



FINAL
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TEXAS FREIGHT MOBILITY PLAN

Executive Summary



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TEXAS FREIGHT MOBILITY PLAN

EXECUTIVE

SUMMARY

A blueprint for an integrated multimodal freight system ensuring the efficient, reliable, and safe movement of freight across Texas.

Commerce and quality of life in Texas depend on the daily delivery of millions of tons of goods shipped by a network of highways, railways, waterways, ports, airports, pipelines and land ports-of-entry. The state's economy relies upon its multimodal freight transportation system that efficiently connects local, regional, national, and global markets. The movement of freight through, from, within and into Texas will continue to expand, as the state's economy and population grow, and trade and energy production increase. In 2014, more than 2.6 billion tons of freight was moved in Texas. This number is anticipated to increase to nearly 3.8 billion tons by 2040.

The Texas Freight Mobility Plan (Freight Plan) is the Texas Department of Transportation's (TxDOT) first comprehensive multimodal transportation plan that focuses on the state's freight transportation needs. It identifies Texas' freight transportation challenges and outlines investment strategies and policies needed to address them. The Freight Plan also provides a vision for a safe, reliable, and efficient freight transportation system for Texas that supports economic growth and global competitiveness. Additionally, it responds to and fulfills the recommendations of the previous federal transportation legislation, Moving Ahead for Progress in the 21st Century (MAP-21).

The Freight Plan

- Highlights freight mobility needs and challenges;
- Outlines statewide goals and objectives to improve the movement of goods;
- Evaluates the impact of freight movement on Texas' economy;
- Identifies freight transportation facilities and investments critical to economic growth;
- Defines freight policies and programs; and
- Serves as an investment guide for freight transportation improvements.

WHY IS TEXAS' FREIGHT TRANSPORTATION IMPORTANT?

Freight Serves Texas' Growing Population

Texas is home to over 26 million residents. Their quality of life depends on the daily delivery of millions of tons of goods shipped efficiently and affordably over the Texas freight transportation system. The state's population is projected to increase to nearly 45 million people by 2040. More people will mean an even higher demand for goods and services, thus increasing freight on the state's transportation system. In 2014, Texas' freight system transported approximately 67 tons of goods per Texan. This amount is higher than the U.S. Department of Transportation's estimated national average of 63 tons per person.

It Serves Texas' Industries and Businesses

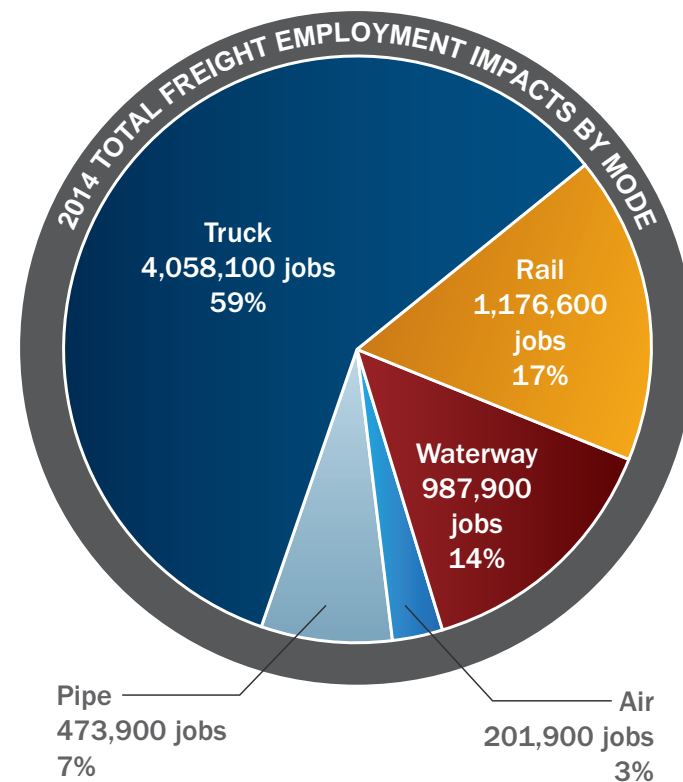
A safe, efficient, and reliable freight transportation system is essential for business attraction, retention and expansion. Texas has the second largest economy in the U.S. If the state were a nation, it would rank as the 14th largest economy in the world. In 2014, the state's annual gross domestic product was nearly \$1.5 trillion. Texas is also home to more than 10 percent of the nation's Fortune 500 companies. In total, industries and businesses directly and indirectly impacted by freight transportation represent approximately 43 percent of the state's economy.

It Employs Texans

Nearly seven million Texas workers are employed in freight-related industries or industries that have a critical reliance on freight transportation. Collectively, they generated almost \$420 billion in labor income in 2014. More than 2.7 million of these jobs were directly related to industries that provide transport services or use freight transportation to ship and receive goods. Truck transportation generated the majority of direct freight transportation-related employment at 59 percent, followed by rail at 17 percent, and maritime at 14 percent. Pipelines generated employment impacts of seven percent, with air freight transportation generating about three percent.

It Serves the U.S. Economy

Transporting goods efficiently to national and global markets is a major reason why Texas has a vibrant economy. The state is the global gateway to Mexico and the rest of the world. Texas' highways and railways serve as vital conduits of interstate freight passing through the state to destinations throughout North America. Texas' land ports-of-entry handle many goods destined for the remainder of the nation and the world. Most U.S. trade with Mexico crosses at the Texas border; and more than half of the goods that cross the Texas-Mexico border have an origin or destination in another U.S. state. Likewise, Texas' multiple sea ports serve the entire nation. Trade conducted through Texas' gateways is vital to the U.S. economy, totaling more than \$500 billion in 2014, with exports amounting to nearly \$300 billion.



WHAT'S DRIVING FREIGHT TRANSPORTATION DEMAND IN TEXAS?

Population Growth

Between 2000 and 2010, Texas experienced significant population growth adding more than four million new residents, a 20 percent increase in population. This growth is expected to continue with the state's population projected to increase from 26 million to approximately 45 million people by 2040.

Manufacturing

The manufacturing sector is the largest contributor to Texas' freight-related economy. During 2014, the manufacturing sector contributed over one million jobs to the state's economy. During the same year, manufactured goods accounted for 90 percent of Texas' exports, which totaled \$260 billion. Texas' manufacturing facilities produce items ranging from helicopters to pickup trucks to semiconductors to offshore oil platforms. In addition to serving the domestic economy, many goods are exported throughout the world. Exports contribute to a strong economy by driving profitability, job creation, private investment and public revenues. Many of the advanced manufacturing processes in Texas take advantage of the state's proximity to Mexico, increasing the need for an efficient cross border transportation infrastructure.

Energy Development and Production

Texas has the most extensive pipeline network in the U.S., with over 426,000 miles of pipelines privately operated by more than 1,700 companies. Texas is also the nation's leading producer of oil and natural gas. In 2014, more than 900 million barrels of crude oil and over 6.2 billion thousand cubic feet of natural gas were produced. The increase in development and production throughout the state has led to growth in the volume and type of traffic on the state's transportation system. Development and production are projected to continue throughout the state's energy sector well into the foreseeable future.

We Build

As population continues to grow, Texas will confront an ongoing need to build new homes, workplaces, schools, and infrastructure, to meet new demands. This new construction will require a massive movement of building materials like stone, concrete, sand, asphalt, bricks, and lumber on the state's transportation system. Ultimately, each future shipment of building material travels all or part of its journey on the state's roadway network.

"The state's economy and population growth needs to be supported and enhanced by a reliable multimodal transportation network as the movement of goods continues to be an essential building block of the state's economic competitiveness."

*The Honorable Ed Emmett
Harris County Judge
Texas Freight Advisory Committee, Chair*

International Trade and Texas' Proximity to Mexico

Texas is a leader in the global marketplace. In 2014, for the thirteenth year in a row, Texas was ranked as the number one state for export revenues. Texas' export market partners continue to be led by its North American Free Trade Agreement (NAFTA) partners, Mexico and Canada. However, trade with Asia plays an important role, as well. In 2014, Mexico ranked number one with \$102.5 billion in Texas exports followed by Canada, Brazil, China, and South Korea. Mexico was also the top country of origin for Texas imports with over \$90.1 billion in 2014, followed by China, Saudi Arabia and Canada. Texas ranks first among the states for maritime commerce. According to the Texas Ports Association, maritime ports on the Texas coast generate \$270 billion in economic activity and handle more than 550 million tons of foreign and domestic cargo annually.

We Grow

With almost a quarter million farms and ranches, Texas is the nation’s number one producer of cattle and cotton. In 2014, Texas agriculture and livestock exports were valued at \$4.8 billion. Texas’ agricultural producers rely heavily on the state’s transportation system to bring goods to market. Agricultural commodities move by truck, rail, barge, ship and air; but rely most heavily on trucks.

In 2014, Texas freight transportation system:

- Moved more than 1 billion tons (52%) of goods via truck.
- Generated over 587,900 daily truck trips on Texas roadways.
- Moved over 397 million tons of freight by rail.
- Enabled more than \$246 billion of goods to cross the Texas-Mexico border.

We Extract

In addition to energy production, significant mining of important commodities like stone, gravel, sand, and coal occur throughout the state. Movement of these commodities places heavy demands on the state’s transportation system, as well. The volume and weight of these shipments have placed a heavy burden on the roadway system, especially in rural areas where roads were not constructed to handle this level of demand. Other freight transportation modes like rail and maritime have also come under pressure.

Between 2014 and 2040, total freight tonnage moved in Texas is projected to increase by 88 percent from 2 billion to 3.8 billion tons.

We Distribute

Texas’ large population and central location within the U.S. and along the Gulf of Mexico make it an optimal location for distributing goods throughout the nation and beyond. The Dallas-Fort Worth region is home to distribution centers for many of the nation’s largest manufacturers and retailers. The Houston region; as well as the IH 35 corridor from Laredo to the Dallas/Fort Worth Metroplex, serve as major distribution locations.

We Export

Texas leads the nation in exports. Each year products from the state of Texas are shipped around the globe. In 2014, Texas was ranked number one in the nation in exports by the U.S. Census Bureau, a position it has maintained for 13 consecutive years. The state is the nation’s gateway to Mexico and a major gateway to the rest of the world. In 2014, Texas’ exports totaled nearly \$288 billion, up 3.1 percent from 2013; outperforming overall U.S. exports, which only grew by 2.6 percent during the same timeframe. Mexico and Canada are the leading destinations for Texas products. They account for almost 46 percent of the state’s export trade.

We Protect

Texas is home to 15 military installations, including two of the nation’s major troop deployment sites. Texas’ rail and highway systems play a critical role in moving equipment from these military bases to ports where it can be deployed. Two Texas ports, the Port of Beaumont and Port of Corpus Christi, handle a significant share of the military equipment moved around the world for the U.S. Armed Forces.

Texas is No. 1

- In oil and gas production in the nation.
- In exports nationally for the last 13 years.
- In population growth in the U.S.
- In economic growth in the U.S.

WHAT ARE TEXAS’ FREIGHT TRANSPORTATION CHALLENGES?

The state’s freight transportation system is facing a number of challenges. These challenges vary from highway and rail capacity constraints, to the need for increased technology and staffing at Texas-Mexico border crossings, to coordination, public awareness and most importantly increased funding. The following highlight these challenges:

System Capacity

- Congestion results in lost time and wasted fuel to the Texas’ trucking industry.
- Most highway freight bottlenecks are located in the state’s urban areas of Austin, Dallas, Fort Worth, and Houston.
- Seventy-three percent of the state’s Primary Freight Highway Network is made up of 4-lane highways; and only 17 percent of the network’s roadways are six or more lanes. Over 51 percent of the Secondary Freight Highway Network is 2-lane roadway and 38 percent 4-lane roadway.
- Rail bottlenecks cause cascading impacts throughout the system, which contribute to more congestion and delays that often result in higher costs for both shippers and consumers.
- The largest air cargo airports in the state are located in rapidly growing, highly congested metropolitan areas.

System Operations

- Lack of a statewide freight network impacts the ability to move goods efficiently and safely throughout the state.
- Lack of a comprehensive statewide traffic management center prevents the dissemination of real-time freight traveler information.
- Lack of a statewide traffic incident management program impedes rapid detection of, response to, and clearance of incidents on key freight corridors.
- Lack of alternate routes to interstate highways significantly constrains efficient freight movement throughout the state.
- Existing locks for the ports and waterways along the Gulf Intracoastal Waterway (GIWW) are aging requiring additional funding for harbor maintenance, dredging, and lock improvement.

- Current infrastructure and design standards/policies have not kept pace with changes in the freight industry.

Safety

- Inadequate truck parking impacts safety and mobility of truckers and motorists.
- Public and private at-grade rail crossings create conflicts between rail and highway users impacting safety, especially in urban areas.
- Lack of understanding and public awareness of commercial vehicle operational needs impacts the safety of both passenger and commercial vehicles.

Connectivity

- Lack of connectivity between transportation modes, rural and urban areas, and first- and last-mile connectors hinders the efficient movement of freight to and from the state’s major freight generators, businesses, and consumers.
- Rural-urban connectivity improvements for highways and rail are needed to enhance access from the state’s agricultural and energy-producing areas to markets and freight gateways.
- Improvements at port, rail, and intermodal connections are necessary to improve access, increase modal options, and decrease congestion.
- Aging infrastructure and design standards along first- and last-mile connectors impact the efficient movement of freight.

Institutional Coordination

- Increased collaboration with neighboring states is needed to ensure a seamless transition of the system across state lines.
- Collaboration and partnerships between public and private sectors are needed to better align planning timelines, and improve project development processes.
- Improved collaboration and coordination with federal and state agencies, local governments, and metropolitan planning organizations (MPOs) is necessary to leverage infrastructure improvements, and increase support for freight issues.

Border Crossings

- Increasing congestion leading to, from, and at border crossings impedes international commerce.
- Inadequate staffing at ports-of-entry contributes to border wait times.
- A comprehensive approach to deployment of cross-border technology applications is needed to enhance security and efficiency of freight movement across the border.
- A greater awareness of Mexico's freight transportation policies and planned infrastructure improvements is needed to allow the public and private sector to effectively plan for anticipated growth in trade.

Public Awareness

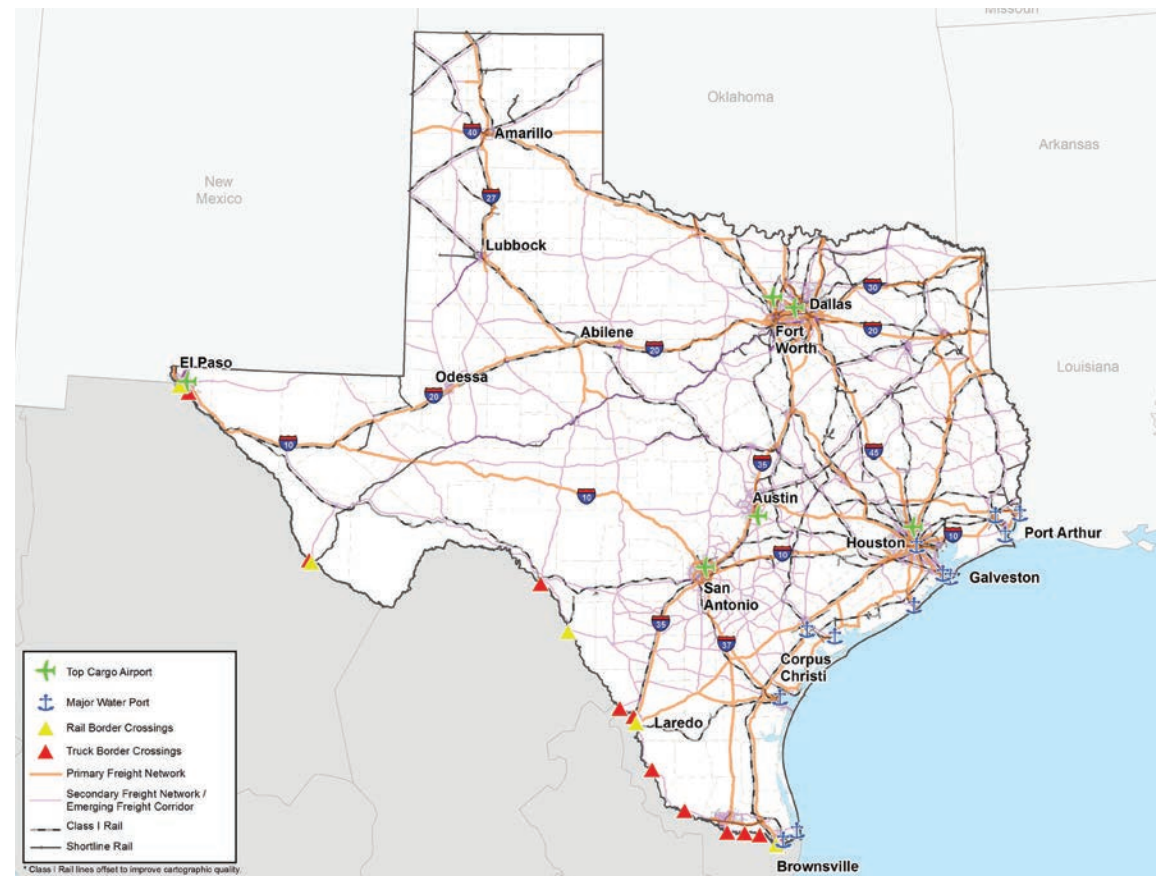
- Lack of awareness and understanding by the general public regarding the importance of freight movement in their daily lives impacts public support of projects and policies relating to freight.

Funding

- Inadequate funding levels have resulted in an aging transportation system that has not kept pace with current freight transportation needs.
- Funding shortfalls have hindered the investment of transportation funding on addressing the needs on high-priority freight corridors.
- Lack of funding flexibility has decreased public and private entities ability to facilitate partnerships and identify innovative solutions to freight funding needs.

Texas Freight Network

A key recommendation of the Freight Plan is the designation of a Texas Freight Network. The Network outlines strategic multimodal transportation facilities and corridors that facilitate efficient movement of goods in Texas.



HOW DOES FREIGHT MOVE IN TEXAS?

To support Texas' large and diversified economy, the state has an extensive freight transportation system. This system consists of highways, railways, waterways, ports, airports, pipelines, and land ports-of-entry. Every year, billions of tons of freight move on this system.



Highways

Texas has the most extensive highway network of any state with over 312,000 centerline miles of public roadways, including 12,000 miles of U.S. highways, and more than 3,200 miles of interstate highways. While only four percent of the miles are interstate highways, they are the primary component of the state's freight system. In 2014, Texas highways moved over one billion tons of freight. This figure is estimated to more than double by 2040 to nearly 2.2 billion tons.



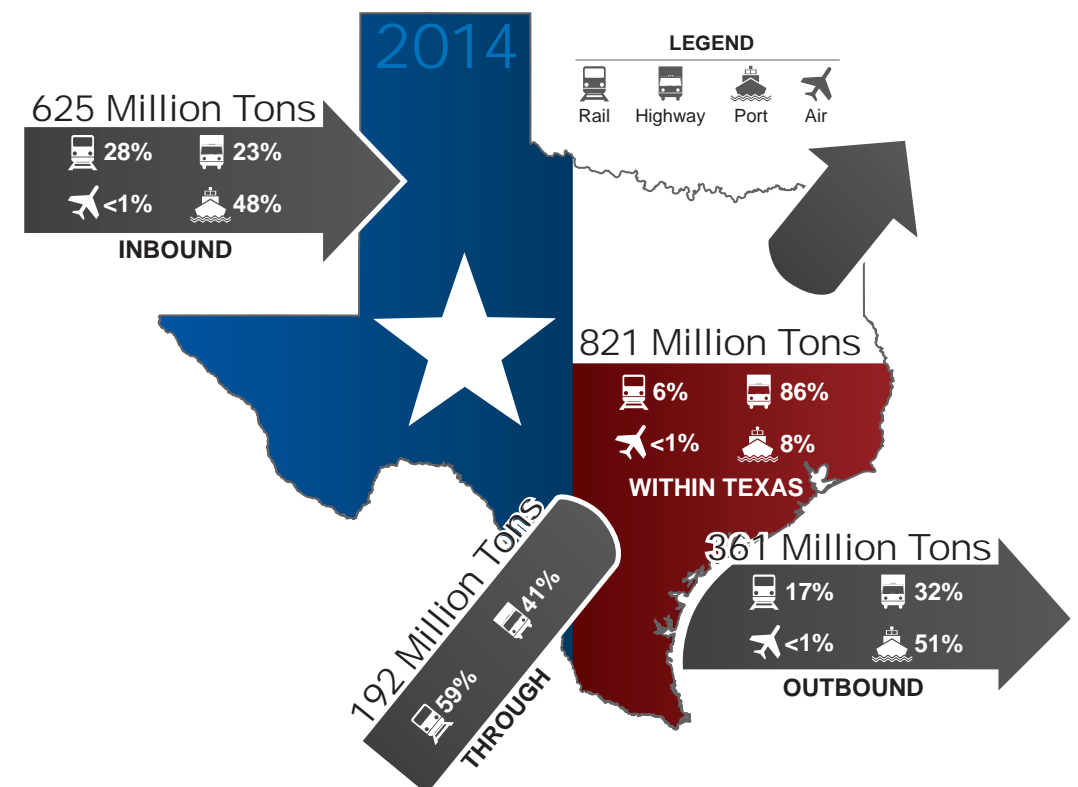
Railways

Texas has over 10,000 track miles of freight rail, more than any other state in the nation. The state is served by three Class 1 railroads and 46 short line railroads. Texas' short line railroads operate on nearly 2,000 miles of track, providing critical links and serving as last-mile connectors. During 2014, Texas' railroads moved an estimated 400 million tons of cargo, equivalent to 21 million truck trips.



Ports and Waterways

Texas has 11 deep water ports and 15 shallow draft channels that are connected to the Gulf of Mexico. Freight moves between Texas' ports via the GIWW. In addition to publicly owned facilities, the state also has hundreds of privately owned terminals that serve a critical role for industry. In 2014, Texas waterways transported 560 million tons of freight. This figure is anticipated to increase to nearly 800 million tons by 2040.





Airports

Texas is home to 23 commercial service airports; six of which are among the top 50 cargo airports in the U.S., in terms of landed weight. During 2014, the Dallas-Fort Worth International Airport handled more than 1.5 million tons of air freight (ranked 10th nationally) and the Houston George Bush Intercontinental Airport handled almost one million tons of air freight (ranked 17th nationally).



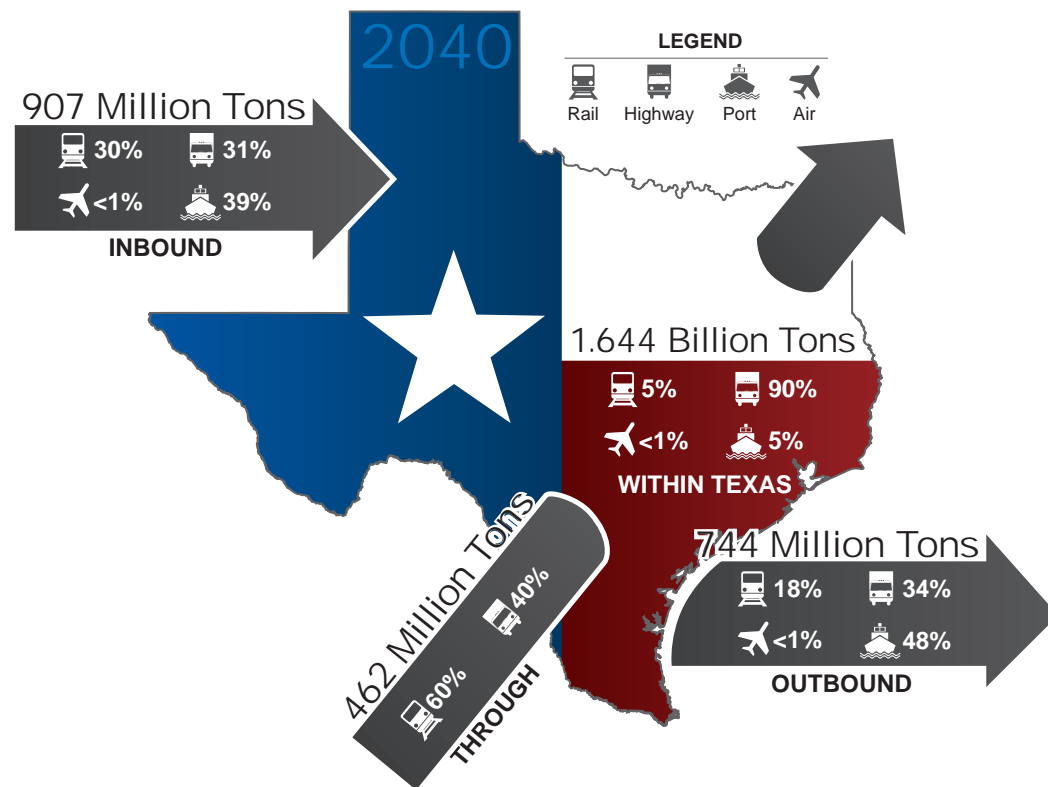
Pipelines

With over 426,000 miles of pipelines, Texas has the most extensive pipeline network in the nation. Approximately 59 percent of the state's pipeline network is intrastate and 41 percent interstate. Texas is also the destination for many of the pipelines that bring crude oil from offshore production facilities.



International Border Crossings

There are 13 truck border crossings between Texas and Mexico. During 2014, more than \$246 billion worth of goods were transported from Mexico into Texas at these border crossings; 83 percent were moved by truck, with the remainder by rail. This amounts to more than 3.7 million inbound trucks and 430,000 inbound rail containers. These numbers only reflect movements from Mexico into Texas since many ports-of-entry do not report outbound traffic. More than half the total goods crossing at a Texas-Mexico border had an origin or destination in another state.

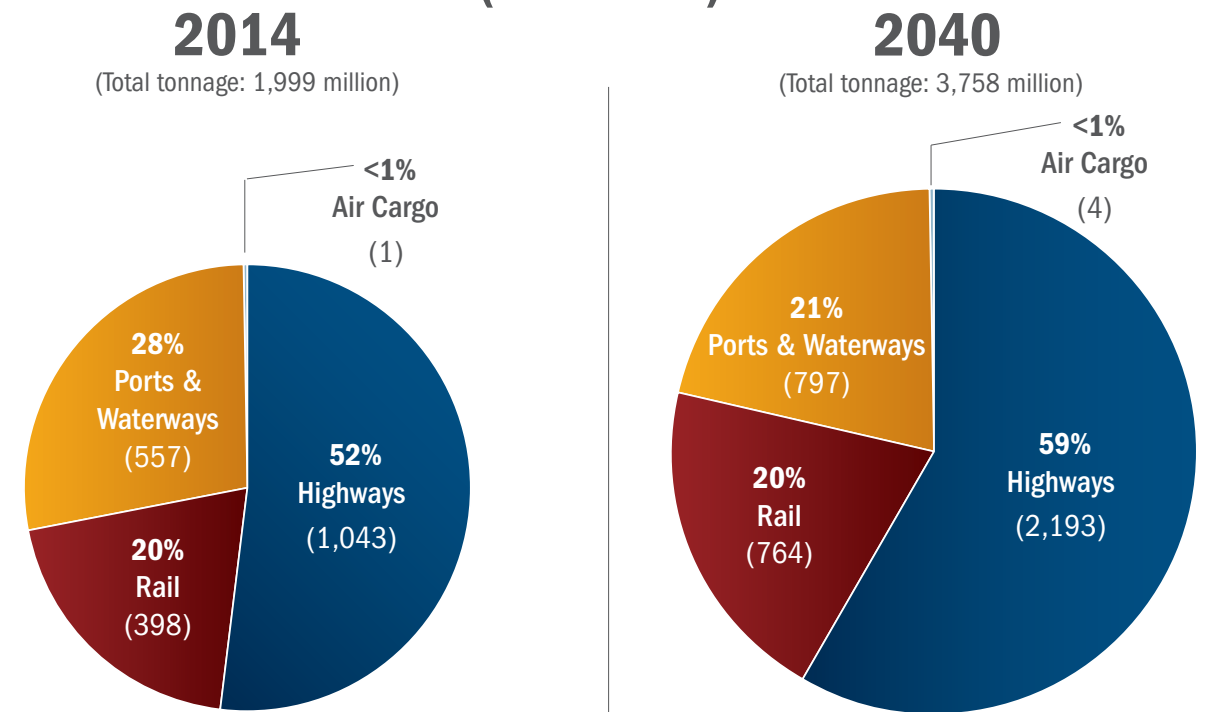


WHAT DOES THE FUTURE LOOK LIKE?

Growing demands from Texas businesses and consumers, and the rest of the U.S.; as well as increased global trade will translate into an increase in the amount and value of freight being transported on Texas' transportation system in the future.

Between 2014 and 2040, the total freight tonnage transported across Texas' freight system via highway, rail, water, and air is projected to increase by 88 percent from two billion to 3.8 billion tons, with most of the increase occurring on Texas' highways. The value of this freight is forecasted to increase from \$2.4 trillion to \$6.8 trillion during the same time frame.

Freight Tonnage by Mode (in millions)



- Truck tonnage is expected to double from 1.04 billion tons in 2014 to 2.19 billion tons in 2040. Sixty-eight percent of truck trips have an origin and destination within the state.
- Freight moved by rail is expected to increase from 398 million tons to 764 million tons by 2040, an increase of 92 percent. Through-rail movement is projected to account for 276 million tons or 36 percent of all rail movements.
- In 2014, over 557 million tons of freight was moved by water. This figure is projected to grow by 43 percent to nearly to 797 million tons in 2040.
- Air cargo is estimated to show the fastest rate of growth at 197 percent, from 1.2 million tons in 2014 to 3.6 million tons in 2040. While this rate of growth is the highest of all modes, air carries the least amount of freight by weight.

Over 61 million tons of highway and rail freight crossed the Texas-Mexico border in 2014. This figure is projected to increase to more than 182 million tons by 2040, a 196 percent increase. Approximately 96 percent of Texas' northbound freight movement by trucks in 2014 was concentrated in five gateway areas: Brownsville, Eagle Pass, El Paso, Pharr and Laredo.

INTERSTATE HIGHWAY CONGESTION AND FREIGHT GROWTH

Congestion and Truck Tonnage Growth

By 2040, congestion and truck tonnage are projected to increase significantly on interstates throughout the state, particularly those located in what's known as the Texas Triangle (Mega regions connected by IH 10, IH 35 and IH 45). The border gateways of Laredo and El Paso will also be heavily impacted, along with major manufacturing and distribution hubs, and agricultural and energy development areas such as Midland-Odessa, Amarillo, and Lubbock. The highest increase in truck volumes are projected to be on IH 35, IH 10, IH 45, and IH 40.

Increased Daily Truck Trips and Vehicle Miles Traveled

The state's growing truck tonnage will lead to increased daily truck trips and truck vehicle miles traveled (VMT); which in turn will further exacerbate congestion. In 2014, an estimated 587,900 daily truck trips occurred on Texas' roadways. This figure is projected to double to over one billion daily truck trips by 2040. This increase in truck trips will in turn mean more truck VMT on Texas roadways. In 2014, over 50 million heavy truck VMT occurred on Texas roadways. This figure is projected to increase by 89 percent, to nearly 95 million by 2040.

Deteriorating Level of Service

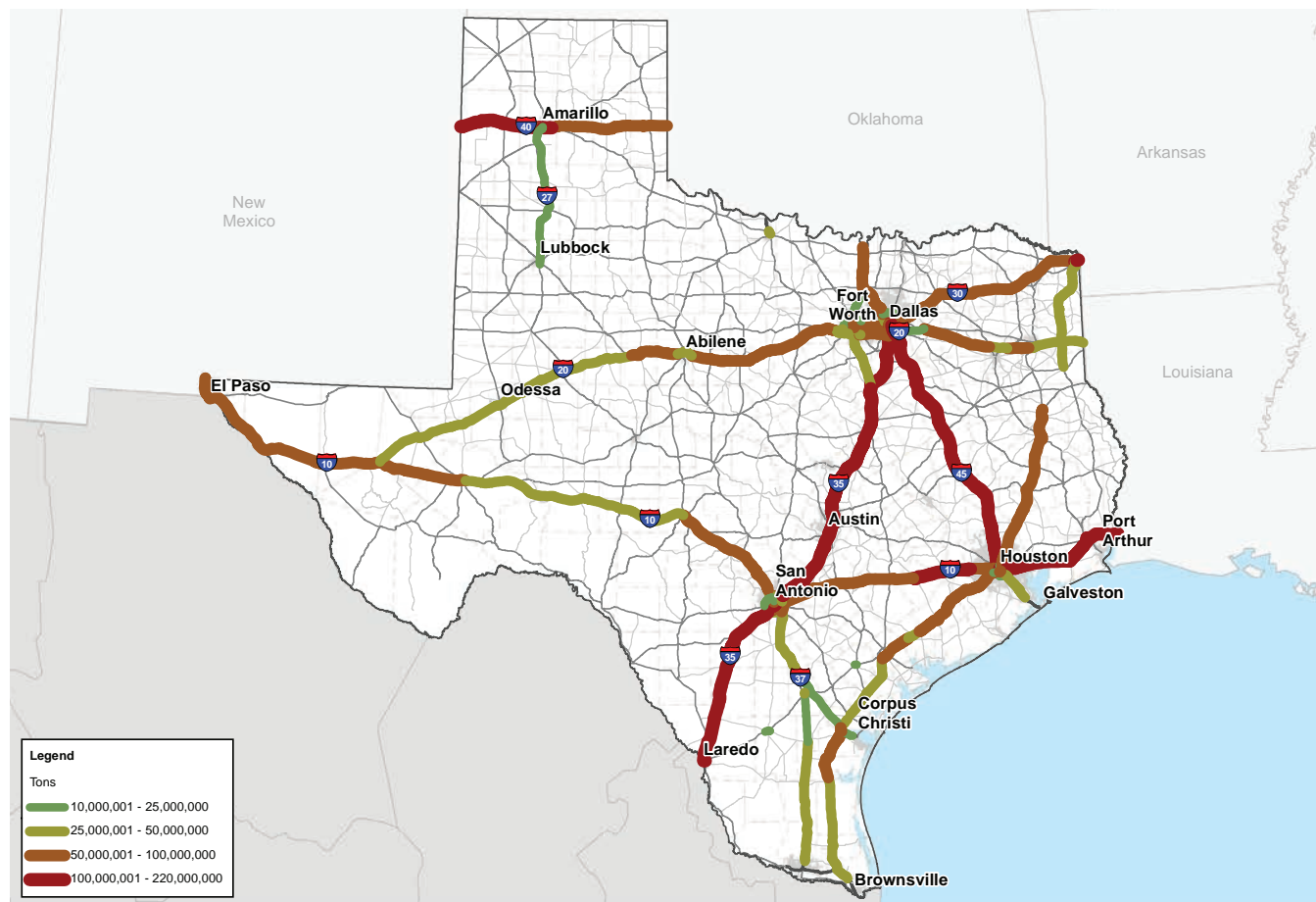
Increased congestion, truck tonnage, daily truck trips, and truck VMT on the Texas highway network; coupled with population growth and other factors, will significantly constrain the efficient movement of freight and people throughout the state. In 2014, over 19 percent of interstate centerline miles were considered deficient, by 2040 that number will grow to over 45 percent. Large stretches of interstate corridors are predicted to have inadequate Levels of Service (LOS) in 2040, including: IH 35 from Laredo to Dallas-Fort Worth, IH 45 from Houston to Dallas, IH 10 from Houston to San Antonio, IH 20 in Fort Worth to US 84 in Abilene, IH 10 from IH 20 to El Paso, US 59 from IH 20 to Houston.

By 2040, over 73 percent of Texas' population, and over 82 percent of the state's employment is projected to be located within five miles of an interstate. This concentration of population and employment demonstrates the importance of interstates to Texas' businesses and residents and the need for continued infrastructure investments.

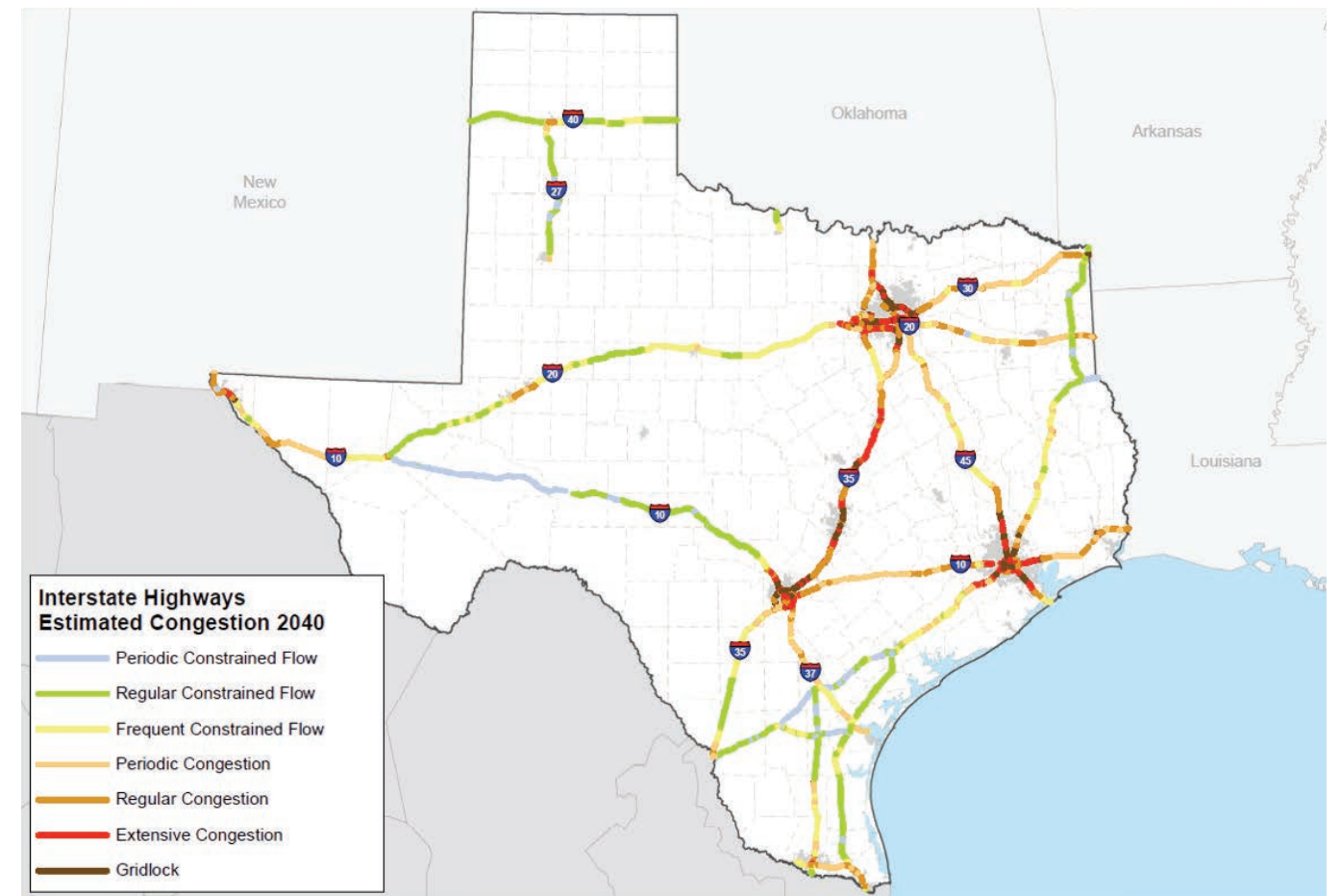
Support the Development of Other Freight Modes

These trends highlight the need to explore development and investment in modes other than highways to move both freight and people in the future for Texas to continue to be economically competitive.

Projected Texas Highway Freight Tonnage 2040



Projected Interstate Highways Congestion 2040



FREIGHT PLAN STAKEHOLDER ENGAGEMENT



TxDOT, in collaboration with a wide range of stakeholders, developed the Freight Plan to provide a guide for the future of freight transportation investments in Texas. The Texas Transportation Commission (Commission) established the Texas Freight Advisory Committee (TxFAC) in February 2013 to direct the development of the Freight Plan. TxFAC includes private and public sector leaders and modal representatives.

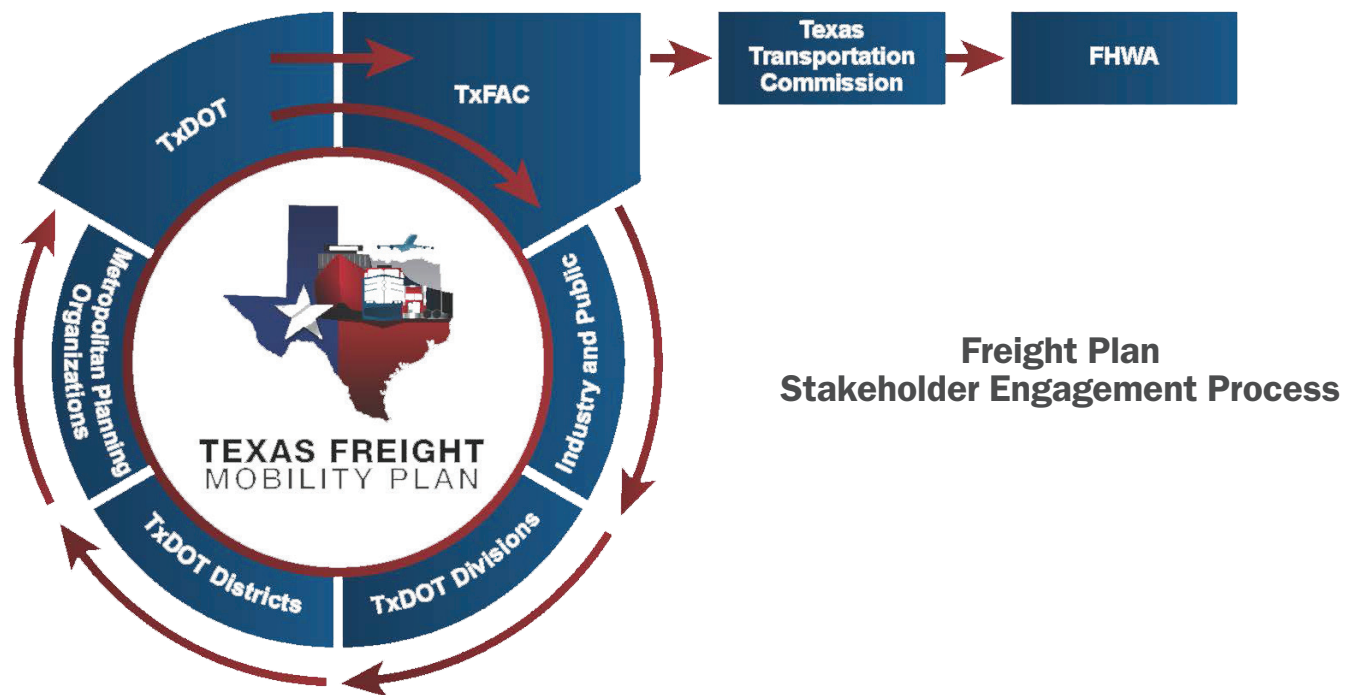
In addition to TxFAC, stakeholder listening sessions were conducted to engage public and private sector stakeholders across the state during the plan development

process. The purpose of these meetings was to gain a better understanding of freight transportation needs and challenges as well as potential solutions. More than 600 participants provided over 1,600 comments at 23 meetings across the state, to articulate their needs and challenges, and to make recommendations for improving the state's freight transportation system.

In April 2014, TxDOT hosted the first Texas Freight Leadership Summit that engaged more than 300 private sector visionaries, decision-makers, and business leaders. The summit served as a platform for freight industry leaders to provide insights on the importance of an efficient freight transportation system to helping businesses be more competitive and spur economic growth.

Another key element of the stakeholder engagement was consultation with each MPO and TxDOT district and division in the state to ensure the Freight Plan aligned with their planning and project activities, and build consensus for the plan

Finally, surveys, interviews and presentations were provided to various organizations to ensure a comprehensive public engagement effort.

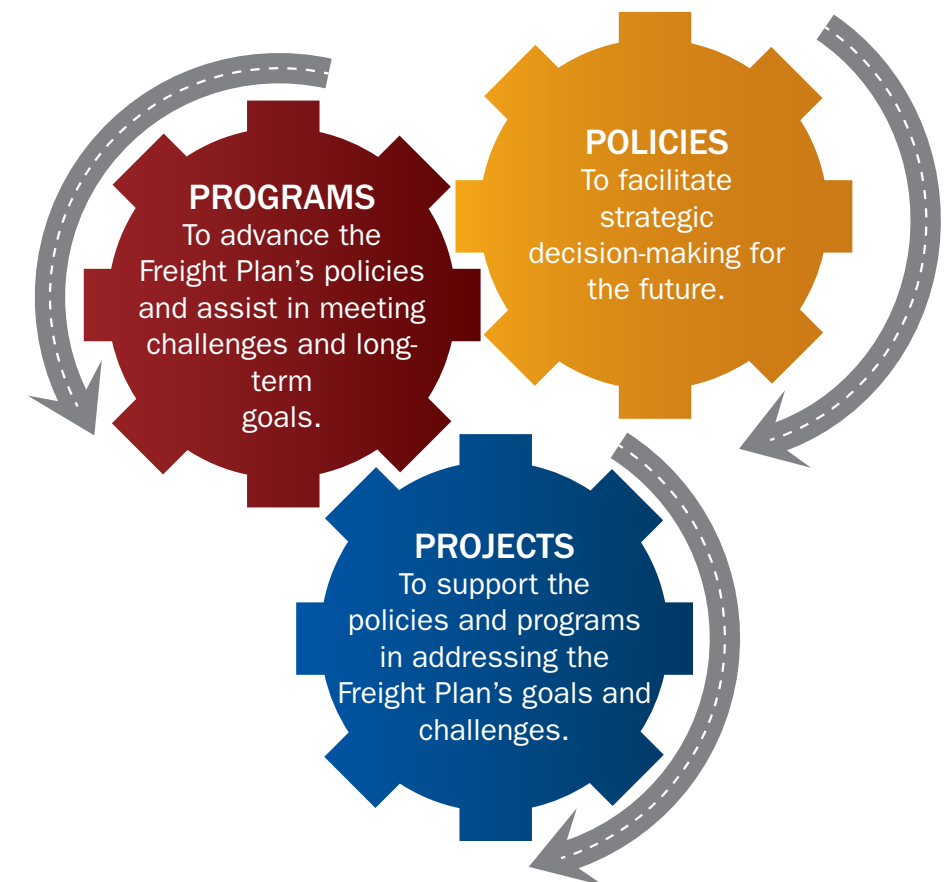


CREATING A PLAN FOR SUCCESS

The Freight Plan provides a guide for the state to meet its freight transportation needs. The Freight Plan establishes goals and strategies to guide strategic investment decisions and prioritize projects that support the state's economic development goals. The goals are aligned with national freight goals and are consistent with the TxDOT 2015 - 2019 Strategic Plan and the Texas Transportation Plan 2040. The strategies fall into three categories: policy, program and project recommendations.

The recommendations address the numerous freight transportation challenges identified in this plan. The Freight Plan focuses on short- and mid-term strategies, as well as plan for the longer term strategic freight transportation investments, needed to address future freight movements to enhance the state's economic competitiveness.

The Freight Plan recommendations will not only strengthen the state's freight and logistics industry by improving mobility, reliability, efficiency, and safety; but also support long-term growth in population, freight, trade, manufacturing, agriculture, and energy production. It is important to note that not all the recommendations outlined in the Freight Plan fall under the jurisdiction of TxDOT. Some are the responsibility of federal agencies, other state agencies, MPOs, local governments, private sector entities such as rail roads, sea ports, border/ports-of-entry, and other agencies.



Policy Recommendations

The Freight Plan’s policy recommendations are broad-based strategies designed to address the freight transportation challenges confronting Texas. These policies were developed based not only on input received from extensive stakeholder outreach which included TxFAC meetings, listening sessions, the freight leadership summit, and other outreach efforts; but also on the comprehensive analysis of data, and assessment of numerous freight transportation needs and challenges identified throughout the plan development process.

The Freight Plan includes 21 policy recommendations. These recommendations provide a strategic framework for aligning transportation investment decision making:

- Expand freight planning capacity and activities;
- Designate and invest in the Texas Freight Network;
- Modify design standards on the Texas Highway Freight Network;
- Implement a comprehensive system-wide freight planning program;
- Invest in solutions that link the different freight transportation modes;
- Identify freight transportation issues critical to rural economic development;
- Align investments in the transportation system with the state’s vision for economic growth;
- Develop Texas as a premier North American Trade and Logistics Hub and Gateway;
- Implement strategies to reduce crash rates and fatalities on the Texas Freight Network;
- Invest in the Texas Freight Network’s state of good repair, maintenance and management;
- Develop and implement innovative technologies, techniques and research methods;
- Identify and adopt strategies to improve the management of the Texas Freight Network;
- Facilitate international border coordination to improve mobility and eliminate barriers to trade;
- Identify current and future energy freight transportation needs and impacts;
- Partner with railroads to identify strategies to expand rail capacity and ease traffic congestion;
- Collaborate with maritime stakeholders to identify strategies to improve maritime freight movement;
- Integrate air cargo needs into state planning activities;
- Support strategies that address pipeline capacity needs and challenges;
- Investigate options to enhance flexibility for funding and financing freight projects;
- Coordinate with industries, and international, national, state, regional and local agencies; and
- Partner with public and private sectors to educate and build awareness of the importance of freight movement to the state’s economy.

Program Recommendations

A key component of the Freight Plan is a comprehensive outline of multimodal freight improvement program strategies that support the Freight Plan goals and policies. These program recommendations include initiatives requiring public and private sector coordination and partnership to effectively address the freight transportation challenges identified in the Freight Plan. Program recommendations include:

- Continue to develop and administer a comprehensive and multimodal TxDOT Freight Planning Program;
- Develop a freight movement public education and public awareness program;
- Develop and implement a statewide freight technology-based safety and operations program;
- Establish a Texas Border Freight Transportation and Trade Management Program;
- Develop a Texas Highway Freight Network Safety Program; and
- Develop and administer comprehensive Rail Freight, Maritime Freight and Air Cargo Development and Improvement Programs.

Project Recommendations

The multimodal freight transportation project recommendations reflect the magnitude and complexity of moving freight in Texas and investment needed to address some of the challenges identified in the Freight Plan. Implementing these project recommendations will help achieve the Freight Plan’s goals, policies, and programs. They will also help to address specific freight transportation needs identified in the Freight Plan. It is important to note that the highway recommendations are collections of projects that are already under development to primarily address passenger mobility needs; however they are identified as projects that could have direct or indirect benefits for freight mobility.

The project recommendations are comprised of over 1,200 highway, rail, port and waterway, air; as well as border/ports-of-entry projects. The total estimated cost of these projects is more than \$49 billion. A key point to note is that these projects are not fully funded, so the total cost to fully implement these projects is much higher than the \$49 billion.

The project recommendations are organized into four modal categories listed below, as well as border/ports-of-entry

Currently Defined Freight Transportation-Related Projects



878 Highway projects (71%)
Totaling \$36.6 billion (74%)



34 Rail projects (3%)
Totaling \$545 million (1%)



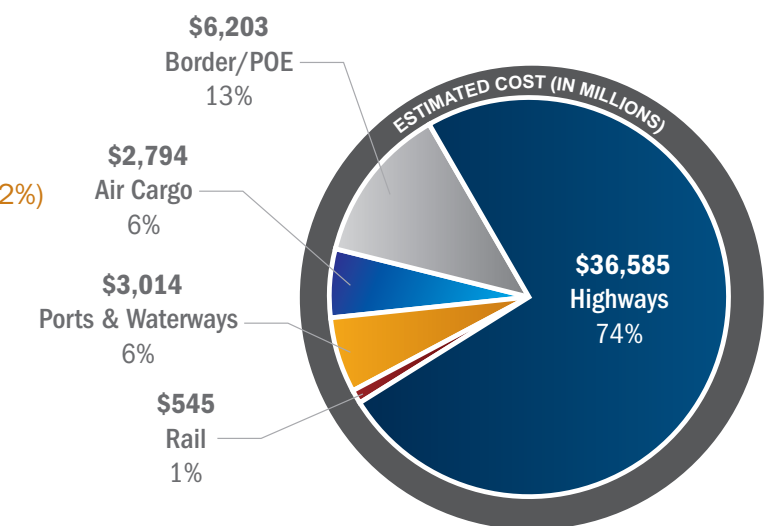
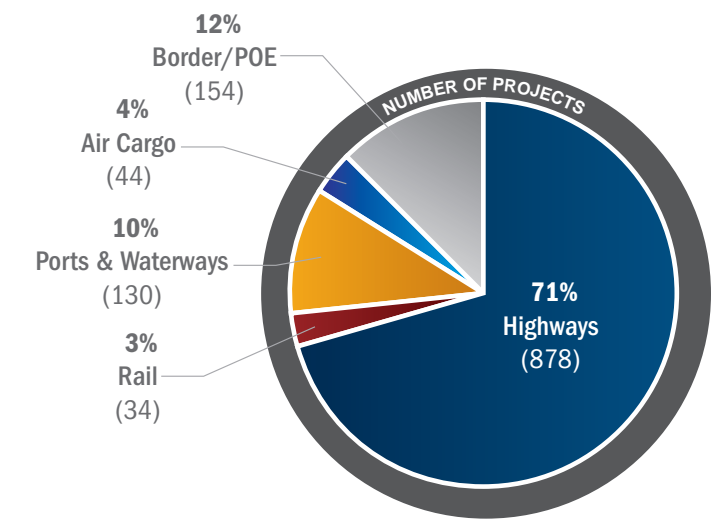
130 Port & Waterway projects (10%)
Totaling \$3 billion (6%)



44 Air Cargo projects (4%)
Totaling \$2.8 billion (6%)



154 Border/Port-of-Entry projects (12%)
Totaling \$6.2 billion (13%)



Additional Freight Transportation Needs

Although the Freight Plan outlines a significant number of freight projects under development, additional needs remain. There are numerous needs for other modes, outside of the highway needs identified. The estimated total cost of the additional highway needs is over \$25 billion. The majority of these needs are in rural areas. While specific projects have not been identified, the type of needed projects include those that address mobility and connectivity, bottlenecks, and safety; as well as alternate routes, frontage roads, bridges, at grade rail crossings, and technology.

Implementation Plan

The Freight Plan outlines a comprehensive blueprint for implementing the program and project recommendations with priority targets. The successful implementation of the Freight Plan will require extensive collaboration, coordination, and partnership between TxDOT and numerous stakeholders and partners from the public and private sectors involved in freight transportation. The implementation plan will need to be re-evaluated on a regular basis to adjust priorities to accommodate the changing dynamics of transportation needs, funding, and priorities. In addition, the success of the Freight Plan will hinge on a continuous and a sustained implementation of these recommendations.

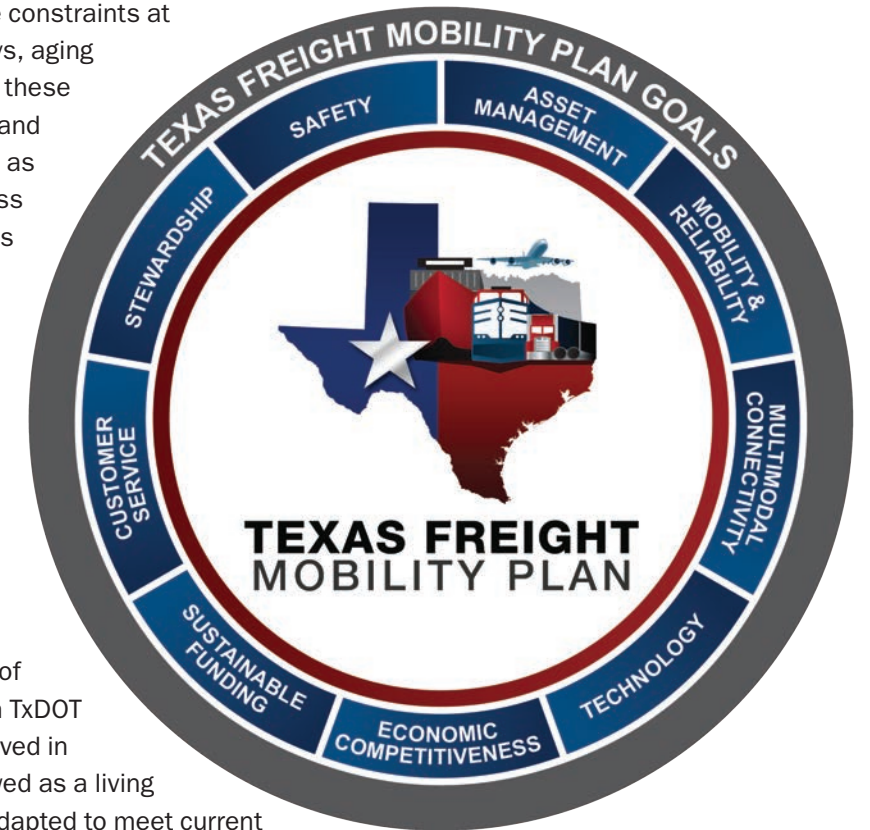
WHAT CHALLENGES REMAIN?

Between now and 2040, Texas faces many transportation challenges. These challenges include the significant increases in population, doubling of freight volumes, increasing congestion in urban areas and on major freight corridors, system capacity constraints, multimodal and rural connectivity issues, system and capacity and infrastructure constraints at international border and seaport trade gateways, aging infrastructure, and funding shortfalls. To meet these challenges of moving goods and people safely and efficiently in the future, and maintain its status as a leader in exports, international trade, business attraction and retention, and job creation, Texas must continue to make strategic investments in an efficient and safe multimodal transportation that accommodates the increase, improves freight mobility, and supports the state's economic growth and competitiveness.

The ultimate implementation of the Freight Plan is a collective incorporation of various goals that have been identified through this initial freight planning effort. The plan outlines a blueprint to achieve this vision. The success of these efforts will involve collaboration between TxDOT and numerous stakeholders and partners involved in freight transportation. This plan should be viewed as a living document that must and will be updated and adapted to meet current and future needs. The project list will be updated annually to maintain the living and dynamic nature of the Freight Plan.

Achieving the goals and objectives set forth in the Freight Plan and successful implementation of the recommendations will require TxFAC's continued involvement, follow-through, ongoing engagement, and a strong commitment by public and private stakeholders. Specifically, many of the Freight Plan's recommendations fall under the responsibility of other state and federal agencies, MPOs, local governments, private sector entities such as railroads and ports, and other organizations. A strong partnership, collaboration, and commitment among all agencies and stakeholders will be required to effectively and successfully implement the Freight Plan recommendations.

Accomplishing the goals and objectives of the plan will also require funding. The current funding shortfall in the U.S. Highway Trust Fund is expected to continue. Although Texas' economic growth has provided it an advantage over other states, transportation needs far outweigh available funds and will continue to do so. Narrowing the gap between transportation needs and available funding will require leadership, innovation and partnerships between the public and private sectors. In addition, available funding should be strategically directed toward projects on high-priority freight corridors on the Texas Freight Network.



“Available funding should be strategically directed towards projects on high-priority corridors on the Texas Freight Network, in addition to considering other state and local priorities.”

*LtGen J.F. Weber, USMC (Ret),
Former TxDOT Executive Director*

TxDOT was fortunate to have the support of TxFAC members throughout the development of the Freight Plan. Their advice and insight was instrumental in guiding the Freight Plan’s content and recommendations. Items of note highlighted by TxFAC members include the following:

- The state’s current highway system will not be able to keep pace with expected freight growth, and a comprehensive multimodal strategy is necessary to meet future demands.
- Investment in the Texas Freight System is a critical component of the state’s economy and enhances long-term economic vitality.
- TxDOT needs to work more proactively in partnership with public and private stakeholders to address freight infrastructure issues, especially other freight system owners and operators, such as railroads, ports and airports.
- Texas’ freight infrastructure system must be maintained and improved in order to preserve its position as the North American trade and logistics hub, increase exports and global trade, and foster job creation and economic development.
- The state must focus not only on improving existing facilities, but also on developing future freight corridors to move products to markets and exports.
- A balanced approach to freight transportation system improvement is required; including fostering innovative strategies and technology solutions.
- TxDOT can help leverage public and private investments to improve the larger freight transportation system.
- Freight does not stop at jurisdictional boundaries. A multi-agency and multi-institutional approach is needed to prepare and plan for future freight mobility needs.
- First- and last-mile connectors to population and business centers, freight gateways, and freight generators are critical to freight movement. TxDOT must work closely with local jurisdictions and the freight industry to minimize congestion at these connectors.
- TxDOT should continue to work with public and private sector stakeholders including TxFAC, to facilitate the successful implementation of the Texas Freight Mobility Plan.

The state must be prepared to address the increase in goods that accompany population and business growth, and international and national trade growth. This Freight Plan identifies a balanced, comprehensive, and multimodal freight transportation improvement strategy that the state should follow in order to meet future demands and maintain its position as a global gateway.



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