aid, Relief, and Economic Security (CARES) Act (P.L. 116–136). The CARES Act provided $2.2 trillion in Federal aid for American businesses and workers impacted by the pandemic. On December 27, 2020, just nine months after the CARES Act was passed, Congress passed the Coronavirus Response and Relief Supplemental Appropriations (CRRSA) Act providing an additional $915 billion in Federal aid to assist those impacted by the pandemic. Three months later, on March 11, 2021, Congress passed the American Rescue Plan Act (ARPA), providing another $1.9 trillion in Federal aid. All three COVID-19 pandemic relief acts contain direction from Congress permitting U.S. Government agencies to purchase goods and services, expend funds for specific purposes, and set limits on the uses and amounts of the funds.[288] DOT received a total budget authority of approximately $106 billion across all three Federal funding packages ($36.1 billion in CARES, $27 billion in CRRSA, and $43.2 billion in ARPA).[289]

These funding packages provided immediate relief for American workers, helped communities struggling in the wake of the pandemic, and were instrumental in ensuring the Nation's transportation network stayed up and running throughout the pandemic. For example, this funding kept frontline transit workers employed and the lights on for many transit agencies across the country during a time when ridership was at a historic low.[290] As such, these measures were not only important for the maintenance of day-to-day travel and operations during the pandemic but were also important for facilitating long-distance travel and tourism by providing consistent service for all user groups.

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[287] While implementation of the Great American Outdoors Act (GAOA) falls under the purview of the Department of the Interior (DOI), the programs authorized by the Act deliver benefits to the travel and tourism industry. For instance, programs under GAOA address the maintenance backlog of roads and bridges that afford access to destinations such as national parks and public lands, as well as to Tribal lands (https://www.doi.gov/gaoa).

[288] Pandemic Response Accountability Committee, Pandemic Oversight, "The Six Laws that Funded Pandemic Relief Programs," 2023, https://www.pandemicoversight.gov/about-us/pandemic-relief-program-laws

[289] U.S. Department of Transportation, "USDOT COVID-19 Relief Funding," 2023, https://www.transportation.gov/mission/budget/usdot-covid-19-relief-funding.

[290] U.S. Department of Transportation, "Fact Sheet: U.S. Department of Transportation Details the American Rescue Plan's Benefits for Transportation," 2021, https://www.transportation.gov/briefing-room/fact-sheet-us-department-transportation-details-american-rescue-plans-benefits. NB.: An authorization differs from an appropriation in that the former is required for the latter to be enacted without being subject to a point of order. In other words, authorization establishes the legislative guidance for allocating Federal funding.

Historic Investments in Infrastructure

The BIL makes historic investments in transportation infrastructure with the goals of improving public safety and climate resilience, creating jobs across the country, and addressing systemic inequities. The BIL authorized $673.8 billion in funding for transportation over five years.[291] The IRA, which was signed into law on August 16, 2022, is the largest climate investment in U.S. history. The legislation provides additional resources to help reconnect communities, advance sustainable aviation fuels, and further reduce emissions by supporting cleaner transportation options and improving access to electric vehicles (EVs) and EV charging infrastructure.

These historic investments support transportation infrastructure across the United States, including travel and tourism. Award criteria for many of DOT's discretionary grant programs have also been expanded to include considerations related to travel and tourism. An overview of DOT grant programs with travel and tourism criteria or considerations, including their impact on long-range travel as well as travel-related evaluation criteria as required in the BIL (P.L. 117-58, Sec. 27004(a), Study and Reports on the Travel and Tourism Activities of the Department), is included as an appendix to this report (see Appendix C: DOT Grant Programs that Provide Funding Opportunities for Travel and Tourism). Some of the largest investment programs for each mode and their potential impacts on economic recovery and long-distance travel and tourism are summarized below.[292]

- **Highway: $379.3 billion** was authorized over five years under the BIL, including **$14.0 billion** that has been allocated to Nationally Significant Multimodal Freight and Highway Projects (INFRA Grants), one of the competitive grant programs under the Multimodal Project Discretionary Grants (MPDG) for multimodal freight and highway projects of national or regional significance.[293] This investment will support tourism and non-tourism trips nationwide. Applicants to the MPDG program are asked to describe, if relevant, how projects will enhance recreational and tourism opportunities by providing access to Federal lands and State parks or increase economic activity along rural main streets or downtowns.[294]
- **Transit**: According to the Bureau of Transportation Statistics, of the **$116.1 billion** authorized for transit over five years, **$23.0 billion** is allocated for capital investment grants, **$16.9 billion** is allocated for state of good repair grants, **$10.3** billion is allocated for transit infrastructure grants, and **$4.6 billion** is allocated for the Formula Grants for Rural Areas program.[295] Federal Transit Administration's (FTA) Capital Investments Grants (CIG) Program is a discretionary program that funds transit capital investments to include heavy rail, commuter rail, light rail, street cars, and bus rapid transit. Current projects of significance seeking CIG funding include the Second Avenue Subway Phase 2 Project in New York City, the Red Line Extension Project in Chicago, and the Transbay Downtown Rail Extension Project in San Francisco. CIG projects support tourism and non-tourism trips in urban and rural areas. In addition, the Formula Grants

[291] U.S. Department of Transportation, Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act," n.d., https://data.bts.gov/stories/s/Infrastructure-Investment-and-Jobs-Act-BIL-Transpo/7fjw-dp4g/.
[292] Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act."
[293] U.S. Department of Transportation, Federal Highway Administration, "Bipartisan Infrastructure Law (BIL): Overview of Highway Provisions," 2022, https://www.fhwa.dot.gov/bipartisan-infrastructure-law/docs/BIL_overview_update_2022-11-8b.pdf
[294] U.S. Department of Transportation, Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act."
[295] U.S. Department of Transportation, Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act." NB.: This BTS source includes related funding for the Environmental Protection Agency in the total amount. The amount for the state of good repair funding excludes amounts provided under advance appropriations, which are grouped with transit infrastructure grants.

for Rural Areas support critical public transit infrastructure in rural areas with the potential to support rural travel and tourism.

- **Rail:** Of the **$102.5 billion** authorized for rail over five years, **$41.3 billion** is allocated to Amtrak, including **$28.7 billion** for the National Network and **$12.6 billion** for the Northeast Corridor.[296] An additional **$43.5 billion** is provided for the Federal-State Partnership for Intercity Passenger Rail Program (Fed-State Partnership), which is FRA's primary program for intercity passenger rail development and capital investment.[297] These programs will support travel and tourism by improving infrastructure to reduce passenger delays, improve trip times, and increase transportation capacity. In addition, the Fed-State Partnership funding and new Corridor Identification and Development Program planning process will help to build new high-speed and intercity passenger rail corridors to connect new markets to rail passenger transportation. In December 2023, FRA announced $8.2 billion in awards for 10 passenger rail projects across the country, as well as corridor planning activities that will impact every region nationwide, through the Federal-State Partnership.[298]
- **Air Travel:** Of the **$25.0 billion** authorized for aviation, **$15.0 billion** is allocated for airport infrastructure grants, which can be used to invest in runways, taxiways, safety and sustainability projects, as well as terminal, airport-transit connections, and roadway projects.[299] These investments have the potential to support the continued recovery of domestic and international air travel.
- **Ports:** Of the **$7.3 billion** authorized for water-related infrastructure over five years, **$2.3 billion** is allocated for the Port Infrastructure Development Program (PIDP), which supports the efficient movement of commerce through discretionary grant funding that helps strengthen, modernize, and improve the country's maritime transportation system, including gateway ports.[300] This program, while not directly related to travel and tourism, presents economic recovery opportunities for rural and urban port communities and prepares U.S. transportation infrastructure to meet the anticipated growth in freight volumes. Past PIDP awards have been made for projects that minimize conflicts between freight and cruise passenger movements in ports.
- **Multimodal:** Of the **$42.2 billion** authorized for other transportation programs over five years, **$15 billion** is allocated to the National Infrastructure Project Assistance (Mega) program, which funds projects, such as the Hudson Tunnel Project in New York/New Jersey, that are too large or complex for traditional funding programs. Another **$15 billion** is allocated to the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program, which funds projects of national or regional significance.[301] Both Mega and RAISE grant criteria incorporate economic competitiveness and impacts on travel and tourism as an award criteria. Other RAISE merit criteria include the extent to which a project increases affordable transportation options and addresses racial equity or other transportation-related disparities.
- **Pedestrian and Bicycle:** According to People for Bikes, nearly **$13 billion** in BIL funding could be used for pedestrian and bicycle improvements over the next five years through several

[296] Amtrak, "New Era Infrastructure Projects," n.d., https://www.amtrak.com/about-amtrak/new-era/infrastructure-projects.html.
[297] Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act."
[298] U.S. Department of Transportation, "President Biden Announces $8.2 Billion in New Grants for High-Speed Rail and Pipeline of Projects Nationwide," 2023, transportation.gov/briefing-room/president-biden-announces-82-billion-new-grants-high-speed-rail-and-pipeline-projects.
[299] Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act."
[300] Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act."
[301] Bureau of Transportation Statistics, "Statistics on Transportation Funding by Mode in the Infrastructure Investment and Jobs Act."

programs: Safe Routes to School, Transportation Alternatives Program, Highways Safety Improvement Program, Safe Streets and Roads for All Funds, and the Reconnecting Communities Pilot Program. The FHWA Bicycle and Pedestrian Program provides a table of likely eligibility for pedestrian and bicycle activities and projects. Improving pedestrian and bicycle access through safe sidewalks, multiuse paths, bicycle lanes, designated roads for bicycle riders, and protected bike lanes can provide additional means of transportation for tourists. Additionally, these enhancements can support micro-mobility options, such as bikeshare and electric scooters, which tourists often use.

These infrastructure investments aid current recovery efforts by growing the economy to create good-paying jobs, strengthening supply chains, improving mobility for residents, and making U.S. transportation systems safer for all users. For example, Amtrak expects the Hudson Tunnel Project will result in 72,000 direct and indirect jobs during construction and, once complete, will reduce commute times for NJ Transit riders, enhance Amtrak reliability on the NEC, and support the northeast regional economy.[302] These large overdue improvements made possible through historic investments in infrastructure are a key component in building the economy from the bottom up and middle out in alignment with the President's economic agenda.

Preparing for the Future

DOT recognizes that to support travel and tourism into the future, it is critical to ensure investments in transportation infrastructure support climate resilience and sustainability, advance equity, and facilitate seamless travel to and within the United States. The sections presented below summarize programs and initiatives that have been made with these primary strategic goals in mind, and highlight potential recovery impacts for small, minority-owned, and rural businesses in the travel and tourism sector.

Climate and Sustainability

DOT is committed to doing its part to meet climate commitments to ensure a 50–52 percent reduction in U.S. emissions by 2030 and net-zero economy-wide by 2050.[303] To ensure this goal is met, DOT is working to build a transportation system that mitigates greenhouse gas (GHG) emissions that cause climate change, is resilient to the impacts of climate change, and advances climate and environmental justice.

The BIL included $7.5 billion in grant funding for FHWA to support the building of EV charging and alternative fuel infrastructure and expanded eligibilities in other programs to include EV chargers.[304] The National EV Infrastructure (NEVI) Formula Program, in concert with the Charging and Fueling Infrastructure Discretionary Grant Program, enables the strategic deployment of EV charging infrastructure and to establish an interconnected network to facilitate data collection, access, and

[302] The White House, "Fact Sheet: President Biden Announces Funding for Major Transportation Projects Funded by Bipartisan Infrastructure Law," 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/01/31/fact-sheet-president-biden-announces-funding-for-major-transportation-projects-funded-by-bipartisan-infrastructure-law/.
[303] The White House, "Fact Sheet: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies," 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/.
[304] The White House, "Fact Sheet: Biden-Harris Administration Announces New Standards and Major Progress for a Made-in-America National Network of Electric Vehicle Chargers," 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/02/15/fact-sheet-biden-harris-administration-announces-new-standards-and-major-progress-for-a-made-in-america-national-network-of-electric-vehicle-chargers/.

reliability. These programs unlocked funding to begin building out EV charging corridors along 75,000 miles of the highway system.[305]

The Joint Office of Energy and Transportation provided technical assistance on the NEVI Formula Program to all 52 NEVI formula program participants. In FY 2022, DOT approved State EV infrastructure deployment plans submitted by all 50 States, Puerto Rico, and the District of Columbia to establish a cohesive national EV charging network.[306] FHWA allocated $1.5 billion in NEVI funds covering FY 2022 and FY 2023 following the approval of the NEVI state plans. The projects and programs established under BIL are projected to provide a 40-percent reduction, relative to 2005, in GHG emissions economy-wide by 2030.[307]

In aviation, DOT is fostering innovation. To reduce GHG emissions, the Sustainable Aviation Fuel (SAF) Grand Challenge aims to supply at least 3 billion gallons of SAF per year by 2030 and, by 2050, enough SAF to meet 100 percent of aviation fuel demand (refer to Chapter 3 for more). The IRA includes two tax credits to help facilitate SAF production. In addition to future fuels, DOT continues work to safely integrate drones and advanced air operations into the national airspace system.

Equity

The Biden Administration's Justice40 Initiative confronts and addresses decades of underinvestment in disadvantaged communities. The initiative will bring resources to communities most impacted by climate change, pollution, and environmental hazards. For DOT, Justice40 is an opportunity to address gaps in transportation infrastructure and public services by working toward the goal that at least 40 percent of the benefits from departmental grants, programs, and initiatives flow to disadvantaged communities.[308] DOT supports 41 programs totaling $204 billion in BIL authorizations that are covered by the Justice40 Initiative.[309]

More than 40,000 American Indian, Alaska Native, and Native Hawaiian (AIANNH) tourism-related businesses contribute $14 billion in annual sales.[310] In 2001, 79 percent of these businesses represent self-employed professionals, 26 percent of all AIANNH businesses are in the hospitality industry, and AIANNH hospitality businesses provide nearly 118,000 jobs.[311] AIANNH tourism relies on a safe and efficient transportation system to connect tourists to tribal destinations. BIL includes historic and critical investments in Tribal transportation through FHWA's Tribal Transportation Program (TTP), including increased funding to programs dedicated to Tribal needs and increased Tribal eligibility for new and existing discretionary grant programs. The BIL's first year (FY 2022) increased TTP funding by 15 percent over 2020 levels; over the full range of BIL (FY 2022-2026), the law provides more than $3 billion for the

[305] U.S. Department of Transportation, *FY 2024 2022 Performance Plan & Report*, 2023, https://www.transportation.gov/sites/dot.gov/files/2023-08/fy_2024_app-fy_2022_apr_508_compliant_5.10.pdf.
[306] U.S. Department of Transportation, Federal Highway Administration, "Historic Step: All Fifty States Plus D.C. and Puerto Rico Greenlit to Move EV Charging Networks Forward, Covering 75,000 Miles of Highway," 2022, https://highways.dot.gov/newsroom/historic-step-all-fifty-states-plus-dc-and-puerto-rico-greenlit-move-ev-charging-networks.
[307] U.S. Department of Transportation, "Fact Sheet: Climate Action at the United States Department of Transportation," n.d., https://www.transportation.gov/sites/dot.gov/files/2022-11/cop%20fact%20sheet_new%2011_17_22final.pdf.
[308] U.S. Department of Transportation, "Justice40 Initiative," n.d., https://www.transportation.gov/equity-Justice40.
[309] U.S. Department of Transportation, "Covered Programs," 2023, https://www.transportation.gov/priorities/equity/justice40/covered-programs.
[310] American Indian Alaska Native Tourism Association, *Impact Report 6*, 2022, https://www.aianta.org/wp-content/uploads/2022/04/2022-aianta-impact-report-final.pdf.
[311] American Indian Alaska Native Tourism Association, "Economic Impact of Indigenous Tourism Businesses: Fall 2021," 2021, https://www.aianta.org/wp-content/uploads/2021/11/2021-AIANTA-Economic-Impact-Study-BRv2.pdfhttps://www.aianta.org/about-aianta/.

program.[312] This dedicated historic level of funding benefits all 574 federally recognized Indian Tribes and Alaska Native Villages. Additionally, the BIL created the Office of Tribal Government Affairs and elevated the political leadership of the newly created office from the rank of Deputy Assistant Secretary to Assistant Secretary.

Economic Strength and Global Competitiveness

In alignment with DOT's defined goal to grow an inclusive and sustainable economy, many of its programs are aimed at making targeted investments in transportation infrastructure to support economic competitiveness. For example, DOT's Rural Opportunities to Use Transportation for Economic Success (ROUTES) initiative aims to address disparities in rural transportation infrastructure and improve safety, mobility, and economic competitiveness.[313] Similarly, the Rural Surface Transportation Grant program provides funding to support projects that improve and expand surface transportation in rural areas with the goal of increasing connectivity and generating regional economic growth. The BIL makes $2 billion available for FYs 2022–2026 for the Rural Surface Transportation Grant Program, and DOT awarded 12 projects totaling approximately $274 million in FY 2022.[314]

These investments have the potential to greatly impact small and rural businesses in the travel and tourism industry. The National Scenic Byways Program, which provides for the accommodation of increased tourism and relevant amenities, and the companion Federal Lands Transportation Program (FLTP) and Federal Lands Access Program (FLAP) (which increases recreation access to Federal lands), directly support the protection of scenic, but often less-traveled roads that promote tourism and economic development throughout the United States.[315]

[312] U.S. Department of Transportation, Federal Highway Administration, *Transportation Funding Opportunities for Tribal Nations*, 2023, https://highways.dot.gov/sites/fhwa.dot.gov/files/docs/federal-lands/programs-tribal/36311/transportation_funding_opportunities_for_tribal_nations_1.pdf.
[313] U.S. Department of Transportation, "Rural Opportunities to Use Transportation for Economic Success (ROUTES)," 2023, https://www.transportation.gov/rural.
[314] U.S. Department of Transportation, "Biden-Harris Administration Announces Nearly $274 Million in Funding for 12 Projects to Improve and Expand Transportation Infrastructure in Rural Areas," 2022, https://www.transportation.gov/briefing-room/biden-harris-administration-announces-nearly-274-million-funding-12-projects-improve.
[315] U.S. Department of Transportation, "National Scenic Byways Program," n.d., https://www.transportation.gov/rural/grant-toolkit/national-scenic-byways-program.

Appendices

A. Statutory Requirements for the National Travel and Tourism Infrastructure Strategic Plan
B. Methodology for Request for Comments
C. DOT Grants with Travel and Tourism Criteria or Sub-criteria
D. Case Studies
E. Travel and Tourism Data Program

Appendix A: Statutory Requirements for the National Travel and Tourism Infrastructure Strategic Plan

Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94, Sec. 1431)

NATIONAL TRAVEL AND TOURISM INFRASTRUCTURE STRATEGIC PLAN.—Not later than 3 years after the date of enactment of this Act, the Secretary, in consultation with the Committee, State departments of transportation, and other appropriate public and private transportation stakeholders, shall develop and post on the public Internet website of the Department a national travel and tourism infrastructure strategic plan that includes—

(1) an assessment of the condition and performance of the national transportation network;
(2) an identification of the issues on the national transportation network that create significant congestion problems and barriers to long-haul passenger travel and tourism;
(3) forecasts of long-haul passenger travel and tourism volumes for the 20-year period beginning in the year during which the plan is issued;
(4) an identification of the major transportation facilities and corridors for current and forecasted long-haul travel and tourism volumes, the identification of which shall be revised, as appropriate, in subsequent plans;
(5) an assessment of statutory, regulatory, technological, institutional, financial, and other barriers to improved long-haul passenger travel performance (including opportunities for overcoming the barriers);
(6) best practices for improving the performance of the national transportation network; and
(7) strategies to improve intermodal connectivity for long-haul passenger travel and tourism.

Infrastructure Investment and Jobs Act (Pub. L. No. 117-58, Sec. 25018)

(a) IN GENERAL.—Section 1431(e) of the FAST Act (49 U.S.C. 301 note; Public Law 114–94) is amended—

(1) by redesignating paragraphs (1) through (7) as subparagraphs (A) though (G), respectively, and indenting appropriately;
(2) in the matter preceding subparagraph (A) (as so redesignated)—
  (A) by striking ''Not later than 3 years after the date of enactment of this Act'' and inserting ''Not later than 180 days after the date of enactment of the Surface Transportation Investment Act of 2021''; and
  (B) by striking ''plan that includes'' and inserting the following: ''plan—
  ''(1) to develop an immediate-term and long-term strategy, including policy recommendations across all modes of transportation, for the Department and other agencies to use infrastructure investments to revive the travel and tourism industry and the overall travel and tourism economy in the wake of the Coronavirus Disease 2019 (COVID–19) pandemic; and
  ''(2) that includes''; and
(3) in paragraph (2) (as so redesignated)—
  (A) in subparagraph (A) (as so redesignated), by inserting '', including consideration of the impacts of the COVID–19 pandemic'' after ''network'';
  (B) in subparagraph (D) (as so redesignated), by inserting ''of regional significance'' after ''corridors'';
  (C) in subparagraph (F) (as so redesignated), by striking ''and'' at the end;
  (D) in subparagraph (G) (as so redesignated), by striking the period at the end and inserting ''; and''; and

(E) by adding at the end the following:
‘‘(H) an identification of possible infrastructure investments that create recovery opportunities for small, underserved, minority, and rural businesses in the travel and tourism industry, including efforts to preserve and protect the scenic, but often less-traveled, roads that promote tourism and economic development throughout the United States.’’.

Appendix B: Methodology for Request for Comment

The U.S. Department of Transportation (DOT) published the request for comment (RFC) on the National Travel and Tourism Infrastructure Strategic Plan (NTTISP) in the Federal Register on June 2, 2023, and accepted comments for 45 days.[316] In the RFC, DOT asked for responses to questions that were generally based on the statutory requirements for the NTTISP. Questions also covered related topics that DOT wanted to explore in more depth. The specific questions from the RFC are listed in the following table.

Questions Posed in the RFC

Questions
1. How can transportation infrastructure better facilitate long-distance travel and tourism? a. For this report, we anticipate long-distance travel and tourism trips to be defined as any trip greater than 50 miles using any mode of transportation or combination of modes of transportation. Is there a better definition for long-distance travel and tourism? Please explain. b. What are the biggest opportunities for transportation infrastructure to support long-distance travel and tourism? Discuss any best practices. c. What issues relating to the national transportation network create significant congestion problems and barriers to long-distance passenger travel and tourism? d. What are best practices related to imp7roving the performance of the national transportation network for long-distance travel and tourism? e. What strategies should be considered to improve intermodal connectivity for long-distance travel and tourism? f. Where and what are the most regionally and nationally significant transportation facilities and corridors for current and forecasted long-distance travel and tourism? Describe these facilities and corridors and explain how they were identified and why they are critical to our nation's long-distance travel and tourism by providing any applicable research or data. g. What are some of the emerging challenges to long-distance travel and tourism and what actions should the Department and other agencies consider in order to anticipate and mitigate their effects?
2. What statutory, regulatory, technological, institutional, financial, and other barriers should be considered to improve long distance travel and tourism?
3. What policy recommendations should DOT and other agencies consider for using infrastructure investments across all modes of transportation to address the challenges of the travel and tourism industry and the overall travel and tourism economy in the wake of the COVID–19 pandemic?
4. What data sources should DOT consider as it updates the NTTISP? a. DOT recognizes the challenge of gathering information on trip purpose and long-distance travel. What sources of data and information exist that include trip purpose and long-distance travel? b. What sources of demographic data and information on origins and destinations of long-distance travelers should DOT consider? c. What data sources should DOT consider related to the impacts of COVID–19 on long-distance travel and tourism?
5. How can transportation infrastructure policymakers support small, underserved, minority, and rural businesses in the travel and tourism industry?
6. How can policymakers support travelers from underserved communities and improve transportation accessibility?
7. How can policymakers support travel that is sustainable and reduces greenhouse gas emissions?
8. What metrics can help identify scenic, but often less-traveled roads, cruises, and rail corridors that promote tourism and economic development throughout the United States?
9. How should DOT reflect new and future innovations in travel in the NTTISP?

[316] Federal Register, "National Travel and Tourism Infrastructure Strategic Plan; Request for Comment," 2023, https://www.federalregister.gov/documents/2023/06/02/2023-11805/national-travel-and-tourism-infrastructure-strategic-plan-request-for-comment.

Appendix C: DOT Grant Programs that Provide Funding Opportunities for Travel and Tourism

While illustrative of funding at DOT that supports travel and tourism, the following compilation is not intended to represent an exhaustive list. As described throughout the report, transportation infrastructure often supports travel and tourism, whether directly or indirectly. The following table highlights funding sources for infrastructure projects that can provide potential pathways to recovery for the travel and tourism industry.

NOTES: *Grants and programs in italics were listed in GAO report*. An asterisk [*] indicates that the grant includes travel or tourism criteria.

Title	Provides Funding For	Administering Mode
Bridge Investment Program	Bridge replacement, rehabilitation, preservation, and protection projects that reduce the number of bridges in poor condition, or in fair condition at risk of declining into poor condition	FHWA
Tribal Transportation Facility Bridge Program (set-aside)	Improvements to the condition, safety, efficiency, and reliability of bridges on the National Bridge Inventory	FHWA
Charging and Fueling Infrastructure Grant Program	Strategically deploy publicly accessible EV charging infrastructure and other alternative fueling infrastructure	FHWA
Corridor Charging Track	Deploy EV charging and hydrogen/propane/natural gas fueling infrastructure along designated alternative fuel corridors	FHWA
Community Charging Track*	Install EV charging and alternative fueling infrastructure in locations on public roads, schools, parks, and in publicly accessible parking facilities	FHWA
Emergency Relief Program	Repair or reconstruction of Federal-aid highways and roads on Federal lands damaged by natural disasters and catastrophic events	FHWA
National Highway Performance Program	Performance and construction activities on the National Highway System including bicycle transportation and pedestrian walkways	FHWA
*National Scenic Byways Program**	Improvements along roads with outstanding scenic, historic, cultural, natural, recreational, or archeological qualities	FHWA
Nationally Significant Federal Lands Tribal Projects Program*	The construction, reconstruction, and rehabilitation of nationally significant projects within, adjacent to, or accessing Federal and Tribal lands	FHWA
*Rural Surface Transportation Grant Program (Rural)**	Projects that improve and expand surface transportation infrastructure in rural areas and generate regional economic growth	OST
Safe Streets and Roads for All (SS4A)	Projects to prevent roadway deaths and serious injuries	OST
*Congestion Mitigation and Air Quality (CMAQ) Improvement Program**	Projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not attain national air quality standards	FHWA
Airport Improvement Program	Planning and development of public-use airports	FAA
Airport Infrastructure Grant program	Runways, taxiways, safety, and sustainability projects, as well as terminal, airport-transit connections and roadway projects.	FAA

Title	Provides Funding For	Administering Mode
Airport Terminal Program	Airport terminal development projects that address the aging infrastructure of the Nation's airports, with an emphasis on increasing capacity, accessibility for persons with disabilities and disadvantaged populations, improving energy efficiency, improving airfield safety, and economic competitiveness	FAA
Federal Contract Tower Program	Projects at many small town and municipal airports	FAA
Small Community Air Service Development Program (SCASDP)	Help small communities address air service and airfare issues	OST
Passenger Ferry Grant Program	Passenger ferry systems in urbanized areas	FTA
Port Infrastructure Development Program (PIDP)	Improve port and related freight infrastructure to meet the Nation's freight transportation needs and ensure port infrastructure can meet anticipated growth in freight volumes	MARAD
All Stations Accessibility Program (ASAP)	Increasing number of fully accessible rail stations	FTA
Consolidated Rail Infrastructure & Safety Improvements Grant Program (CRISI)	Railroad infrastructure projects that improve safety, promote economic strength, increase capacity and supply chain resilience, and address climate change and gender and racial equity	FRA
Federal-State Partnership for Intercity Passenger Rail Grants	Improve performance or expand new intercity passenger rail service, among other things	FRA
Corridor Identification and Development Program (set-aside)	Intercity passenger rail corridors	FRA
Rail Vehicle Replacement Program	Rail vehicle replacement, specifically to replace rail rolling stock that is past its useful life	FTA
Restoration and Enhancement Grant Program	Initiating, restoring, or enhancing intercity passenger rail	FRA
Buses and Bus Facilities Competitive Program	Replace, rehabilitate, and purchase buses and related equipment and construct bus-related facilities	FTA
Formula Grants for Rural Areas	Capital, planning, and operating assistance to states to support public transportation in rural areas where many residents often rely on public transportation	FTA
Urbanized Area Formula Grants	Funding for governors and other recipients for transit capital and operating assistance and transportation-related planning in urbanized areas	FTA
Pilot Program for Transit-Oriented Development (TOD) Planning	Funding for comprehensive or site-specific planning associated with fixed guideway or core capacity transit capital investments. The planning work should improve economic development and ridership, multimodal connectivity, and accessibility, bike/ped transit access, and engage the private sector, identify infrastructure needs, and enable mixed-use development near transit stations	FTA
State of Good Repair Grants	Maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway and motorbus systems	FTA

Title	Provides Funding For	Administering Mode
Capital Investment Grants	Transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit	FTA
*Federal Lands Access Program**	Improvement of transportation facilities that provide access to, are adjacent to, or are located within Federal lands, with an emphasis on high-use recreation sites and economic generators	FHWA
*Federal Lands Transportation Program**	Projects on Federal lands transportation facilities, including those that provide access to national forests and national parks	FHWA
Ferry Boat Program	Construct ferry boats, ferry terminals, and ferry maintenance facilities	FHWA
Ferry Service for Rural Communities	Capital, operating, and planning expenses for ferry service to rural areas	FTA
*Metropolitan Planning Program**	Transportation planning in metropolitan areas	FHWA, FTA
*National Infrastructure Project Assistance Program (Mega)**	Large, complex projects that are difficult to fund by other means and likely to generate national or regional economic, mobility, or safety benefits	OST
*Nationally Significant Multimodal Freight and Highway Projects (under BIL: Infrastructure for Rebuilding America (INFRA) Grant Program)**	Multimodal freight and highway projects of national or regional significance	OST
Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (PROTECT)	Projects to ensure surface transportation (i.e., highway and non-highway transportation systems such as transit) resilience to natural hazards including climate change, sea level rise, flooding, extreme weather events, and other natural disasters	FHWA
Public Transportation on Indian Reservations (Tribal Transit) Program	Projects that enhance safety, renew transit systems, reduce greenhouse gas emissions from public transportation, improve equity, and connect communities	FTA
*Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program** (previously known as Better Utilizing Investments to Leverage Development (BUILD) and Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants)	Transportation projects that will have a significant local or regional impact	OST
*Surface Transportation Block Grant Program**	Projects that preserve and improve conditions on Federal-aid highways, pedestrian and bicycle infrastructure, and transit capital projects, among other things	FHWA
Transportation Alternatives (set-aside)	Smaller-scale projects such as pedestrian and bicycle facilities; construction of overlooks and viewing areas; and community improvements such as historic preservation	FHWA
*Recreational Trails Program (set-aside)**	Develop and maintain recreational trails and facilities	FHWA
Tribal Transportation Program (TTP)	Safe and adequate transportation and public road access to and within Indian reservations, Indian lands, and Alaska Native Village communities	FHWA

Appendix D: Case Studies

This appendix presents seven case studies. Each case study begins by describing one or more challenges inhibiting safe, effective, or efficient travel and tourism at a specific location. DOT selected these locations due to their seasonal increases in visitation, consistently high numbers of tourists, mix of visitors and locals using infrastructure in different ways, or unique aspects of the transportation systems supporting these environments. In every case, partners addressed these challenges with impactful infrastructure projects. How the partners implemented these projects, including their use of public funding, highlights the enormous potential realized when partners pool their resources, knowledge, and skills to create innovative transportation solutions. Importantly, each example estimates the impact of these infrastructure investments on travel and tourism. The cases highlight not only how partners addressed challenges, but how and by what means these projects went above and beyond traditional practices to create and enrich transportation systems of the future, their diverse participants, and the communities, travelers, and economies they serve.

Seattle Waterfront Overlook Walk

The Challenge

Seattle is one of the most desirable tourist destinations in the Northwest, with attractions like the Great Wheel, Seattle Aquarium, and Pike Place Market all centrally located along the Puget Sound waterfront. As a result of its popularity, tourism in the Emerald City is nearing a complete recovery from the downturn associated with the COVID-19 pandemic: Seattle received 27.4 percent more visitors (33.9 million) and received 37.8 percent more visitor spending ($7.4 billion) in 2022 than in 2021, quickly catching up to 2019's pre-pandemic visitation of 42.9 million visitors and $8.1 billion in revenue.[317] But the city's tectonically sensitive location on Puget Sound has led to infrastructural peril, including damage to the Alaskan Way Viaduct and seawall in the 2001 Nisqually Earthquake, the deterioration of submerged marine structures (leading to collapses like Pier 58 in 2020), and other problems exacerbated by sea-level rise, high temperatures, and aging transportation assets.[318,319,320]

The Solution

The City of Seattle decided through a ballot measure to mitigate those risks by removing the double-decked Alaskan Way Viaduct built in 1959—long considered a barrier between waterfront attractions and Seattle's business core.[321] When Seattle demolished the viaduct in 2019, new opportunities to support mobility, economic growth, and environmental resilience along the popular Seattle waterfront appeared: the Waterfront Overlook Walk stands out as a transformative example.

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[317] Visit Seattle, "Visit Seattle Releases 2022 Visitation Data at Annual Meeting," 2023, https://visitseattle.org/press/press-releases/2023-annual-meeting/.
[318] Nisqually Earthquake Clearinghouse Group, University of Washington, *The Nisqually Earthquake of 28 February 2001: Preliminary Reconnaissance Report*, 2021, https://www.eeri.org/lfe/pdf/usa_nisqually_preliminary_report.pdf.
[319] Daniel Beekman, "Dramatic video shows massive chunk of Seattle's Pier 58 collapsing into Elliott Bay," *Seattle Times*, September 15, 2020. https://www.seattletimes.com/seattle-news/dramatic-video-shows-massive-chunk-of-seattles-pier-58-collapsing-into-elliott-bay/
[320] Seattle Office of Emergency Management, *Seattle Hazard Identification and Vulnerability Assessment*, "8.4 Infrastructure and Structural Failures," n.d., https://www.seattle.gov/documents/Departments/Emergency/PlansOEM/SHIVA/SHIVAv7.0-Infrastructure.pdf
[321] Libby Denkman, McNichols, Joshua, and Burrows, Jason. "A guided tour of Seattle's new waterfront," *KUOW*, August 8, 2023. https://www.kuow.org/stories/a-guided-tour-of-the-new-waterfront

The Overlook Walk project is an elevated park and pedestrian bridge that will provide passage from Seattle's urban core to the waterfront without crossing a street.[323] Traffic has also been diverted from surface roadways using SR-99, a stacked four-lane tunnel (Figure 26: Design for the stacked four-lane SR-99 tunnel) built to withstand a 9.0-magnitude earthquake on the Richter scale, created with the largest boring machine ever made and $787 million in Federal funding.[324,325,326] For visitors looking to cross by or through the revitalized, at-grade Alaskan Way or the newly-created Elliott Way, Complete Streets safety and accessibility improvements are in place to encourage active modes of transportation such as walking and bicycling.[327] Partner projects like the Pike Place Market's west-facing "MarketFront" expansion—that includes small businesses, farmers, senior housing, public art, and a new neighborhood center—and the Seattle Aquarium's Ocean Pavilion (Figure 27 and Figure 28) will now connect via the Overlook Walk, with the adjoining terraced structures serving as open-air space for communal areas, play areas, and a public plaza.[328,329]

Figure 26: Design for the stacked four-lane SR-99 tunnel[322]

[322] Washington State Department of Transportation. Graphic. Traffic Technology Today. February 16, 2019. https://www.traffictechnologytoday.com/news/tunnelsbridges/new-hntb-designed-sr-99-tunnel-opens-for-traffic-in-seattle.html
[323] Seattle Office of the Waterfront and Civic Projects, Waterfront Seattle, "Overlook Walk," n.d., https://waterfrontseattle.org/waterfront-projects/overlook-walk.
[324] Theron Zahn, "Seattle tunnel safe up to 9.0 quake, state says," *KOMO News*, July 12, 2019. https://komonews.com/news/local/seattle-tunnel-safe-up-to-90-quake-state-says
[325] https://newatlas.com/bertha-boring-machine-seattle/48862/
[326] U.S. Department of Transportation, Federal Highway Administration, "Project Profile: Alaskan Way Viaduct," n.d., https://www.fhwa.dot.gov/ipd/project_profiles/wa_alaskan_way.aspx.
[327] U.S. Department of Transportation, Federal Highway Administration, "Complete Streets in FHWA," n.d., https://highways.dot.gov/complete-streets.
[328] Seattle Office of the Waterfront and Civic Projects, Waterfront Seattle, "Overlook Walk," n.d., https://waterfrontseattle.org/waterfront-projects/overlook-walk.
[329] Waterfront Seattle, "Overlook Walk."

Figure 27: Overlook Walk design with partner projects[330]

Figure 28: Street-level view of Overlook Walk from the new Alaskan Way[331]

Implementation

This project is championed by Waterfront Seattle, a group under the City of Seattle's Office of the Waterfront and Civic Projects, which has integrated considerations of inclusivity and the environment into the design. Waterfront Seattle performed extensive public engagement in preparation for this project beginning in the 2010s, including a tour to simulate the proposed design for individuals with visual impairments that was led by the non-profit Lighthouse for the Blind and inclusive public involvement meetings with extensive outreach to diverse community members.[332] This feedback was incorporated into core project elements, such as the Overlook Walk's resilient design and accessibility features. The Walk's gentle slope from the Pike Place MarketFront to the ocean mimics rainfall runoff

[330] Waterfront Seattle. Graphic. Waterfront Seattle. 2021. https://waterfrontseattle.blob.core.windows.net/media/Default/pdf/2021_0823_WFS_Factsheet_OverlookWalk_EN_FINAL.pdf
[331] Waterfront Seattle. Graphic. Waterfront Seattle. 2018. https://urbanash.com/wp-content/uploads/2018/05/Image5_Bridge.jpg
[332] Waterfront Seattle, "Overlook Walk Project Overview," 2021, https://waterfrontseattle.blob.core.windows.net/media/Default/images/2021_0308_OLW_Guided_ACCESSIBLE-V2.pdf.

patterns of a natural ecosystem—which will reduce the impact of Seattle's flooding events—with 46 varieties of plants (over 46,000 individual plantings in some places) and 500 trees added along the sidewalk and in the barriers protecting the bike lanes to reduce urban heat-island effects.[333,334] The sloping design also provides opportunities for long, gradual ramps to be constructed throughout the project area (Figure 29). Additional accessibility features include:

- Directional curb ramps with detectable warning plates at all intersections and bike path crossings
- Eight-inch north-south wayfinding strip all along promenade with gaps indicating decision points
- New elevators, including elevator connections from Pike Place MarketFront to the Overlook Walk/Western Avenue and the waterfront
- Accessible pedestrian signals (APS)
- Accessible loading zone between Columbia and Marion streets
- ADA parking
- Raised intersections
- Railings with transparent railing mesh
- Obstacle-free walkways
- Continuous ADA paths of travel and curb bulbs

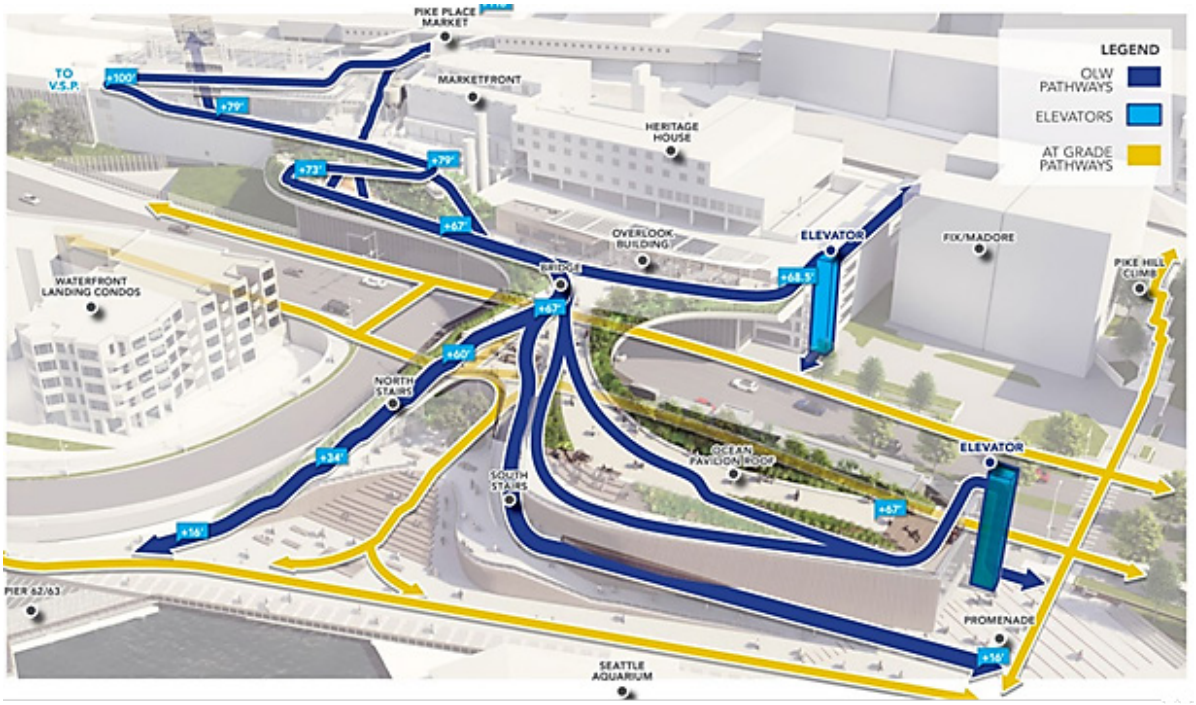

Figure 29: Pedestrian circulation flow through Overlook Walk[335]

[333] Seattle Office of the Waterfront and Civic Projects, Waterfront Seattle, "Alaskan Way," n.d., https://waterfrontseattle.org/waterfront-projects/alaskan-way.
[334] Waterfront Seattle, "Alaskan Way."
[335] Waterfront Seattle. https://waterfrontseattle.blob.core.windows.net/media/default/images/2021_0308_olw_guided_accessible-v2.pdf

Impact on Travel and Tourism

The Overlook Walk provides safe, convenient, and scenic passage to 30,000 pedestrians per day during the peak summer months, although that is expected to double once the promenade is completed. The new Alaskan Way is expected to accommodate a mix of 30,000 cars, thousands of pedestrians, and hundreds of cyclists.[336] The adjacent Pike Place MarketFront expects 20,000 to 40,000 visitors per day; opposite the MarketFront, the Seattle Aquarium expects approximately 2,300 visitors per day.[337] Waterfront Seattle's Overlook Walk serves as a model for environmentally resilient, highly accessible solutions that visibly and purposefully cater to multimodal travelers, including pedestrians, bicyclists, and vehicles sharing one space. This project provides multiple exemplars of how to replace aging, insufficient, and vulnerable infrastructure in ways that stimulate the economy, support community members with diverse needs and interests, and attract visitors from both near and far.

[336] Seattle Department of Finance and Administrative Services, "Project Review Committee: Overlook Walk Application," 2018, https://des.wa.gov/sites/default/files/2022-12/CityOfSeattle_OLW-GCCM_App.pdf.
[337] Seattle Department of Finance and Administrative Services, "Project Review Committee."

Kentucky Highway 80/461 Project

The Challenge

Kentucky Highway 80 (KY-80) is the primary east-west arterial connection linking Cumberland Parkway to Interstate 75 (I-75) and the Hal Rogers Parkway, carrying 8,000–19,000 vehicles per day (including 2,300 trucks). Kentucky Highway 461 (KY-461) is the north-south arterial connection between KY-80 and I-75 and carries approximately 11,000 vehicles per day (including 2,000 trucks due to its proximity to the Valley Oak Industrial Complex, which supports 3,000 jobs).[338] According to a value engineering study of this area of Pulaski County, the at-grade intersection of these two arterial highways experienced 74 crashes from 2013–2018, while the nearby at-grade intersection of KY-461 and the Valley Oak Complex experienced 16 crashes during this same timeframe. Together, these reported crashes resulted in 54 personal injuries and 2 fatalities in a small area over a short time period and resulted in an elevated critical crash rate factor (CRF) for the KY-80 and KY-461 juncture compared to other similar intersections. The cause for these accidents was attributed to the number of commercial/heavy trucks attempting to turn left across opposing KY-461 traffic.[339]

To complicate matters further, KY-80 and KY-461 are popular routes used to travel to Lake Cumberland, a 101-mile-long reservoir spanning seven counties on the Cumberland River in Southeastern Kentucky. Known as the Houseboat Capital of the World, Lake Cumberland is the ninth-largest reservoir in the country with 1,255 miles of shoreline, recreational attractions such as fishing, hiking, whitewater rafting, the National On-Water Houseboat Expo, and other multiple-day events featuring hundreds (and sometimes thousands) of boats and even more spectators beyond holiday weekend visitors (Figure 30).[340] The lake's popularity creates large volumes of traffic that the existing road network is incapable of accommodating safely, especially when industrial traffic and travelers towing large watercraft share limited roadway space.

[338] Kentucky State Transportation Cabinet, *Value Engineering Study No. 201905 – Report: KY 80 and KY 461 Interchange and KY 461 Widening*, 2019, https://transportation.ky.gov/Highway-Design/VE%20Study/VE201905%20KY80%20and%20KY461%20Interchange%20and%20KY%20461%20Widening.pdf.

[339] Kentucky Transportation Cabinet, *Value Engineering Study No. 201905 – Report: KY 80 and KY 461 Interchange and KY 461 Widening*, 2019, https://transportation.ky.gov/Highway-Design/VE%20Study/VE201905%20KY80%20and%20KY461%20Interchange%20and%20KY%20461%20Widening.pdf.

[340] Lake Cumberland Tourist Commission, "Home," n.d., https://lakecumberlandvacation.com/.

Figure 30: A peak tourism day on Lake Cumberland[341]

The Solution

To mitigate congestion, reduce crashes, and improve both traveler and worker experience, the Kentucky Transportation Cabinet (KTC) proposed an interchange and road widening project for this critical area of "tourism-rich Pulaski County."[342] The project included a grade-separated cloverleaf interchange to replace the previous three-leg at-grade intersection of KY-80 and KY-461, expanding KY-461 to four lanes for the three miles from the intersection with Buck Creek, and the construction of new entryways at Valley Oak Industrial Complex (Figure 31).[343] The $69.3-million cooperative project was funded in part by a $25-million Better Utilizing Investments to Leverage Development (BUILD) grant, a $26.2-million State-Federal apportionment, $12.8 million in State dollars, a $5-million local match, and other right-of-way donations.[344]

[341] Photograph. Clinton County Kentucky. 2018. https://www.clintoncoky.com/listing/lake-cumberland/
[342] Kentucky Transportation Cabinet, "Long-Awaited Interchange Project Designed to Bring More Safety, Less Congestion in Pulaski County is Ceremonially Opened," 2023, https://transportation.ky.gov/NewsRoom/KY%2080%20Ribbon%20Cutting.pdf.
[343] "SPEDA offers to make first year bond payment for Ky. 80-461 road project," *The Lane Report*, May 8, 2020. https://www.lanereport.com/125493/2020/05/speda-offers-to-make-first-year-bond-payment-for-ky-80-461-road-project/.
[344] Kentucky Transportation Cabinet, "Traffic Pattern Changes at KY 461 and KY 80 Intersection in Pulaski County," 2022, https://content.govdelivery.com/accounts/KYTC/bulletins/327e641.

Figure 31: Interchange Work in Progress[345]

Implementation

To further enhance safety conditions for the new construction area, funds were made available for upgraded signs and lighting, electronic messaging boards, camera monitoring, and intelligent transportation systems.[346] Together, these infrastructure improvements will "save lives and be crucial to local tourism and commerce" in Pulaski County.[347] While this project is intended to enhance regional mobility and provide a safer, free-flowing connection between I-75, Cumberland Parkway, and Hal Rogers Parkway, there are also plans for a future Somerset Northern Bypass nearby.[348]

Impact on Travel and Tourism

Development is growing in the area now that infrastructure is in place that benefits both travelers and local employers. In March 2023, Somerset-Pulaski Economic Development Authority (SPEDA) President and CEO Chris Girdler spoke to the area's future: "While the KY-80/461 road project will significantly reduce traffic congestion in the Valley Oak area for our existing industries, it cannot be overstated how much this will benefit SPEDA Commerce Park as well. […] Somerset and Pulaski County residents will see tremendous growth in this area in the next five years. I'm excited about the retail options this development will offer our residents on the east end of the county while also serving as an attraction for tourists traveling to Lake Cumberland from the interstate." (Figure 32).[349] The SPEDA Commerce Park's

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[345] John H. Collette. Photograph. *Commonwealth Journal*. March 18, 2023. https://www.somerset-kentucky.com/opinion/the-countys-future-is-heading-east/article_372849e4-bd2a-11ed-b136-43825af4eedf.html.

[346] Kentucky Transportation Cabinet, "Long-Awaited Interchange Project Designed to Bring More Safety, Less Congestion in Pulaski County is Ceremonially Opened," 2023, https://transportation.ky.gov/NewsRoom/KY%2080%20Ribbon%20Cutting.pdf.

[347] Kentucky Transportation Cabinet, "Long-Awaited Interchange Project."

[348] Kentucky Transportation Cabinet, *Value Engineering Study No. 201905 – Report: KY 80 and KY 461 Interchange and KY 461 Widening*, 2019, https://transportation.ky.gov/Highway-Design/VE%20Study/VE201905%20KY80%20and%20KY461%20Interchange%20and%20KY%20461%20Widening.pdf.

[349] "SPEDA sells section of commerce park for large-scale commercial, retail development," *The Lane Report*, March 13, 2023. https://www.lanereport.com/163408/2023/03/speda-sells-section-of-commerce-park-for-large-scale-commercial-retail-development/

first tenant is anticipated to be the Kentucky National Guard, which plans to build a new regional readiness center and field maintenance shop.

Figure 32: Project Ribbon Cutting, July 2023[350]

[350] Christopher Harris. Photograph. *The Sentinel Echo*, July 27, 2023. https://www.sentinel-echo.com/news/rogers-other-officials-dedicate-roadwork-improvements-in-ky-80-461-area/article_c498e2a6-2b5d-11ee-9c05-d773d06e219a.html

New Terminal at the Kansas City International Airport (MCI)

The Challenge

Kansas City International Airport (MCI) was initially designed decades ago "for a different age."[351] While the old horseshoe-shaped terminals were convenient in 1972 when MCI passengers could drive up and walk directly to their gates, a stream of changes to air travel—such as the beginning and subsequent expansion of security procedures and the increased frequency of passenger flights—"created some problems" for the old design (Figure 33).[352,353] Some of these problems included waiting areas beside the gates measuring only 36 feet wide, once-combined ticketing and boarding areas now having to be separated by a thick glass partition, and very few amenities (including food services). Airlines found MCI cumbersome and actively avoided the airport.

Figure 33: MCI in the 1970s[354]

The Solution

In November 2017, Kansas City residents voted to approve a $1.5 billion airport renovation project on the condition the construction be paid for through airline fees, parking revenue, and concessions—not taxpayer funding.[355] Opened in February 2023, the one million-square foot terminal has dozens of new features to improve efficiency, such as 12 gates in Concourse A and over 24 gates in Concourse B; a new consolidated security checkpoint with 16 lanes that replace a former system of several security lines

[351] "Photos: Love it or hate it, old KCI terminal was designed for a different age," *The Kansas City Star*, February 28, 2023. https://www.kansascity.com/news/local/article254056453.html
[352] Savannah Hawley-Bates, "An overnight change at the Kansas City airport will leave old terminals to history," *KCUR*, February 26, 2023. https://www.kcur.org/news/2023-02-26/an-overnight-change-at-the-kansas-city-airport-will-leave-old-terminals-to-history
[353] Martin Augustine, "Coming in for the landing: Final day of flights at the old KCI underway," *KMBC*, February 27, 2023. https://www.kmbc.com/article/final-day-flights-old-kci-underway/43098194#
[354] Kansas City Aviation Department. Photograph. WBUR. October 26, 2017. https://www.wbur.org/hereandnow/2017/10/26/kansas-city-airport
[355] Kansas City Aviation Department. Photograph.

across the building; dozens of new food options, of which 80 percent of restaurant vendors are local to Kansas City;[356] and a new parking garage with 6,000 spaces and electronic messaging indicating the number of available stalls with red and green individual stall availability lights.[357] MCI has even committed to shrinking their carbon footprint along the way, with the addition of electric charging for private vehicles and wireless inductive charging for all-electric Economy Parking lot buses.[358]

Aesthetic improvements made MCI the largest all-glass facility in the U.S, in addition to being the largest public art project in Kansas City and the largest single infrastructure project in Kansas City history (Figure 36).[359,360,361] As of January 2023, the Kansas City Aviation Department had already paid 90 percent of the project costs ($1.35 billion, with $148 million left in the budget) through bonds that will be paid using a combination of airport revenue sources through 2058.[362]

Figure 34: The New MCI Terminal[363]

Implementation

MCI's developers exhibited a high degree of commitment to equity and accessibility. Among its accessibility accommodations is a series of "Specialty Rooms" with accessibility features informed by community members: family rooms, nursing rooms, and an inclusive play area; a quiet room and a sensory room for overstimulated or neurodivergent travelers (Figure 37); indoor animal relief areas; and even an "air travel experience room" recreating a plane entryway inside the fuselage of an Airbus 320

[356] Makenzie Koch, "New KCI Airport terminal: What Kansas City travelers need to know," *Fox4*, February 27, 2023. https://fox4kc.com/news/new-kci-airport-terminal-what-kansas-city-travelers-need-to-know/
[357] Makenzie Koch, "New KCI Airport terminal."
[358] City of Kansas City, "New Terminal at KCI Opens: Ribbon Cutting at the 40-Gate Terminal," 2023, https://www.kcmo.gov/Home/Components/News/News/2013/1746
[359] Visit KC, "Now Open: New Single Terminal at Kansas City International Airport," n.d., https://www.visitkc.com/meetings/why-meet-kc/new-kci-single-terminal-now-open.
[360] Makenzie Koch, "New KCI Airport terminal: What Kansas City travelers need to know," *Fox4*, February 27, 2023. https://fox4kc.com/news/new-kci-airport-terminal-what-kansas-city-travelers-need-to-know/
[361] City of Kansas City, "New Terminal at KCI Opens: Ribbon Cutting at the 40-Gate Terminal," 2023, https://www.kcmo.gov/Home/Components/News/News/2013/1746.
[362] Joshua Merchant, "Breaking down the new KCI terminal's $1.5 billion budget," *The Kansas City Beacon*, January 27, 2023. https://kcbeacon.org/stories/2023/01/27/kci-new-terminal-airport-cost-budget/
[363] Lucas Blair Simpson, Skidmore, Owings & Merrill, photograph, Arch Daily, 2023, https://www.archdaily.com/997237/kansas-city-international-airport-new-terminal-skidmore-owings-and-merrill.

for travelers anxious or new to flying.[364,365] The new terminal also includes three times as many toilets, with three restrooms in each concourse—male, female, and all-gender/gender neutral—all with full-length stalls.[366]

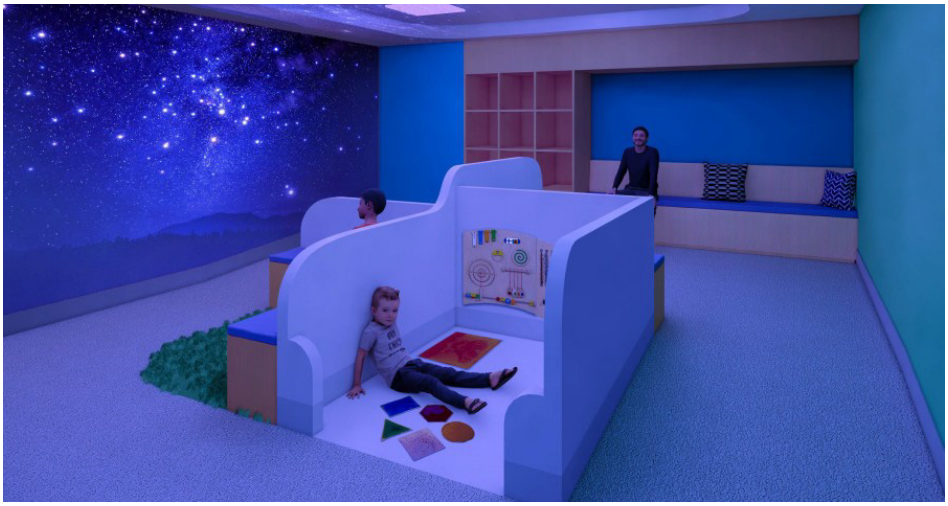

Figure 35: Multi-Sensory and Meditation Room[367]

Impact on Travel and Tourism

Since the new terminal opening, there have been new nonstop flights added from MCI to Montego Bay, Jamaica, Cabo San Lucas/Los Cabos, Mexico, and daily nonstop service between Kansas City and Long Beach Airport in California.[368] Sun Country Airlines became the first airline to launch seasonal service at the airport's new terminal in May, and Southwest Airlines added nonstop seasonal service to Raleigh, North Carolina.[369]

[364] Kevin Barry, "How KCI's new terminal plans to be the most inclusive in the world," *Fox4*, January 17, 2023. https://fox4kc.com/news/how-kcis-new-terminal-plans-to-be-the-most-inclusive-in-the-world/
[365] Makenzie Koch, "New KCI Airport terminal: What Kansas City travelers need to know," *Fox4*, February 27, 2023. https://fox4kc.com/news/new-kci-airport-terminal-what-kansas-city-travelers-need-to-know/
[366] Makenzie Koch, "New KCI Airport terminal."
[367] Kansas City International Airport. Photograph. International Airport Review. September 6, 2021. https://www.internationalairportreview.com/article/163250/kansas-city-international-airport-setting-bar-inclusitivity-accessibility/
[368] Sam Hartle, "Southwest Airlines adds 2 nonstop international routes from Kansas City International Airport," *KSHB*, March 9, 2023. https://www.kshb.com/news/local-news/southwest-airlines-adds-2-nonstop-international-routes-from-kansas-city-international-airport
[369] Gabe Swartz, "KCI adds first new airline to new terminal," *KCTV*, May 25, 2023. https://www.kctv5.com/2023/05/25/kci-adds-first-new-airline-new-terminal/

Brightline Orlando High-Speed Rail

The Challenge

Home to Walt Disney World, SeaWorld, Universal Studios, and the Kennedy Space Center, Orlando, Florida, is a top tourism destination. According to Visit Orlando, with 74 million annual visitors in 2022, the city has reached 98 percent of pre-pandemic travel levels and maintains its spot as America's most-visited destination.[370] Out of the top 10 busiest days at the Orlando International Airport, eight were in the first few months of 2023.[371]

Travelers are not the only ones paying attention to these trends: high-speed rail company Brightline Trains Florida, LLC ("Brightline") belongs to a niche of transportation providers addressing routes "too long to drive, but too short to fly."[372] At approximately four hours via the Florida Turnpike in optimal conditions, six hours via Amtrak train, but only one hour via commercial flight, the 235-mile trip between Orlando and Miami, Florida, is of great interest and importance to transportation providers and travelers alike.[373]

The Solution

After successfully deploying intercity service for 67 miles between Miami and West Palm Beach in 2018, the long-anticipated vision of Brightline's Phase II project is complete and began service in September 2023. The 163-mile high-speed rail line extension moves passengers between Orlando and Brightline's Miami Central Station, 230 miles to the south, in just 3 hours and 30 minutes.[374] This new section of rail line was funded in part by private activity bonds issued by DOT's Build America Bureau.

A highlight of the Brightline project Is the new 37,350-square-foot Orlando station, which provides seamless multimodal connectivity with its location in Terminal C of the Orlando International Airport (MCO) (Figure 38). The Terminal C parking deck accommodates train passengers even further with 350 spaces reserved for Brightline travelers.[375] Also within the footprint of MCO is Brightline's full-service 138,000-square-foot vehicle maintenance facility, capable of servicing 16 trains daily on a 62-acre parcel just south of the station.[376]

[370] Visit Orlando, "Orlando Announces 74 Million Visitors in 2022, Ranking as No. 1 U.S. Travel Destination," 2023, https://www.visitorlando.com/media/press-releases/post/orlando-announces-74-million-visitors-in-2022-ranking-as-no-1-us-travel-destination/.
[371] Orlando International Airport, "As Passenger Traffic Surges, GOAA Board Approves Customer Convenience Measures," 2023, https://orlandoairports.net/press/2023/03/15/as-passenger-traffic-surges-goaa-board-approves-customer-convenience-measures/.
[372] Brightline, "About Us," 2023, https://www.gobrightline.com/about.
[373] Greater Miami Convention & Visitors Bureau, "How To Travel Between Miami And Orlando," 2023, https://www.miamiandbeaches.com/plan-your-trip/transportation/how-to-travel-between-miami-and-orlando.
[374] Brightline, "Brightline Orlando Station," 2023, https://www.gobrightline.com/train-stations/fl/orlando.
[375] TravelAgeWest, "Brightline to Orlando Has Officially Opened," 2023, https://www.travelagewest.com/Travel/USA-Canada/brightline-to-orlando.
[376] Brightline, "Brightline Celebrates Completion of Construction: Bringing Together Mayors from South and Central Florida to Celebrate Historic Moment," 2023, https://www.gobrightline.com/press-room/2023/brightline-construction-completion-bright-spike.

Figure 36: Orlando Brightline Station with Two Brightline Trains[377]

Implementation

During construction of Phase II, Brightline's Orlando extension involved work on 56 bridges, 3 underpasses, and upgrades to 155 railroad crossings between West Palm Beach and Orlando. Two of its most notable accomplishments have been community-focused innovation and safety.

Community-Focused Innovation: To reduce project delays, Brightline used the trenchless box-jacking method to construct two underpasses. This project was the first time this construction method has been implemented outside of the Northeastern United States—and the first time under a highway system with live traffic.[378] Thoughtful bridge improvements include new small craft navigation spans for recreational boaters and bridge rehabilitation for structures like the 100-year-old St. Lucie River railroad bridge in Stuart, Florida. These measures improved conditions for neighboring commercial and recreational boat operators by elevating vertical clearances or increasing the dependability of bridge openings and closings, which reduces the risk of extended unplanned closures and eliminates the need for drawbridges, all while preserving existing structures' historical integrity. Moreover, this innovation in project delivery enabled construction of an underpass in at least one location within nine days rather than closer to the year associated with building a more convention underpass.[379]

Safety: As the fastest high-speed passenger train in Florida and the Southeastern United States with speeds up to 125 miles per hour on a new dedicated high-speed section of track for 35 miles between Cocoa Beach and Orlando, the safety of passengers and the traveling public is at the forefront of

[377] Brightline. Photograph. WDWMagic. April 21, 2023. https://www.wdwmagic.com/wdwmagic-plus/brightline/news/21apr2023-first-look-inside-brightline-orlando-station-at-mco-and-details-of-pricing-and-schedules.htm.
[378] "Brightline set to make history with box-jacking method," *Railway Track & Structures*, March 10, 2021. https://www.rtands.com/track-construction/brightline-set-to-make-history-with-box-jacking-method/.
[379] "Brightline set to make history."

Brightline's history-making route.[380] While the dedicated high-speed section of the route is fenced in and features no grade crossings, most of the route operates at speeds up to 110 miles per hour on tracks shared with freight traffic between Miami and Cocoa Beach. The shared section of the route includes additional infrastructure improvements—such as quad gates or medians—at crossings to prevent motorists from circumventing lowered crossing gates. Similar safety improvements at 48 crossings funded by a Consolidated Rail Infrastructure and Safety Improvement (CRISI) grant were completed on the Phase I route between Miami and West Palm Beach, which reduces the number of improvements required at the remaining crossings along the shared section from Miami to Cocoa Beach.[381] These enhanced safety features have been complemented by a series of public service announcements, marketing, and ongoing campaigns.

Impact on Travel and Tourism

Phase II expanded rail access from 8 million to 68 million people, dramatically improving opportunities for seamless transportation between some of Florida's most popular destinations without the cost, time, risk, or environmental footprint involved with long drives and short flights. As a future Phase III begins to take shape—proposing an 83-mile dedicated line within the right-of-way of I-4 and SR 528 between Orlando and Tampa with a stop near Walt Disney World—Brightline continues to garner public support and resources by responding directly to travelers' needs while prioritizing stewardship (Figure 39).[382] The Orlando-Tampa extension was awarded $15.9 million in grant funding from DOT to advance preliminary engineering activities.[383]

[380] "Watch: History made as Brightline becomes fastest train in Florida," *Global Railway Review*, March 14, 2023. https://www.globalrailwayreview.com/news/142322/watch-history-made-as-brightline-becomes-fastest-train-in-florida/.
[381] Kyra Senese, "Brightline Reaches 130 mph, Completes CRISI Grant Program," *Railway Age*, March 6, 2023. https://www.railwayage.com/passenger/intercity/brightline-reaches-130-mph-completes-crisi-grant-program/.
[382] High Speed Rail Alliance, "Brightline Florida: A Model for Intercity Regional Rail," 2023, https://www.hsrail.org/brightline-florida/.
[383] Carl Lisciandrello, "Brightline secures federal funds to help complete a plan for Tampa-to-Orlando high-speed rail," *WUSF*, June 2, 2022. https://wusfnews.wusf.usf.edu/transportation/2022-06-02/brightline-secures-federal-funds-to-help-complete-a-plan-for-tampa-to-orlando-high-speed-rail.

Figure 37: Brightline project phases map (2020) [384]

[384] Brightline. Map. Railway Age. February 15, 2022. https://www.railwayage.com/news/brightline-progress-potential-a-whole-new-market/

Port of Galveston Royal Caribbean Terminal

The Challenge

The 840-acre Port of Galveston (Galveston Wharves) needed to address its aging infrastructure in order to stay competitive with America's three busiest cruise ship ports located in Florida: Ports Canaveral, Miami, and Everglades.[385] Galveston's facilities, once used for exporting agricultural commodities and structurally designed for the cruise industry of the 1970s, were ill-suited to accommodate modern cruise ships and their large numbers of passengers.[386] After Hurricane Ike closed the Port in 2008, the cruise industry was hesitant to return before the Port made infrastructure improvements. Royal Caribbean Cruise Line and the Port of Galveston agreed to strategically delay the construction until the summer of 2021 to ensure their designs would accommodate larger ships.[387]

The Solution

The Port of Galveston's third cruise terminal is an industry-led effort championed by—and for the exclusive use of—Royal Caribbean International. Opened in November 2022, the new 161,334-square-foot terminal took only one year to build and will accommodate up to 630,000 guests per year (Figure 40).[388] This expansion makes it possible for the world's largest cruise ships—Royal Caribbean's *Oasis* Class—to reach port, beginning with the *Allure of the Seas*. Thirty thousand square feet of onsite photovoltaic solar panels make this terminal the first to generate 100 percent of its own energy, resulting in being named the first LEED Zero-Energy facility of its kind in the world.[389] In addition, advanced boarding technology—mobile check-in and facial recognition—have been integrated to facilitate the terminal's seamless arrival and departure.[390]

[385] Andrea Zelinski, "GALVESTON growth spurt," *Travel Weekly*, July 31, 2023. https://www.travelweekly.com/Cruise-Travel/Galveston-cruising-growth-spurt.
[386] The Port of Galveston, Galveston Wharves, "The History of The Galveston Cruise Port," n.d., https://www.portofgalveston.com/260/The-History-Of-The-Galveston-Cruise-Port.
[387] José Mendiola, "After long wait, Allure of the Seas sails into Galveston," *The Daily News*, Nov 8, 2022. https://www.galvnews.com/news/free/after-long-wait-allure-of-the-seas-sails-into-galveston/article_d3467f2d-3758-5d10-89dc-04b3883f1aef.html.
[388] Royal Caribbean, "Royal Caribbean Group to Open the World's First Zero-Energy Cruise Terminal," *PR News Wire*, October 13, 2022. https://www.prnewswire.com/news-releases/royal-caribbean-group-to-open-the-worlds-first-zero-energy-cruise-terminal-301648797.html.
[389] Royal Caribbean, "Royal Caribbean Group to Open."
[390] Andrea Zelinski, "Galveston growth spurt," *Travel Weekly*, July 31, 2023. https://www.travelweekly.com/Cruise-Travel/Galveston-cruising-growth-spurt.

Figure 38: New Royal Caribbean Port of Galveston Facility[391]

Implementation

The return of cruising to Galveston after pandemic-era restrictions were lifted helped to restore the loss of an "estimated at $1.2 billion in direct spending, 23,000 jobs and $1.6 billion in wages statewide," according to Galveston Wharves Port Director & CEO Rodger Rees.[392] Construction of the new cruise terminal created an additional 400 permanent operations jobs, $1.4 billion in local business services revenue, $5.6 million in State and local taxes, and many business development opportunities.[393] To further support the changing needs of cruise passengers, many of whom are choosing to drive rather than fly to reach their ship, the Port of Galveston is investing approximately $20 million to improve multimodal connectivity as well: updating roadways, utilities, landscaping, and parking (including a new 1,550-parking space zone for passenger convenience and to generate additional revenue).[394,395]

In 2023, DOT awarded the Port of Galveston a Safe Streets and Roads for All (SS4A) grant of $340,000 to create a comprehensive road safety action plan to improve safety for pedestrians, bicyclists, cruise passenger vehicles, shipping traffic, and general vehicular traffic in and around the port.[396] The Port of

[391] Royal Caribbean. Photograph. Travel and Leisure. November 10, 2022. https://www.travelandleisure.com/royal-caribbean-terminal-galveston-texas-6827691.
[392] ShaCamree Gowdy, "Carnival cruise ships return to Galveston after year-long COVID-19 halt," *Chron*, May 3, 2021. https://www.chron.com/life/travel/article/Carnival-cruise-Galveston-ships-COVID-19-rules-16147657.php.
[393] CruiseMapper, "Port Galveston's new Cruise Terminal 3's construction progresses at Pier 10," 2022, https://www.cruisemapper.com/news/10158-construction-port-galveston-cruise-terminal.
[394] Andrea Zelinski, "GALVESTON growth spurt," *Travel Weekly*, July 31, 2023. https://www.travelweekly.com/Cruise-Travel/Galveston-cruising-growth-spurt.
[395] CruiseMapper, "Port Galveston's new Cruise Terminal 3's construction progresses at Pier 10," 2022, https://www.cruisemapper.com/news/10158-construction-port-galveston-cruise-terminal.
[396] The Port of Galveston, Galveston Wharves, "Port Awarded Federal Grant for Safe Streets Action Plan," 2023, https://www.portofgalveston.com/CivicAlerts.aspx?AID=270.

Galveston provided a match for a total of $425,000 supporting their 20-year vision of an internal roadway with sidewalks, bicycle paths, and pedestrian connections that will safely link the cruise terminals and the historic city center.[397]

Impact on Travel and Tourism

Rising from 861,000 cruising passengers in 2016 and surpassing its previous record of 1.09 million cruising passengers in 2019 (pre-pandemic), the Port of Galveston estimates 1.3 million cruising passengers by the end of 2023, making it the busiest year on record.[398] Additional cruising is coming; Royal Caribbean's *Adventure of the Seas* began offering cruises from Galveston during the 2022–2023 season with *Harmony of the Seas* coming in November 2023.[399] Carnival will debut its newest ship—the 183,000-ton *Jubilee*—at the end of 2023with an additional $53 million-expansion at Galveston's Cruise Terminal 25, and Geneva-based cruise line MSC Cruises is exploring options to build a fourth terminal to be shared with Norwegian Cruise Line for another $100 million to open in summer 2025.[400,401,402]

[397] Galveston Wharves, "Port Awarded Federal Grant."
[398] Andrea Zelinski, "Galveston growth spurt," *Travel Weekly*, July 31, 2023. https://www.travelweekly.com/Cruise-Travel/Galveston-cruising-growth-spurt.
[399] Cruise Industry News, "Royal Caribbean Opens New Cruise Terminal in Galveston" 2023, https://cruiseindustrynews.com/cruise-news/2022/11/royal-caribbean-opens-new-cruise-terminal-in-galveston.
[400] Andrea Zelinski, "Galveston growth spurt," *Travel Weekly*, July 31, 2023. https://www.travelweekly.com/Cruise-Travel/Galveston-cruising-growth-spurt.
[401] The Port of Galveston, Galveston Wharves, "Galveston Cruise Terminal Getting $53 Million Makeover for Carnival Jubilee Arrival," 2023, https://www.portofgalveston.com/CivicAlerts.aspx?AID=259.
[402] Andrea Zelinski, "Galveston growth spurt," *Travel Weekly*, July 31, 2023. https://www.travelweekly.com/Cruise-Travel/Galveston-cruising-growth-spurt.

Springfield-Sangamon County Transportation Center ("The Hub")

The Challenge

The historic rail lines in Springfield, Illinois, were once the hallmark of convenience for both people and freight goods traveling directly to the city center or through the city on the route from St. Louis, Missouri, to Chicago. However, competition with other modes in the same spaces has created local rail congestion with regional and national impacts.[403] The Springfield Rail Improvements Project (SRIP) was created as a $122 million solution to this congestion by rerouting all passenger and freight traffic away from the downtown area, from the Third Street corridor to Tenth Street.[404] Community leaders understood that this rerouting could and should do more for the community than solve an existing problem. With input from the public, a multimodal emphasis on transit would improve access for many more travelers and prepare Springfield for the transportation needs of the future.

The Solution

To promote public transit use, provide improved service to current riders by reducing travel time, relieve congestion, and improve access, a single transportation center was proposed to stimulate transit-oriented development and enhance growth along the Tenth Street corridor.[405] The $86 million Springfield-Sangamon County Transportation Center (also known as "The Hub") will combine Springfield Mass Transit District (SMTD) buses, Amtrak trains, intercity buses (Greyhound), paratransit vehicles, and taxis into one centralized location with an adjacent garage and bicycle racks for passengers wishing to park and ride (Figure 41). To date, the $122 million Springfield Rail Improvements Project has received $93.7 million in Federal grant funding, which includes TIGER, BUILD, and CRISI grant funding, $15 million coming from Governor Pritzker's bipartisan Rebuild Illinois capital plan, and $19.8 million coming from the BIL's Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program.[406,407]

[403] Peter Hancock, "Springfield transportation hub to relieve rail congestion: Part of $122 million project to reroute trains," *Capitol News Illinois*, October 14, 2021. https://www.illinoistimes.com/news-opinion/springfield-transportation-hub-to-relieve-rail-congestion-14202241.
[404] Springfield Rail Improvements Project, "The Hub," n.d., http://springfieldrailroad.com/newsite/index.php/sctc.
[405] Springfield Rail Improvements Project, "The Hub."
[406] State of Illinois, "Gov. Pritzker and U.S. Senators Durbin and Duckworth Break Ground on $86 Million Transportation Center in Sangamon," 2021, https://www.illinois.gov/news/press-release.24001.html.
[407] Doug Wolfe, "White House advisor tours rail project in Springfield," *WAND*, May 19, 2023. https://www.wandtv.com/news/white-house-advisor-tours-rail-project-in-springfield/article_a83255ca-f68d-11ed-91d1-ebaf38abb475.html.

Figure 39: Artist's Rendering of The Hub[408]

Implementation

Cost estimates for The Hub were completed in 2021, with input from transit users, stakeholders, and individuals, the evaluation of desired services, structural design, transit-oriented development and conceptual planning.[409] Digital 3D renderings providing a virtual tour of future Hub spaces, including transit options and County offices, are available on The Hub website.[410] Users can live stream project progress and monitor construction, which is slated to be completed in 2025 (Figure 42).[411,412] The new SMTD bus transfer facilities are fully operational as of early 2023.[413]

[408] Springfield Mass Transit District. Photograph. The State Journal-Register. January 27, 2022. https://www.sj-r.com/story/news/politics/2022/01/27/illinois-gives-smtd-funding-transit-hub-upgrades/9227519002/.
[409] Springfield Rail Improvements Project, "The Hub," n.d., http://springfieldrailroad.com/newsite/index.php/sctc.
[410] Sangamon County, "The Hub," 2022, https://co.sangamon.il.us/thehub/home.
[411] Sangamon County, "Live Cam," n.d., https://co.sangamon.il.us/thehub/live-cam.
[412] Springfield Rail Improvements Project, "The Hub," n.d., http://springfieldrailroad.com/newsite/index.php/sctc.
[413] Sangamon County, "About the Hub," 2022, https://co.sangamon.il.us/thehub/about-the-hub.

Figure 40: Breaking ground on the Hub project in 2021, including Illinois Governor J.B. Pritzker, U.S. Senator Dick Durbin, U.S. Senator Tammy Duckworth, and Springfield area lawmakers[414]

Impact on Travel and Tourism

The Hub is strategically located north of the Sangamon County Complex and east of the BOS Center, a multipurpose facility that hosts various large events including concerts, conventions, and sports tournaments. The Hub is anticipated to reduce travel time, relieve congestion, encourage use of public transportation, and provide improved services to existing public transit ridership and encourage new riders in Illinois' capital city.[415]

The Hub's construction and rail line relocation to the Tenth Street corridor also carries special significance. "It was 1861 on this same railroad that Abraham Lincoln caught the train to be inaugurated as the 16th President of the United States"—remarked U.S. Senator Dick Durbin—"but even more than the history, these trains are an integral part of our economy."[416] And now, trains and other forms of transit will work seamlessly together at the new location, which neighbors the site of a potential new national park memorializing the 1908 Springfield Race Riot—the genesis for the National Association for the Advancement of Colored People (NAACP).[417] The Hub illustrates how infrastructure investments provide opportunities not only for more efficient tourism and transportation, but a means for providing accessible, equitable, and historical communal spaces.

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[414] Peter Hancock. Photograph. Capitol News Illinois. October 14, 2021. https://www.illinoistimes.com/news-opinion/springfield-transportation-hub-to-relieve-rail-congestion-14202241.
[415] Sangamon County, "About the Hub," 2022, https://co.sangamon.il.us/thehub/about-the-hub.
[416] Sean Crawford, "Groundbreaking held for new Springfield Transportation Hub," *NPR Illinois*, October 12, 2021. https://www.nprillinois.org/springfield/2021-10-12/groundbreaking-held-for-new-springfield-transportation-hub.
[417] Sean Crawford, "Springfield Race Riot site moved closer to becoming part of the National Park Service," *NPR Illinois*, June 14, 2023. https://www.nprillinois.org/illinois/2023-06-14/springfield-race-riot-site-moves-closer-to-becoming-part-of-the-national-park-service.

International Case Study: European Commission "Single Ticket" Sustainable and Smart Mobility Strategy

The Challenge

Despite traveling relatively short distances between renowned attractions within the European Union (EU), policy makers are aiming to facilitate and encourage train travel and multimodal collaborations. To travel from country to country, many tourists rely on familiar and simple single-ticket, short-haul flights. These flights of less than 500 km (311 mi) are preferred over railways, which can involve juggling multiple international and multimodal tickets and deciphering country-specific transportation policies and systems on their own. Despite the Schengen Agreement (1985) facilitating more efficient travel between countries, insufficient, unavailable, and inaccessible traveler data; sub-optimal supplier-vendor cooperation; reliance on paper tickets; and inadequate digital system interoperability among EU countries cause administrative burdens for travelers.[418,419]

The Solution

To reduce GHG emissions, the EU is incentivizing train travel for trips of less than 2.5 hours exist (Figure 43).[420] In doing so, the EU is crafting solutions to benefit travelers and hasten a green transition. One of these solutions is the "Single Ticket," or a ticket for service on more than one mode of transportation, with an emphasis on public ground mobility. The premise of the EU Single Ticket was formally introduced in a 2011 European Commission White paper detailing a Single European Transport Area consisting of a network of dense, high-speed rail connected to major airport hubs and was followed by the Single European Railway Area initiative of 2012.[421,422] The Single Ticket is part of the EU's vision for a paperless future of digital certificates for facilitating cross-border car rentals, contactless payment of tolls, digital enforcement, and improved communication of traffic conditions and regulations—e.g., noting which jurisdictions or locations restrict car use—to set expectations and improve unnecessary trips, thereby reducing undue traffic and GHG emissions.[423]

[418] European Union, European Commission, "Schengen Area," n.d., https://home-affairs.ec.europa.eu/policies/schengen-borders-and-visa/schengen-area_en.
[419] European Union, Eur-Lex, "Communication From the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Sustainable and Smart Mobility Strategy – Putting European Transport On Track For The Future," Document 52020DC0789, 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0789.
[420] Alex Ledsom, "France Legally Bans Short-Haul Flights—Environmentalists Want More," *Forbes*, June 4, 2023. https://www.forbes.com/sites/alexledsom/2023/06/04/france-legally-bans-short-haul-flights-environmentalists-want-more/?sh=2a60c2357467.
[421] European Union, European Commission, "White Paper: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system," 2011, https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:en:PDF.
[422] European Union, European Council, "Rail transport policy," 2023, https://www.consilium.europa.eu/en/policies/rail-transport-policy/.
[423] European Union, European Commission, "White Paper: Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system," 2011, https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:en:PDF.

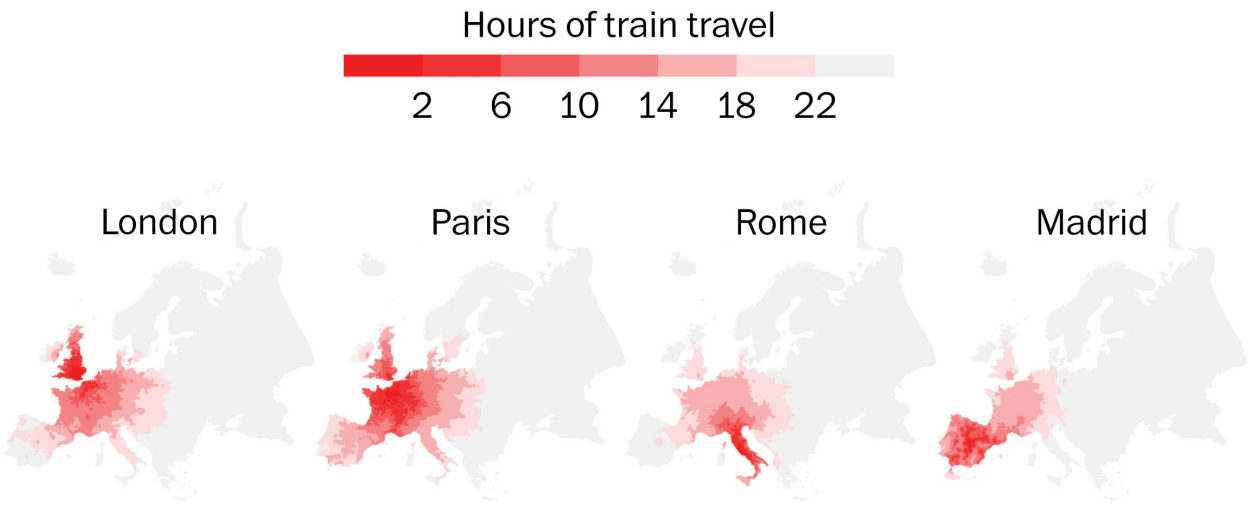

Figure 41: Travel by high-speed train from London, Paris, Rome, and Madrid by time increment[424]

Impact on Travel and Tourism

The ambition of the EU Single Ticket system is to help eliminate barriers between transportation modes and systems through structural, scalable, and flexible changes that take full advantage of modern technologies to enhance the travel and tourism experience. When coupled with other transformative technologies, a unified, digital service model that works seamlessly across international borders has the potential to improve traveler confidence in transportation systems, leading to a potential rise in multimodal travel. For instance, offering a seamless Single Ticket on routes served by the latest all-electric trains— taking passengers between Italy, France, and Spain, traveling at 300 kph (186 mph) to 400 kph (248 mph)—with a relatively small carbon footprint can generate positive experiences and positive externalities.[425]

Implementation

The EU will need to transform its legal framework to properly enforce the rights and obligations of travelers, online intermediaries, and multimodal digital ticketing service providers; standardize public procurement and contracting practices; evaluate data sharing between passenger transport services; implement consumer protections; and develop smart, interoperable payment platforms.[426] While the initiative remains a proposal, several private-sector multimodal service providers are partnering to offer facilitated multimodal services. For example, facilitated by the governments of France and Ireland, rail and ferry operators are launching combined train-ferry ticket service between the two countries to start in 2024; United Airlines and Deutsche Bahn are partnering to provide Lufthansa Express Rail service to

[424] Peter Kerpedjiev. Figure. The Washington Post. June 5, 2016. https://www.washingtonpost.com/news/worldviews/wp/2015/06/05/map-the-remarkable-distances-you-can-travel-on-a-european-train-in-less-than-a-day.
[425] Hannah Brown, "The fastest train in Europe will make you want to quit continental flights forever," *Euronews*, July 14, 2023. https://www.euronews.com/travel/2023/07/14/the-fastest-train-in-europe-will-make-you-want-to-quit-continental-flights-forever.
[426] European Union, Eur-Lex, "Communication From the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Sustainable and Smart Mobility Strategy – Putting European Transport On Track For The Future," Document 52020DC0789, 2020, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0789.

25 cities in Germany; and Air India is offering a single ticket for buses and rail in 100 European cities.[427,428,429]

California Pursues Single Ticket Harmonization

Recognizing the benefits of a single ticket, the California State Transportation Agency (CalSTA) and California Department of Transportation (Caltrans) recently deployed a single ticket system called the California Integrated Travel Project (Cal-ITP). Cal-ITP is not only a mobile tool allowing transit riders to pay contactless fares, but an online resource used to verify identity, benefit eligibility, and link fare discounts to debit and credit cards using Login.gov as a secure sign-in service.[430] Automated fare technology (AFT) was already gaining international popularity in public transit for faster boarding, increased purchasing convenience, and germ safety for passengers—with improved focus on passenger and vehicle safety for drivers—but standardizing one form of ticketing and payment across *multiple* transit platforms like buses and trains had not yet been done in the United States. California transit providers are incentivizing seamless efficient and sustainable travel aiming for a user-friendly service that is as 'easy as buying coffee.'[431,432] For more information about California's "Single Ticket," see the California Integrated Travel Project (Cal-ITP)

[427] "Green mobility: Rail and sail," *Environment Ireland*, November 2, 2023. https://www.environmentireland.ie/green-mobility-rail-and-sail.
[428] United Airlines, "Deutsche Bahn German Rail," 2023, https://www.united.com/en/us/fly/company/transportation-partners/deutsche-bahn.html.
[429] Saurabh Sinha, "Now, AI flyers can travel within Europe on bus and rail on a single ticket," *The Times of India*, August 22, 2023. https://timesofindia.indiatimes.com/business/india-business/now-ai-flyers-can-travel-within-europe-on-bus-and-rail-on-a-single-ticket/articleshow/102953864.cms?from=mdr.
[430] Mass Transit, "State of California launches Cal-ITP Benefits, an online tool for transit riders to verify identity, benefit eligibility, link fare discounts to debit and credit cards," 2022. https://www.masstransitmag.com/technology/fare-collection/press-release/21282101/caltrans-california-department-of-transportation-state-of-california-launches-calitp-benefits-an-online-tool-for-transit-riders-to-verify-identity-benefit-eligibility-link-fare-discounts-to-debit-and-credit-cards.
[431] Enghouse Transportation, "How Automated Fare Collection Alleviates Top Transit Agency Challenges, *LA Streets Blog*, June 7, 2023. https://la.streetsblog.org/2023/06/07/how-automated-fare-collection-alleviates-top-transit-agency-challenges.
[432] Cal-ITP, "A modern and consistent transportation experience throughout California," n.d., https://www.calitp.org.

Appendix E: Travel and Tourism Data Program

As noted in GAO's report, DOT does not regularly collect comprehensive data specifically on trip purpose, including tourism. While information on passenger counts and itineraries for airline, rail, and cruise ships is extensive, information is lacking on the demographics, trip purpose, and economic characteristics of those traveling.

This appendix presents a proposal for a data collection and dissemination program to support decision-making for travel and tourism policy: the Travel and Tourism Data Program. Contingent on authorization of sufficient resources, the Bureau of Transportation Statistics (BTS) would be the agency responsible for implementing this proposed data program.

Travel and Tourism Data Program

Collecting data on trip purpose can be technically challenging and resource intensive. Despite the challenges, as resources are made available, DOT will seek to obtain and use additional data on travel and tourism to support the goals developed in the NTTISP. The Chief Travel and Tourism Officer, in collaboration and consultation with BTS and the Department of Commerce's National Travel and Tourism Office, began the development of a multimodal plan to identify and obtain additional data on travel and tourism beyond the data incorporated into the NTTISP. Upon available funding, BTS will initiate the proposed Travel and Tourism Data Program to fill the data gap left since the last American Travel Survey (ATS) was conducted in 1995.

The proposal for the Travel and Tourism Data Program includes a revised ATS and a suite of statistical and geospatial products related to long-distance and tourism travel across all transportation modes. The proposed program will collect comprehensive data pertinent to long-distance travel and tourism, including but not limited to trip purpose and duration; modes used; travel origins, destinations, and intermediate stops and connections; travel party size; traveler satisfaction; and traveler's sociodemographic and demographic characteristics. The strategic goals and objectives DOT aims to achieve are specified in Chapter 3, while select strategies therein to implement those objectives include:

- Conduct a modernized American Travel Survey, contingent upon funding;
- Continue to identify ways to obtain data on travel and tourism via existing data collection efforts in order to improve planning and forecasting;
- Investigate the potential use of commercial or trade association sources of travel and tourism data;
- Partner with the DOC National Travel and Tourism Office to:
    - Coordinate data collection on international visitors to the United States;
    - Collaborate on building an expanded and robust domestic tourism data program;
    - Jointly work with tourism officials and industry to understand the data and analysis challenges they face in informing decision-making processes;
- Engage other Federal agencies such as the National Park Service and other land and water agencies in data-sharing arrangements; and,
- Seek opportunities to cooperate with industry associations in the development of tourism data and geospatial products.

Development of the Travel and Tourism Data Program draws on the framework discussed in Chapter 2 of the NTTISP and is by informed by the Office of Management and Budget's (OMB's) Statistical Policy

Directives[433] and "Federal Data Strategy 2021 Action Plan."[434] To ensure that the strategies above are successfully implemented, the Travel and Tourism Data Program will build on the foundational guidance laid out by Office of Management and Budget of the Federal Data Strategy. With strong foundations, this initiative can enhance the state of practice for travel and tourism policy to move toward data-driven decision-making.

Infrastructure

BTS can build on existing IT infrastructure and capabilities to manage and provide access to data systems for planners and policymakers to make data-driven decisions. For instance, the National Transportation Atlas Database (NTAD), published by BTS, is a set of nationwide geographic databases of transportation facilities, transportation networks, and associated infrastructure.[435] These datasets include spatial information for transportation modal networks and intermodal terminals, as well as the related attribute information for these features. There are approximately 90 total datasets that make up NTAD. The current NTAD databases are designed for use within a geographic information system (GIS); however, the attribute data for each dataset can be accessed in any database, spreadsheet, or other software package.

Moreover, NTAD and other DOT datasets are available through the Government-wide data portal at Data.gov, which is the U.S. Government's open data website. It provides access to datasets published by agencies across the Federal Government, including more than 1,200 DOT datasets. Data.gov is intended to provide access to Government open data to the public, achieve agency missions, drive innovation, fuel economic activity, and uphold the ideals of an open and transparent government. Once data collection and processing are completed, datasets to support decision-making for travel and tourism planning and policy would be widely accessible by Government planners and policymakers, industry, researchers, and the broader public through these existing information systems at BTS, NTAD, and Data.gov.[436]

Survey Capabilities and Methodologies

BTS has identified potential methods and techniques to supply the data needed to answer questions in travel and tourism. Past DOT travel surveys, such as the ATS and National Household Travel Survey (NHTS), present a mature blueprint to inform the necessary data collection and management activities to provide decision support in this economic sector. Moreover, while BTS's role as one of the 13 principal statistical agencies ensures that its workforce can execute on a plan for evidence-building actions, the Bureau will continue to provide staff with training and other professional development opportunities to cultivate skills and capabilities needed.

In addition to expanding on these IT infrastructure assets for travel and tourism, DOT has enhanced and plans to continue enhancing efforts for its surveying capabilities and methodologies. For instance, FHWA has modernized how it conducts the NHTS and will conduct it more frequently (i.e., every 2 years instead of every 5 to 8 years). For example, the 2022 NHTS specifically captured data on long-distance

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[433] Office of Management and Budget, "Statistical Policy Directives," https://www.whitehouse.gov/omb/information-regulatory-affairs/statistical-programs-standards.
[434] Office of Management and Budget, "Federal Data Strategy 2021 Action Plan," 2021, https://strategy.data.gov/assets/docs/2021-Federal-Data-Strategy-Action-Plan.pdf.
[435] U.S. Department of Transportation, Bureau of Transportation Statistics, "National Transportation Atlas Database," 2022, https://www.bts.gov/ntad.
[436] U.S. Department of Transportation, Bureau of Transportation Statistics, "Statistical Products and Data," 2023, https://www.bts.gov/browse-statistical-products-and-data.

travel the first time since 2001. The 2022 iteration of the NHTS also incorporated methodological and empirical improvements. FHWA anticipates that new data collection methodologies will produce helpful insights into household travel behavior in the aftermath of the COVID-19 pandemic.[437]

Similarly, BTS has proposed modernizing the ATS (see Chapter 3), which was last conducted in 1995. This updated ATS would employ a combination of traditional survey techniques as well as technological innovations developed since 1995. The updated ATS would use traditional survey techniques to capture basic passenger travel patterns for long distance trips and ask a few key passenger travel questions. Innovations to be newly adopted include the use of GPS, location-based services, machine learning, and big data to analyze activities at airports, intercity rail stations, cruise ship terminals, intercity bus depots, key tourist destinations, and major transportation facilities.

The granularity of the data would provide information on state-to-state travel and travel to and from metropolitan areas by mode of transportation. Trip purpose, travel party size, and transportation modes used—especially when more than one mode is used—are significant elements needed for infrastructure planning, forecasting, and marketing. The intercity travel arena also needs a comprehensive design and development of annual statistical reporting on the use of national parks and recreation areas. A redesigned ATS will thus overcome shortcomings in existing data that are fragmentary in coverage and scope.

With the results of this proposed data program, DOT will be able to not only ensure safe, equitable, efficient, and resilient transportation systems for all travelers and tourists, but also enhance the global competitiveness of U.S. travel and tourism industry. Furthermore, the proposed program will boost DOT's ability to support travel and tourism, fill an information gap that has persisted for more than 20 years, and support the DOT Strategic Plan's goal for economic strength and global competitiveness.

[437] U.S. Department of Transportation, Federal Highway Administration, *NHTS Report: Travel Survey State of the Practice*, 2023, https://nhts.ornl.gov/assets/NextGen%20NHTS_State%20of%20Practice_032423.pdf.