V. ECONOMIC COMPETITIVENESS

Promote transportation policies and investments that bring lasting and equitable economic benefits to the Nation and its citizens.

CHALLENGES AND STRATEGIES

By 2018, the U.S. population is expected to increase from 310 million in 2010 to 335 million and U.S. Gross Domestic Product (GDP) is forecast to increase to $21.3 Trillion. [44] Over the next 40 years, the U.S. population is projected to increase to 439 million by 2050 and GDP is expected to almost triple from $14 trillion in 2010 to $41 trillion.[45] Based on these forecasts, it is likely that the movement of people and goods within the U.S. and abroad will continue to increase and the transportation sector will continue to enable economic growth and job creation. The transportation sector contributed approximately $1.466 trillion, or 9.7 percent, to GDP in 2011.[46]

Travel, in passenger miles, by transport mode is illustrated in Table E. As noted earlier highway travel by passenger vehicle and light truck is by far the dominant mode of travel in the U.S., representing about 87 percent of all passenger miles.

Table E. Travel in Passenger Miles by Mode, 2010.

(Source: National Transportation Statistics, Table 1-40, U.S. DOT)

Travel Mode	Passenger Miles (millions)	Percent of Total
Highways (Passenger vehicle, light truck)	4,244,157	87.2
Air Carrier, Domestic All Services	564,790	11.6
Transit (Motor Bus, Light/Heavy Rail, Ferry)	52,627	1.1
Rail, Intercity	6,420	<0.2

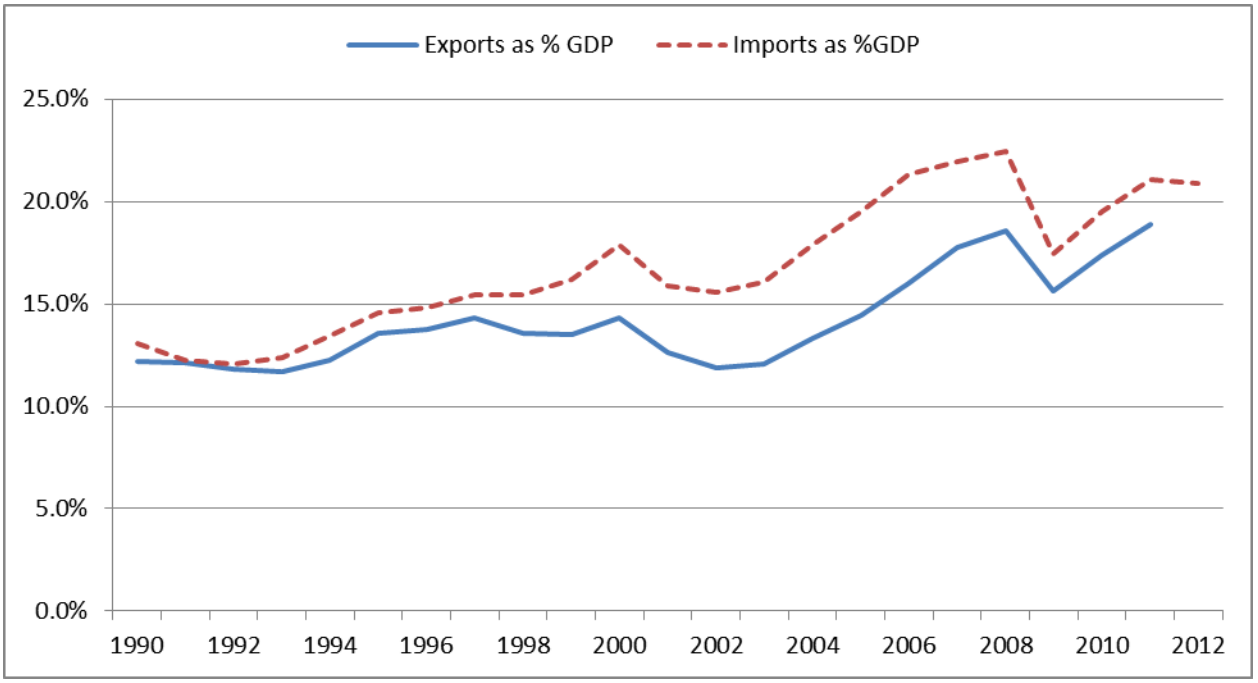
Highway travel, which peaked at approximately 3.05 trillion miles in 2007 and then declined for the first time during the 2008 recession, has begun to rebound. VMT was nearly 3 trillion miles in 2011 and is forecast to grow annually at an average of 1.5 percent between 2014 and 2018. [47] The number of U.S. commercial air and air taxi/commuter flights, and passengers, also peaked in 2007; and the number of flights has fluctuated annually at just below the peak level since then. Though passenger levels fell 8 percent between the peak level and 2009, passenger levels have since been steadily increasing, as have load factors. The growth in the number of passengers on commercial air flights is projected to increase over the next twenty years at an annual average rate of 2.2 percent.

The long-term outlook for business aviation also remains favorable. [48] Transit ridership will reach 12.5 billion trips by 2020, if ridership continues to grow at the same rate of 2 percent annually as it did during the past decade. [49]

The impact of trade globalization on the economy is reflected in the recent trends for U.S. exports and imports of goods and services. As illustrated in Figure 3, U.S. exports of goods and services increased from 12.2 percent of GDP in 1990 to approximately 19 percent of GDP in 2012. [50] Similarly, imports increased from 13.1 percent to 21 percent of GDP during the same period.

Figure 3. Exports and Imports of Goods and Services as a Percent of GDP, 1990 to 2012.

(Source: U.S. Commerce Department, Bureau of Economic Analysis, NIPA Table 1.1.5, April 2013)



The recent trend towards more international movement of people and goods and globalization of markets is expected to continue. U.S. markets continue to shift from local or regional to national and international. The new drivers of economic growth are services, information, and innovation. Manufacturers in the U.S. are increasingly shifting their production to high-value, high-tech products whose manufacture integrates transportation into a just-in-time supply chain based on efficient performance and consistent reliability.[51] This means that there will be continued growth in international air traffic and more goods and services transported from within the country to ports and across national borders. Total passenger air traffic between the U.S. and other countries, at 172 million passengers in 2012, is forecast to grow at an average rate of 4.1 percent annually to 402.9 million by 2033. [52] Freight tonnage is forecast to increase by 1.6 percent annually to 27.1 billion tons by 2040, with the bulk of exports and imports moving through intermodal transport. The value of freight moved is expected to increase faster than the weight, or tonnage, increasing by approximately 5.4 percent annually to $39.3 trillion dollars in 2040. The majority of these goods, particularly high-value, small packages, will move by air and truck. [53]

To retain our economic competitiveness, the Nation must make strategic investments that enable the movement of people and goods more efficiently with full utilization of the existing capacity across all transportation modes, as well as a focus on creating new opportunities in foreign markets for U.S. transportation-related goods and services. In 2010, President Obama issued Executive Order (E.O.) 13534, which creates an Export Promotion Cabinet to develop a National Export Initiative to meet the goal of doubling U.S. exports in five years. [54] This increase will support the creation of 2 million jobs and additional demand for transportation capacity. Currently exports account for 32 percent of jobs in the transportation equipment sector and this percentage is expected to increase.

Transportation services and equipment are among the Nation's most important exports. The U.S. is a net exporter of travel services, aircraft, vessels for sport and pleasure, and railroad equipment and technology. U.S. trade and investment negotiations seek to open foreign markets to U.S. exports of goods and services and U.S. investment. DOT participates in these negotiations to open foreign markets to U.S. exports of transportation services and equipment and the investments of U.S. transportation firms.

Our strategic objectives are presented below.

FY 2014-2018 STRATEGIC OBJECTIVES

- Improve the contribution of the transportation system to the Nation's productivity and economic growth by supporting strategic, multi-modal investment decisions and policies that reduce costs, increase reliability and competition, satisfy consumer preferences more efficiently, and advance U.S. transportation interests worldwide (EC1).
- Increase foreign market access and opportunities for American business overseas by eliminating barriers to trade in transportation-related goods and services; and spur the development of export-related jobs through federal transportation investments, global transportation initiatives, and cooperative research efforts (EC2).
- Improve the efficiency of the Nation's transportation system through transportation-related research, knowledge sharing, and technology transfer (EC3).
- Foster the development of a dynamic and diverse transportation workforce through partnerships with the public sector, private industry, and educational institutions (EC4).

In the following paragraphs, we describe several dimensions of our approach to supporting U.S. economic competitiveness. The cornerstones of this strategy are investments in high-performance passenger rail, the development of a national freight strategy, investments in public transportation, mitigating traffic congestion on our highways, and implementing NextGen systems and procedures to improve operations, alleviate airport congestion, and reduce delays for travelers. We are expanding credit support programs to achieve these aims. We are also continuing our effort to create a more competitive air transportation

system and protect the rights of traveling consumers. We will advance U.S. economic interests in targeted markets abroad in order to create additional transportation-related jobs, especially among small businesses. To ensure that our Nation remains at the cutting edge of transportation, we will encourage the commercialization of research and development and promote technology transfer as a means to accelerate deployment of innovations and knowledge. Finally, we will also place a renewed focus on developing the transportation workforce of the future.

STRATEGIES TO IMPROVE THE CONTRIBUTION OF THE TRANSPORTATION SYSTEM TO THE NATION'S ECONOMIC GROWTH

DOT supports investing new resources in the full range of transportation infrastructure—highway, transit, rail, aviation, and port facilities—and drawing upon a wider range of sources of finance to address infrastructure investment. The Nation needs a flexible transportation financing system that can meet the needs of each mode, and that can provide intermodal connections, including to ports and railroads.

HIGH-PERFORMANCE PASSENGER RAIL

The Recovery Act provided an unprecedented $8 billion investment in high-speed and intercity passenger rail. This initial funding, and $2.1 billion in additional FY 2010 appropriations, generated an extraordinary amount of interest across the country. We received nearly 500 applications from 39 states, the District of Columbia, and Amtrak, requesting more than $75 billion, an amount that far exceeds what was available. The resulting investments are expected to move us closer to the goal of providing 80 percent of Americans with convenient access to high-speed rail within 25 years. The investments will also spur economic growth, revitalize domestic rail manufacturing and supply industries, and establish an economic base of highly skilled, well-paying American jobs.

DOT will work with the Congress and stakeholders to pass a five-year, $40 billion rail reauthorization proposal to significantly improve existing intercity passenger rail services, develop new high speed rail corridors, and strengthen the economic competitiveness for our freight rail system.

FY'14 President's Budget to Congress, April 2013.

Over 30 rail manufacturers, both domestic and foreign, agreed to establish or expand their U.S. bases of operations if they are hired to build America's next generation high-performance rail lines and equipment. This is a commitment the Administration secured to ensure that new jobs are created here at home. In addition, Amtrak and the States are using nearly $1.7 billion in *Recovery Act* funds, other appropriations and loans to purchase over 100 American-made locomotives and 250 railcars.

To advance high-performance rail services, DOT will work with Congress to develop and fund a multi-tiered passenger rail network that accounts for different markets and geographic contexts throughout the U.S. This vision includes:

- Core Express Corridors that form the backbone of the national high-performance passenger rail system, operating in and between large, dense metropolitan regions;
- Regional Corridors to connect mid-sized urban areas with convenient, frequent service on a mix of dedicated and shared track; and
- Emerging Corridors that will connect regional urban areas on shared track.

Efficient, multi-modal connections are critical to the ultimate success of high-performance and intercity passenger rail. We will continue to work with Amtrak, States, freight railroads and other key stakeholders in transit, airports and other transportation modes to ensure intercity passenger rail is effectively integrated into the national transportation system

More Efficient Freight Movement

An efficient freight transportation system that connects population centers, economic activity, production, and consumption is critical to maintaining the competitiveness of our economy. In the past, the highly developed U.S. transportation system played a key role in allowing GDP per capita to grow faster in the U.S. than abroad. But other countries have increased their investments in transportation infrastructure and closed the gap with the U.S. The efficiency of freight movement in the U.S. is challenged by growth in global and domestic demands that are outpacing existing capacity. Additional transportation infrastructure investment is needed, and the investment needs to be carefully targeted where it will have the greatest economic payoff and achieve our other strategic goals. We are committed to providing sufficient resources and programmatic focus to

FREIGHT ADVISORY COMMITTEE

To help oversee a multimodal implementation of MAP-21 freight provisions, the Department established the Freight Policy Council, chaired by the Deputy Secretary. To further the Department's commitment to public input and the role experts can provide, a National Freight Advisory Committee (NFAC) was also created. The NFAC consists of a diverse public and private sector membership, including State DOT Secretaries, elected officials from across the country, representatives of freight modes, shippers, researchers, as well as safety, labor, and environmental advocates. The Committee is led by Chair and Vice Chair, Illinois Transportation Secretary Ann Schneider and former Deputy DOT Secretary Mort Downey, respectively. Over the next two years, the NFAC will provide specific, implementable recommendations for the Department to consider as we implement MAP-21 freight provisions. Both the Freight Policy Council and the NFAC will be working together to implement MAP-21 freight provisions and specifically one of the most important provisions, the development of a National Freight Strategic Plan due October 1, 2015.

a comprehensive national freight transportation strategy that bolsters our Nation's economic competitiveness.

We are developing a road map for moving the U.S. towards a comprehensive and effective strategy for improving freight transportation. MAP-21 calls for a national freight policy, and directs DOT to undertake several actions to define and implement this strategy including to:

- Develop a National Strategic Freight Plan within three years;
- Develop a set of metrics that will enable an assessment of the condition and performance of the national freight system; and
- Define a national freight network of not less than 27,000 centerline miles of highways.

MAP-21 also directs DOT to take particular note of the need for intermodal connectors between highways and rail or port terminals, and to consider the need for transport of energy products from energy-producing regions to consumers. Both of these factors will play a role in the development of the National Strategic Freight Plan. Although the 2008 economic downturn reduced pressures on the freight transportation system, the economic recovery will create new pressures. The National Export Initiative, with the goal of doubling exports by 2015, will result in new demands on the freight network as will the rebound in the economy.

Freight moves across jurisdictional boundaries, complicating responsibility for maintenance of efficient freight corridors. Freight railroad facilities and services are almost entirely private, while privately-owned trucks operate over public highways. Privately-owned air cargo services operate in public airways and mostly at public airports. Ships in the private sector operate on public waterways and at both public and private port facilities. As a consequence of this mixed ownership and management, most solutions to freight problems require joint action by multiple public authorities and private companies. Financial, planning, and other institutional mechanisms for joint efforts by public agencies and private firms traditionally have been very limited, inhibiting effective measures to improve performance and reduce the public costs of the freight transportation system.

Domestic maritime transportation has the potential to reduce highway, bridge, and rail maintenance costs by diverting freight from congested landside modes to underutilized water transportation services. However, for these services to be competitive, the ports where intermodal transfers occur need to be well integrated into the surface transportation system. Currently, many port owners are unaware of how to engage in the local and state-level transportation planning process. Since there are no dedicated federal funding sources for land side port infrastructure and Marine Highway development, integration into state transportation plans is now vital to ensure the future prosperity of the U.S. maritime sector.

The flow of freight, particularly long-haul freight, can have a significant impact on many of our communities, especially those located near our ports or major rail and highway corridors. All too often, communities throughout the Nation have struggled with the noise, congestion, and negative environmental and public health impacts that have been

the unfortunate side effects of freight transportation. To improve the efficiency of freight movement and reduce its detrimental effects, we will:

- Promote new technologies and operating procedures that reduce air emissions and noise from freight movements, while increasing the efficiency and operational speed of the system to improve freight services to small- and medium-size cities and towns;
- Work across jurisdictional boundaries to establish new partnerships between the public and private sectors to improve the overall efficiency of the freight transportation system;
- Make targeted investments in capacity expansion of our national freight highway corridors to address bottlenecks that cannot be adequately addressed by operational improvements;
- Develop a National Freight Network that focuses investments on critical multi-modal freight infrastructure needed to improve goods movement across America and considers the reduction of the impact of freight transportation on neighboring communities;
- Work with other Federal agencies to ensure that all regulations on the marine and surface transportation systems facilitate the flow of commerce in a safe and secure environment;
- Identify and implement solutions to the inefficient movement of freight through major metropolitan regions using a variety of technologies and operational approaches such as real time information on the performance

FREIGHT TRANSPORTATION DATA

Major gaps in freight data such as freight flows hinder our ability to analyze the benefits of freight transportation projects. There are numerous public and private entities that provide international freight shipment data with varying degrees of timeliness, coverage, and reliability. However, inland movements of imports are difficult, if not impossible, to track. Data are limited or non-existent on truck movements within metropolitan areas. Records of freight moved by rail in intermodal service often do not publicly include data detailed enough to identify specific commodities. MAP-21 requires us to develop improved models and data sources for freight planning purposes. We are undertaking the development of cross-modal measures of freight system conditions and performance; and implementation of these measures will likely require the development of new data. The existing Freight Analysis Framework, the principal DOT freight planning tool, will need to be enhanced to meet the needs of MAP-21.

of the system for passengers and freight, tools to optimize systems operations and seamlessly link the freight supply chain;

- Work with Federal, State, and local stakeholders to ensure the adequacy, efficiency, and reliability of our land, sea and air international gateways; and
- Prioritize timely operations and maintenance projects for the Great Lakes and the St. Lawrence Seaway, and modernize the U.S. infrastructure assets of the St. Lawrence Seaway as part of a decade-long Seaway Asset Renewal Program.

PUBLIC TRANSPORTATION

Every day tens of millions of people use public transportation to get to the places they need to go, including commuting to work, attending a class, visiting a doctor, going shopping, or making a trip for social visits and recreation. In many large metropolitan areas, public transportation provides an essential transportation alternative to crowded rush-hour streets and highways. In almost every city, public transportation also provides the only transportation to many of the people in our economy who need it the most. Commuters among the 5 percent of U.S. households that don't own a vehicle rely on carpools, transit, bus travel, bicycling, walking, and taxis to get to work. [55] We will continue to support our Nation's investment in public transportation services for all through:

- Grants for operating assistance, preventive maintenance, and schedule replacement and renewal of bus fleets and other transit assets; and
- Support for existing public transportation investments through formula program grants.[56]

HIGHWAY CONGESTION

While automobile and truck congestion currently imposes a relatively small cost on the overall economy of about 0.6 percent, the cost of congestion is growing faster than GDP. If current trends continue, congestion is expected to impose a larger proportionate cost in the future. The cost of congestion has risen at a rate of almost 7 percent per year over the past 25 years, which is a rate more than double the historical growth rate of GDP.

Highway congestion adversely affects our economy, our communities, and our quality of life. Traffic congestion in 2011 worsened in American cities of all sizes, creating a $121 billion annual drain on the U.S. economy in the form of 5.5 billion lost hours resulting from travel delay and 2.9 billion gallons of wasted fuel. Congestion caused the average peak-period traveler to spend an extra 38 hours of travel time and consume an additional 19 gallons of fuel annually, amounting to a cost of $818 per traveler. [57] To address traffic congestion, we will:

- Promote operational strategies that reduce the impact of congestion-causing incidents and bottlenecks including the use of effective traffic incident management, traveler and traffic information systems, and arterial and corridor management systems;
- Provide support for better and a wider variety of transit services and increased transit capacity;

- Advocate adoption of demand management strategies which improve the efficiency of existing capacity such as ridesharing, car- and van-pooling, flextime, parking demand management, road pricing, car sharing, and bike sharing;
- Promote research, development and deployment of advanced vehicle-to-vehicle and vehicle-to-infrastructure communication technologies; and
- Foster investment in high-performance, intercity passenger rail to balance demand across modes and relieve traffic on roads and in the airspace.

AVIATION

Our nation's economy depends on aviation. Air transportation plays a key role in the growing tourism and hospitality sector of the economy and also serves business travelers who make the key connections that allow economic activity to grow and expand. By one estimate, the costs attributed to airport congestion will increase from $24 billion in 2012 to $34 billion in 2020; and an additional investment of $18.9 billion is needed, plus the development of Next Gen, to ensure $313 billion in GDP and approximately 350,000 jobs.[58]

NextGen will improve the air transportation system by expanding capacity and improving the passenger experience with more reliable and predictable operations. Congestion, noise, fuel burn, and emissions will be reduced. This system is the foundation for continually improving and accommodating future air transportation needs, while strengthening the economy locally and nationally with one seamless, global sky. To advance the aviation system, we will work with the aviation industry to:

- Meet the new and growing demands for air transportation services through 2025 with ongoing, incremental implementation of NextGen capabilities;
- Increase airport and airway capacity through more efficient operations on the airport surface and in aircraft approaches, departures and en-route operations;
- Complete the transition of surveillance from ground-based radar to satellite-based positioning data transmitted directly by aircraft;
- Shift pilot-controller communications from voice to data, simplifying the workload of each pilot, reducing the likelihood of error or misunderstanding, and relieving pressure on available radio frequencies;
- Replace current systems that distribute information, particularly about weather and other conditions that must be mitigated, to controllers, pilots, operations centers, airports and other stakeholders with a single, integrated, system-wide data network that delivers information simultaneously to all who need it;
- Set investment and infrastructure priorities and policies accordingly that enhance capacity where economically justified;
- Implement procedures with supporting infrastructure to increase the efficiency of individual flights, deliver increased activity for high density operations, and maintain higher levels of capacity in low-visibility conditions;
- Implement modified separation standards to increase capacity and safely allow more efficient use of congested airspace;
- Direct Airport Improvement Program funding to provide greater safety, capacity, and efficiency at airports, including greater access to regional airports in

congested metropolitan areas, in order to improve system-wide performance; and

- Safely integrate unmanned aircraft systems into the National Airspace System.

MARITIME

Ports serve as gateways for the import and export of goods in the global economy. Just as DOT is the steward for ensuring that the interstate highway system is in a state of good repair, DOT has a role in ensuring that access into and out of our ports and marine facilities can meet both our security needs and the needs of the economy.

There are 400 ports owned and operated by State and local governments, private corporations, or a combination of those entities in the U.S. Historically, our role in financing port infrastructure has been limited. Through federal investments in port infrastructure using Transportation Investment Generating Economic Recovery (TIGER) grants and America's Marine Highway Program, we incentivize improvements in operations, facilities, and equipment that will make our Nations' ports more efficient and productive.

The maritime system is a shared responsibility. Federal, State, local, and private sector entities provide input to the condition and operation of existing facilities. To remain competitive in a global economy, the maritime network will require both technical assistance and incentives to improve efficiency and maximize the use of existing facilities—and the associated costs are not insignificant. For example, U.S. public ports spent nearly $9 billion on capital improvement projects from 2004 to 2008. [59] Additional public investment is needed. By one estimate, the costs attributed to delays in the nation's inland waterways system were $33 billion in 2010, and it is expected to increase to nearly $49 billion by 2020. The American Society of Civil Engineers estimates that an additional, cumulative investment in ports and waterways of $15.8 billion between 2012 and 2020 would protect a total of $697 billion in GDP during that period and, as of 2020, 738,000 jobs. [60]

The U.S. will need sufficient maritime port capacity to meet the requirements of current and projected import and export trade. Transportation planners must be prepared to respond to changing trade patterns necessitated by the widening of the Panama Canal and the potential for the development of an Arctic transportation corridor, which could accommodate cargoes between the Far East to the U.S. East Coast.

Commercial and government access to privately-owned U.S.-flag commercial ships serving international markets is augmented through the Maritime Security Program (MSP). MSP provides an annual stipend payment to 60 modern and efficient U.S.-flag vessels that also participate in the U.S. Voluntary Intermodal Sealift Agreement (VISA) program. The VISA program provides for a time-phased activation of state-of-the-art commercial intermodal equipment to coincide with DOD requirements while minimizing disruption to U.S. commercial operations. The MSP and VISA programs help to ensure that the United States will have U.S.-flag commercial companies, vessels, and crews operating in U.S. foreign trade, along with the intermodal assets of the companies—providing reliable and efficient commercial and military access to critical foreign markets in the event of disruptions to global supply chains.

EXPAND CREDIT ASSISTANCE PROGRAMS

Providing broader access to flexible and favorable financing options will make it easier for State and local governments, and the private sector, to invest in our Nation's infrastructure. Increasingly, public officials are dedicating long-term sources of revenue to transportation projects. Among other sources, the revenue comes from tolling, pricing, and other user fees, as well as new sales taxes and other state or local sources or revenue. DOT credit assistance programs were created and expanded by Congress to provide better access to financing for these investments, so we can accelerate project delivery and reduce costs by fully funding the projects upfront. In addition, many State and local governments are turning to innovative public-private partnerships to better integrate private sector involvement in the delivery and financing of transportation projects. DOT credit assistance programs are of critical importance to Federal efforts to promote these new arrangements.

Providing better access to DOT credit assistance programs will help ensure that new and improved transportation facilities are delivered more quickly and at reduced cost, which enhances the ability of our transportation system to contribute to economic growth and other strategic goals. Of particular note, accelerating these investments through innovative financing approaches helps address the growing backlog of capital investments, which is a primary element of DOT's focus on the state of good repair of our Nation's infrastructure. Broader use of flexible financing programs also encourages co-investment of public and private funds, stretching the value achieved through Federal credit assistance programs.

To advance credit support programs, we will:

- Fully implement the Transportation Infrastructure Finance and Innovation Act (TIFIA) program as expanded by MAP-21, by lending $15 to $20 billion to eligible surface transportation projects, leveraging substantial public and private sector co-investment and supporting innovative public-private partnerships;
- Allocate remaining Private Activity Bonds authority to project sponsors that are developing eligible surface transportation or freight transfer facilities, increasing private investment in transportation infrastructure;
- Facilitate and encourage the use of the Railroad Rehabilitation and Improvement Financing (RRIF) program's financing capacity to support upfront and accelerated investments in freight and commuter rail facilities; and
- Administer the Title XI loan guarantee program to support investment in the U.S. shipbuilding industry.

STRATEGIES TO FOSTER A COMPETITIVE AIR TRANSPORTATION SYSTEM THAT IS RESPONSIVE TO CONSUMER NEEDS

One of our key missions is to negotiate liberalized international aviation agreements that result in opportunities for increased air service, lower fares for consumers, and demand for additional aircraft. These negotiations require DOT, in cooperation with the Department of State, to conduct formal international meetings with foreign government counterparts with the goal of achieving less restrictive agreements and, ultimately, Open Skies agreements. In addition, promote competition in the aviation industry by

monitoring industry developments in foreign and domestic markets. This includes maintaining vigilance against unfair competitive practices that may impair airlines' ability to make full use of U.S. rights. To foster a competitive air transportation system, we will:

- Work with our trading partners to seek further liberalization of international transportation markets through negotiations and other means;
- Judiciously review and efficiently issue decisions on air carrier requests for economic authority as well as other matters affecting competition in the airline industry; and
- Exercise our regulatory powers to redress unfair or discriminatory practices by foreign governments or carriers against U.S. airlines to ensure that the traveling and shipping public enjoys the benefits of a competitive marketplace.

Long-term increases in the number of people traveling by air each year and other changes in the airline industry underscore the need for DOT to remain vigilant in protecting the rights of air travel consumers. Accordingly, we will:

- Vigorously enforce Federal law protecting air travelers provide information for consumers to make decisions about air travel;
- Ensure greater accessibility of air travel for passengers with disabilities and older adults;
- Investigate and resolve civil rights-related complaints made by air travelers in a timely manner; and
- Continue to strengthen consumer protections for air travelers when appropriate.

STRATEGIES TO ADVANCE U.S. TRANSPORTATION-RELATED ECONOMIC INTERESTS IN TARGETED MARKETS AROUND THE WORLD

U.S. transportation interests do not stop at our borders. Our international activities—including economic, strategic, and foreign assistance—have burgeoned over the past decade. In the economic arena, import and export activity is a vital part of U.S. economic health, and access to efficient transportation systems strengthens international trade and helps make our products and services competitive.

To address these challenges, DOT will:

- Advance the transportation-related initiatives of the President's National Export Initiative to improve the private sector's ability to export;
- Advance a vital and viable U.S. maritime transportation system, including vessels, port infrastructure, and intermodal assets, to meet the nation's economic and security needs;

- Determine how the expansion of the Panama Canal will impact U.S. and global trade as well as U.S. ports, waterways, and intermodal freight systems;
- Focus Federal investments to improve the linkages between our ports and the rail and highways systems, particularly on-dock, rail, and intermodal connectors immediately outside our ports;
- Work with Metropolitan Planning Organizations (MPO) and State departments of transportation to better incorporate their maritime assets into their freight movement plans, as well as promote the expansion of the Marine Highway System, when economically viable, to meet current and projected movements of freight and passengers;
- Work with our Mexican and Canadian partners to develop and deploy interoperable technology architecture at our land ports of entry that is integrated with ITS initiatives outside ports of entry; and
- Conduct outreach and forums with industry stakeholders to seek effective solutions to our maritime system challenges without significantly impacting private sector costs.

We set standards for both the manufacture and operation of transportation products. American transport manufacturers and service providers rely on access to foreign markets through liberalized entry or operational rules and compatible technical standards. We exert extensive positive influence over international transportation development as well as to heighten U.S. competitiveness.

FOREIGN POLICY SUPPORT

Transportation plays an important role in U.S. foreign policy initiatives. U.S. developmental programs increasingly seek transport technical assistance to achieve their objectives. In addition to long standing and positive engagement in the Western Hemisphere, we are expanding our commitments in the Middle East and North Africa. Special long-term, post-conflict assistance to Iraq and the Islamic Republic of Afghanistan (Afghanistan) are foreign policy priorities to which the DOT will continue to contribute significant resources.

For example, we assisted our Afghan and U.S. AID partners in the design and construction of regional airports and performed an extensive assessment of Kabul International Airport to identify the improvements needed to meet international safety standards. We helped the Ministry of Transport develop plans for increased air cargo service operations at the Kabul and Kandahar international airports.

To advance U.S. transportation-related economic interests, we will:

- Provide technical assistance, implement technology exchange, encourage collaboration and capacity building, and identify opportunities to share resources among key international partners;

- Advocate worldwide adoption of harmonized standards and global technical regulations through participation in bilateral and regional forums or international organizations at the ministerial and working levels;
- Fulfill our commitments to international partners and agreements, such as the Asia-Pacific Economic Cooperation forum, and the North Atlantic Treaty Organization; and
- Advance U.S. foreign policy objectives by participating in the global trade agenda and by establishing transportation reconstruction and stabilization initiatives and cooperative relationships with emerging economies.

STRATEGIES TO IMPROVE RESEARCH, KNOWLEDGE SHARING, AND TECHNOLOGY TRANSFER BUSINESS PROCESSES

Transportation research has little value if its technological outcomes are not transferred to those that might apply them. The application of research outcomes can be as simple as knowing what does not work or can be as complex as implementing highly advanced, revolutionary technologies. Research implementation should not be based on the sophistication of a new technology alone. All outcomes must be considered and compared with other research outcomes to determine a best solution or most effective technology, i.e., product or service, for any given situation. The DOT Technology Transfer (T2) program is designed to:

- Increase the number of T2 partnerships with commercial, non-profit, government and non-government organizations;
- Increase the commercialization activity within the DOT; and
- Improve the efficiency of T2- related business processes within the DOT.

We provide leadership and expertise to facilitate the exchange of knowledge and technologies for the development and advancement of products and methodologies that will improve transportation safety and efficiency. [61] To meet these challenges, we will:

- Evaluate and improve processes for executing partnership agreements including grants, contracts, Cooperative Research and Development Agreements, and collaborative agreements;
- Streamline partnership processes to maximize and provide for efficient technology transfer;
- Initiate collaborative agreements with local and regional transportation safety focused entities including DOT regional offices; and
- Increase awareness of commercialization and technology transfer opportunities within the DOT by collecting and disseminating within DOT best practices for commercialization and by searching for opportunities to apply DOT commercialized technologies.

In keeping with the Open Government concept, we are developing an open access policy for data and publications resulting from all DOT-funded research. [62] We will make data, reports, and publications available to the public, as well as researchers and entrepreneurs across the country that might benefit and have the potential to create

and commercialize new technologies, thereby leveraging federally funded research and benefitting the economy through technological development.

The economic competitiveness of the U.S. can also be improved through international dialogues such as the International Transportation Forum, cooperation agreements with global partners, and international research initiatives. Such exchanges will result in additional innovation and improvements in technology, governance, and regulatory best practices. Targeting emerging technologies and collaborating with international partners at the early stages of the regulatory development process provides a critical foundation for future regulatory compatibility efforts and facilitate innovation in the transportation sector.

STRATEGIES TO BUILD A DYNAMIC NATIONAL TRANSPORTATION WORKFORCE

The operation of the Nation's transportation system depends on a highly skilled and qualified workforce, now and for the foreseeable future. Whether in the burgeoning realm of sustainable transportation or in simply responding to the growing demand for services, there are numerous opportunities in the transportation industry to address the urgent national priority of creating new jobs. To be successful in addressing unmet infrastructure needs, we will need a broad spectrum of skilled workers. As demand for transportation services increase, both public and private sector transportation organizations face the ever increasing difficulty of finding qualified workers and managers to fill priority occupations. At the same time, increasing competition for workers from other industries and difficulties in reaching women and under-represented population groups compounds the challenge.

To retain and develop workers, we need to give employees the opportunity to develop skills in all areas of transportation including financing, project management, sustainability, livable communities, and greater public engagement. These skills go beyond traditional engineering disciplines, which are themselves expanding to reflect new materials and technologies. The growing number of baby boomers eligible to retire accelerates the need to transfer resident knowledge to the next generation, and thereby avoid a shortfall of experience and skills that will be difficult to replace.

The rapidly evolving transportation industry and associated transformation of its workforce including changes to the makeup and diversity of the workforce, as well as shifts in the types and priorities of transportation occupations, demonstrate the critical need for public and private sector transportation organizations, training providers, academic institutions and other strategic partners to focus attention on the challenges facing transportation workforce development. We can successfully address these issues by collaborating with our partners in government agencies, private and public employers, educational institutions, and workforce and labor organizations. These partnerships must also address current and future transportation workers.

To meet these challenges, we will work with our partners to undertake the following strategies:

- Partner with the Department of Education, Department of Labor, State departments of transportation, other federal agencies, education systems, community colleges, universities, private and public transportation employers,

and labor unions to advance transportation workforce development including career and technical education pathways to transportation jobs;

- Engage with national, state, and local education interests to enhance transportation career awareness and preparation for K-12 students including a focus on science, technology, engineering and mathematics (STEM) through transportation-related academic and certification programs;
- Work to improve pathways into various levels of transportation occupations for all, with a special focus on women and under-represented populations in partnership with Minority-Serving Institutions and organizations;
- Advance education programs of the U.S. Merchant Marine Academy and State Maritime Academies to help meet the needs for trained merchant mariners for industry and national security;
- Engage with key public and private sector transportation organizations to ensure that the current transportation workforce has the ability to lead, anticipate, and apply innovation;
- Expand the pool of qualified transportation workers to meet the current and future challenges of a multimodal transportation system; and
- Encourage investments in data collection, research, and analysis of the transportation workforce and disseminate notable practices in workforce development.

STRATEGIC OBJECTIVES, PERFORMANCE GOALS, AND INDICATORS

We will monitor our progress in achieving the Strategic Objectives for the Economic Competitiveness goal using the Performance Goals and Indicators in Table F.

Table F. Performance Goals, Indicators, and Lead by Economic Competitiveness Strategic Objective.

Performance Goal	Performance Indicator(s)	Lead Office
Strategic Objective: Improve the contribution of the transportation system to the Nation's productivity and economic growth by supporting strategic, multi-modal investment decisions and policies that reduce costs, increase reliability, satisfy consumer preferences more efficiently, and advance U.S. transportation interests worldwide (EC1).		
Targets under development to achieve initial operating capability and operational readiness decision at all 20 Air Route Traffic Control Centers in the continental United States.	TBD	FAA
Maintain an average daily capacity for core airports of xxx, or higher, arrivals and departures.	TBD	FAA

Sustain adjusted operational availability at 99.70 percent for the reportable facilities that support the Core Airports through FY 2018.	Adjusted operational availability at Core-30 airports.	FAA
Maintain a NAS on-time arrival rate at core airports of 88 percent or higher through FY 2018.	Percentage of on-time arrivals at Core airports.	FAA
Maintain US presence in foreign maritime commerce through ships enrolled in the Maritime Security Program (MSP) at 19,200 vessel operating days a year while ensuring availability of sealift capacity for the Department of Defense.	Vessel operating days per year	MARAD
Maximize support of surface transportation project delivery by leveraging available budget authority. On an annual basis, for each $1 in TIFIA budget authority, provide at least $10 in credit assistance to leverage support for at least $22 of project costs.	TBD	FHWA
Increase Travel Time Reliability in Urban Areas as Measured by a Reduction in the Travel Time Index to No More Than 1.xx in 2018.	Travel time index	FHWA
Maintain Travel Time Reliability in Key Domestic Freight Significant Corridors At or Below xx.x Percent in 2018.	Freight buffer index	FHWA
Congestion management strategies that could manage demand, reduce single occupant vehicle travel, improve transportation system management and operations, and enhance integration across modes are identified and evaluated.	All MPOs serving a Transportation Management Area (TMA) develop and utilize a congestion management process (CMP) in making programming and project decisions within five years.	FHWA
Maintain the U.S. Saint Lawrence Seaway System and Lock Availability At 99 Percent through 2018.	System and lock availability.	SLSDC

Strategic Objective: Increase foreign market access and opportunities for American business overseas by eliminating barriers to trade in goods and services; and spur the development of export-related jobs through federal transportation investments, global transportation initiatives, and cooperative research efforts (EC2).		
Establish or participate in at least 14 technology transfer and capacity building programs to improve training opportunities for international transport ministries.	DOT participation in technology transfer and capacity building programs	OST
Reach [3 or more] new bilateral or multilateral agreements to remove market distorting barriers to trade in transportation.	Number of bilateral or multilateral agreements	OST
Strategic Objective: Improve the efficiency of the Nation's transportation system through transportation-related research, knowledge sharing, and technology transfer (EC3).		
Improve the efficiency of USDOT technology transfer (T2) business process.	Number of T2 processes revised and modified.	RITA, FMCSA, FAA, FHWA, FTA, FRA, and OST
Strategic Objective: Foster the development of a dynamic and diverse transportation workforce through partnerships with the public sector, private industry, and educational institutions (EC4).		
Facilitate transition from military occupational specialties to civilian certification and licensing in transportation related careers.	Number of veterans trained through CDL training grants.	RITA

EXTERNAL RISK FACTORS

Most economists are predicting annual growth rates for GDP of two to three percent over the next few years. [63] Cyclical and long-term changes in economic activity have a strong impact on discretionary personal travel and shipment of goods, driving demand for transportation infrastructure and services. For-hire transportation activity, including both freight ton miles and passenger miles, are highly correlated with stages

of the business cycle. [64] Recent reports of stronger housing starts are a positive sign for the economy, but could have a negative effect as prices for construction materials increase with competition from other industries.

Foreign trade is projected to grow at a faster rate than the U.S. economy. Exports currently account for 32 percent of jobs in the transportation equipment sector. While growth in exports has increased during the past two decades, disruptions in the economic environment such as an increase or decrease in the price of oil and other energy supplies, the enactment of policies in other countries or regions that positively or negatively impact the free flow of trade, or the contraction of slow growing economies particular in Europe could alter the current dynamic. In technology-based industries, we are already seeing a shift towards resourcing of manufacturing in the U.S. due to increased transportation and logistics costs in overseas operations, more favorable energy prices in the U.S., and a more productive and competitive U.S. workforce. [65]

A highly skilled and capable workforce is needed to meet the planning, design, and operational requirements of future transportation systems. In the next decade, as much as fifty percent of all transportation workers are expected to retire, taking much of their institutional knowledge with them.[66] For example, expansion of high-performance passenger rail will depend on the availability of a highly skilled workforce. Moreover, many public transportation agencies have dealt with fiscal constraints by downsizing and limiting hiring. Consulting and engineering firms have also downsized due to reductions in development projects and a slowdown in transportation design and operations projects.