TEXAS FREIGHT MOBILITY PLAN 2017

EXECUTIVE SUMMARY

FINAL – MARCH 7, 2018

Texas Department of Transportation

Texas
Department
of Transportation

2017 TEXAS FREIGHT MOBILITY PLAN

EXECUTIVE SUMMARY

Purpose and Goals

The Texas Freight Mobility Plan 2017 (Freight Plan) provides the state with a blueprint for facilitating continued economic growth through a comprehensive, multimodal strategy for addressing freight transportation needs and moving goods efficiently and safely throughout the state. The plan also meets all federal requirements in the Fixing America's Surface Transportation (FAST) Act of 2015.

> ***"With one in sixteen jobs in Texas directly supported by freight transportation, the importance of setting the right course for and investing in our state's freight mobility improvements can't be overstated."***
>
> *— Ed Emmett, Harris County Judge*

Purpose of the Freight Plan

Identifying multimodal challenges, policies, programs, investment strategies and data needed to enhance freight mobility; to provide efficient, reliable and safe freight transportation; and to improve the state's economic competitiveness.

Freight Plan Goals

Safety
Improve multimodal freight transportation safety.

Economic Competitiveness
Improve the contribution of the Texas freight transportation system to enhance economic competitiveness, productivity and development of the state.

Asset Preservation and Utilization
Maintain and preserve freight infrastructure assets using cost-beneficial treatment.

Mobility and Reliability
Reduce congestion and improve freight system efficiency and performance.

Multimodal Connectivity
Provide transportation choices and improve system connectivity for all freight modes.

Stewardship
Manage environmental and TxDOT resources responsibly and be accountable in decision-making.

Customer Service
Understand and incorporate citizen feedback in decision-making processes and be transparent in all TxDOT communications.

Sustainable Funding
Identify sustainable funding sources for all freight modes.

Freight Drives the Texas Economy

Goods movement is the foundation of the Texas economy. Texas' ability to maintain its position as a leader in the global economy depends on the strength of its multimodal freight transportation system.

In 2016, more than 2.2 billion tons of freight – 20 tons per household and 12,700 tons per business – moved within Texas, thanks to:

- ***A robust economy;***
- ***Population growth;***
- ***Increased trade; and***
- ***Continued energy production.***

The efficient and cost-effective movement of goods plays a critical role in the state's economy. Texas has the second largest economy in the U.S. and relies on its multimodal transportation system to ensure continued economic prosperity.

- ***If Texas were a nation, it would rank as the 10th largest economy in the world.***
- ***The economic impact of freight handling businesses in Texas is significant, supporting 1 in every 16 jobs in the state.***
- ***Texas is No. 1 in the nation for exports for 14 consecutive years.***

2016 Freight Volume

20
tons per household

12,700
tons per business

Total Economic Impact of Freight Transportation in Texas

2.2 million full-time jobs	*Highway:* **>1 million** *Railroads:* **>56,000** *Ports & Waterways:* **>116,000**	*Air:* **>7,600** *Pipelines:* **>132,000** *Other:* **>800,000**
$145 billion wage income	*Highway:* **$60.7 billion** *Railroads:* **$4.5 billion** *Ports & Waterways:* **$8.3 billion**	*Air:* **$586 million** *Pipelines:* **$20 billion** *Other:* **$50.8 billion**
$215 billion in Gross State Product	*Highway:* **$85.7 billion** *Railroads:* **$7.7 billion** *Ports & Waterways:* **$14.6 billion**	*Air:* **$946 million** *Pipelines:* **$18.1 billion** *Other:* **$88.0 billion**
$49 billion in tax revenue	*Highway:* **$18.4 billion** *Railroads:* **$1.6 billion** *Ports & Waterways:* **$3.0 billion**	*Air:* **$256 million** *Pipelines:* **$4.9 billion** *Other:* **$20.8 billion**

Freight Supports the State's Industries

In addition to being a sizeable industry itself, the multimodal freight transportation network also supports other key industries throughout Texas including agriculture, energy, manufacturing, defense, construction and distribution. The multimodal network provides Texas businesses with access to domestic and global supplies, facilities and markets.

Texas Grows

In 2016, Texas was the nation's No. 1 producer of cattle and cotton and No. 3 for all agriculture in terms of value sold.

In 2016 nearly a quarter million farms and ranches exported $6.3 billion.

Relies on trucks, rail, barges, ships.

Significant impact on rural roadways.

Texas Extracts and Refines

974 million barrels of oil in 2016.

8.1 trillion c. ft. of natural gas in 2016.

42% of U.S. petrochemical capacity and 29 percent of refining capacity.

Relies on trucks, rail, barges, ships.

Significant impact on rural roadways.

Texas Manufactures

In 2016, $250 billion in output.

866,700 jobs.

$230 billion in exports.

Relies on all modes.

All 6 of the Governor's Strategic Industries have a manufacturing component.

Accounts for 90% of Texas exports.

Texas Protects

15 military installations.

2 of the nation's major troop deployment sites.

No. 2 in number of active military personnel.

Port of Beaumont and Port of Corpus Christi are strategic military ports.

Relies on all modes.

Texas Builds

In 2016, Texas was No. 1 in new housing starts with nearly 166,000, accounting for 14% of U.S. total.

Commercial and industrial construction spending in 2015 was nearly $38 billion.

$1.1 billion in roadway construction in 2016.

$217.2 million 2017-2018 Port Capital Program.

Over $700 million in planned capital investments by Class 1 railroads.

Relies on all modes.

Texas Distributes

Home to some of the largest inland ports in the U.S.

$112.5 billion in exports in 2016.

$91.3 billion in imports in 2016.

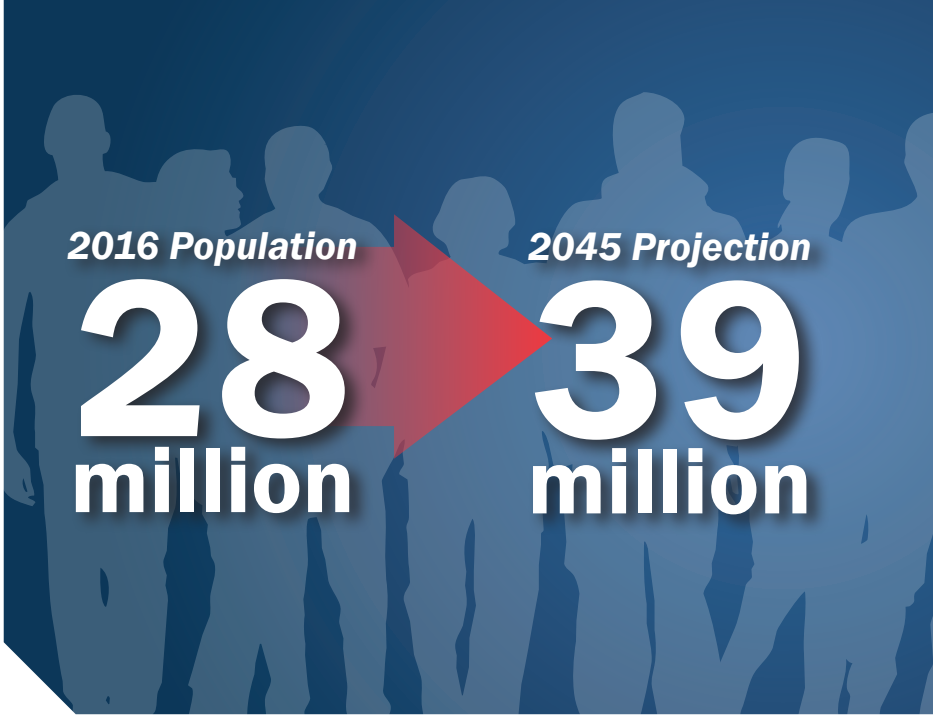
No. 1 state trading partner with Mexico in 2016.

Wholesale and retail trade accounts for 14% of Gross State Product.

Relies on all modes.

Freight Supports the State's Growing Population

Population growth is a significant factor that affects freight growth in Texas because residents consume commodities that must be transported throughout the state and beyond. Texas is the second most populated state in the nation, with about 28 million people in 2016 and an additional 11 million by 2045. This equates to an average of 1,000 people moving to Texas daily. Texas' population is also expected to concentrate in urban areas and existing population centers.



Trends Shaping the State's Freight Transportation Future

Understanding the trends driving the demand for freight transportation is critical to projecting and addressing future needs and challenges on the Texas freight network. By identifying significant freight demand trends and issues, TxDOT, along with federal and other state agencies, private sector and local transportation agencies, can establish freight transportation policies and investment priorities and plan and execute appropriate strategies to promote safe, efficient freight mobility today and in the future. There are numerous trends that will impact the demand for freight but some of the most important in Texas include:

Trade and Employment

Trends:

- Growing international trade markets
- Expanding trade through the Panama Canal
- Diversifying and growing employment

Demographics

Trends:

- Continuing population growth
- Increasing urbanization

Energy

Trends:

- Growing oil and gas production
- Expanding renewable energy
- Increasing alternative fuels

Technology

Trends:

- Expanding use of Intelligent Transportation Systems (ITS)
- Emerging autonomous vehicles
- Adopting of alternate delivery systems
- Increasing demand for same-day delivery

Business and Consumer Practices

Trends:

- Changing sourcing patterns
- Advancing manufacturing technologies
- Increasing e-commerce

Policies and Regulations

Trends:

- Changing Federal, state and local policies and regulations
- Evolving trade, carrier and freight industry regulations
- Shifting environmental and security policies and regulations

Texas Freight Transportation Needs and Challenges

Freight transportation needs and challenges were identified by assessing existing conditions, projecting future needs based on forecasts of freight movement in 2045, and stakeholder input.

Congestion

Cost Texas industry $5 billion in 2015.

Texas was home to 6 of the top 25 U.S. freight bottlenecks in 2016.

Dallas-Fort Worth and Houston are top 10 in U.S. for trucking congestion costs.

Lack of alternate routes.

System Operations

Lack of ITS infrastructure on the Texas Highway Freight Network.

Lack of statewide traffic management center.

Lack of freight network operational plan.

Safety

Over 23,000 truck involved crashes in 2016.

232 at-grade rail crossing crashes in 2016 with 20 fatalities.

Shortage of truck parking and lack of real-time data on parking availability.

Asset Preservation

On the Texas Highway Freight Network:

76 bridges in poor or worse condition.

13 bridges with weight restrictions.

291 bridges with vertical clearance under 15 feet.

Rural Connectivity

Many critical first and last mile connectors have obsolete design.

Continued agriculture and energy activity can strain infrastructure.

Lack of alternate routes.

Multimodal Connectivity

Many intermodal connectors are in highly congested urban areas.

Coordination among the various modes and agencies.

Condition of first- and last-mile connections to ports and other intermodal facilities.

International Border Crossings

Lack of coordinated border crossing management.

Long and unpredictable border wait times impact competitiveness.

Increasing border trade leading to bottlenecks on access routes.

Public Awareness/ Education

Lack of awareness of freight transportation safety issues.

Lack of awareness of the role of freight transportation.

Lack of awareness of cost and funding challenges for freight projects.

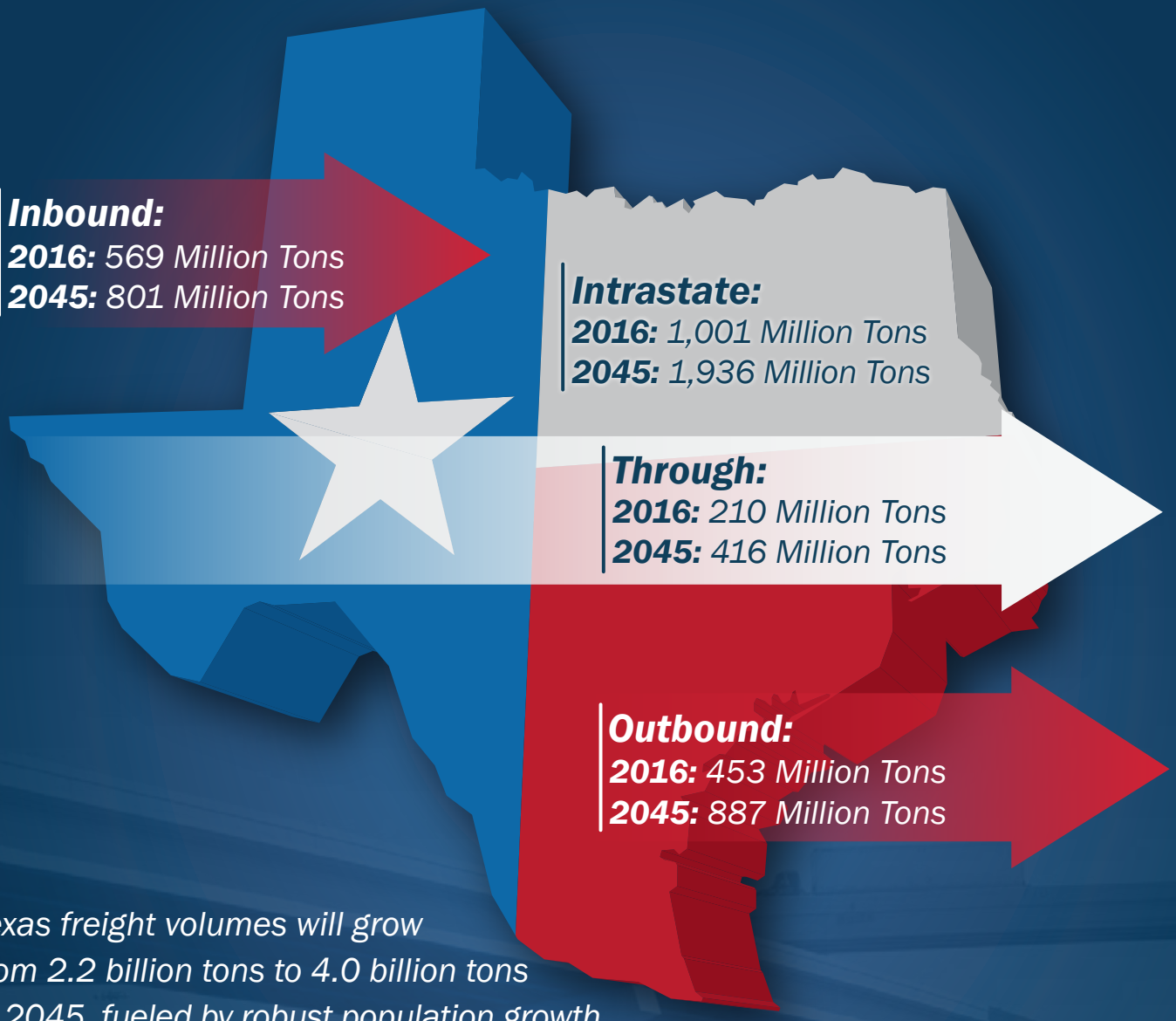
Funding

Lack of flexibility in existing funding sources.

$66 billion in freight project costs.

$40 billion in funding gap.

More growth leads to more freight across all modes of transportation



Texas freight volumes will grow from 2.2 billion tons to 4.0 billion tons in 2045, fueled by robust population growth.

- *Goods moved from origins and destinations within the state are projected to nearly double*
- *Goods moving through the state represent the smallest share of total freight tonnage at about 10%. This compares to over 50% for most neighboring states.*

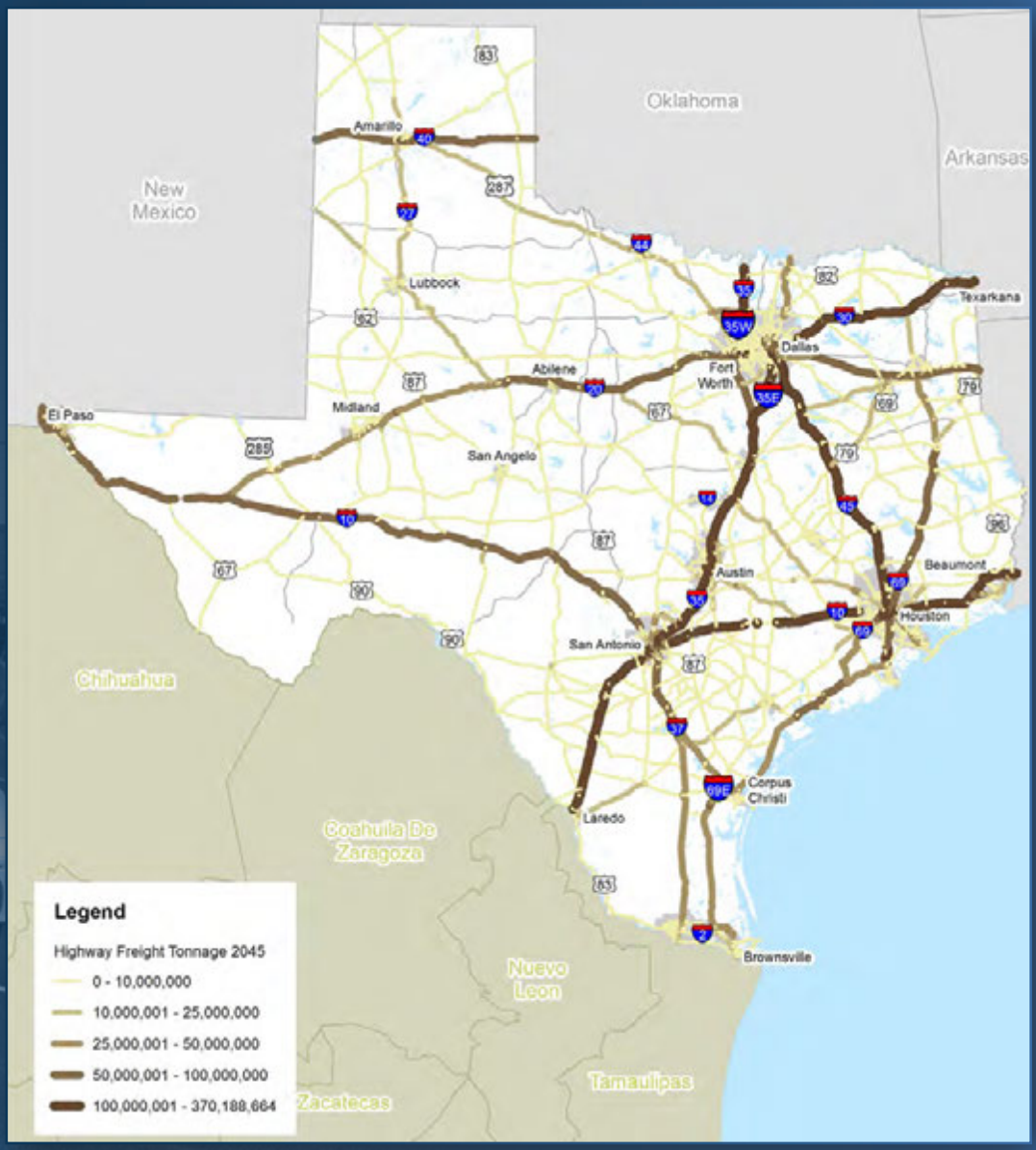
Congestion and Truck Tonnage Growth

By 2045, 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 (the megaregion connected by I-10, I-35 and I-45). The border gateways of Laredo, El Paso, and the Rio Grande Valley 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 I-35, I-10, I-45, and I-40.

Increased Daily Truck Trips and Vehicle Miles Traveled

The state's growing truck tonnage will lead to increased daily truck trips and truck miles traveled; which in turn will further exacerbate congestion. In 2016, an estimated 745,800 daily truck trips occurred on Texas' roadways. This figure is projected to increase by nearly 50% to over one million daily truck trips by 2045. This increase in truck trips will in turn mean more truck miles traveled on Texas roadways.

Projected Freight Tonnage 2045

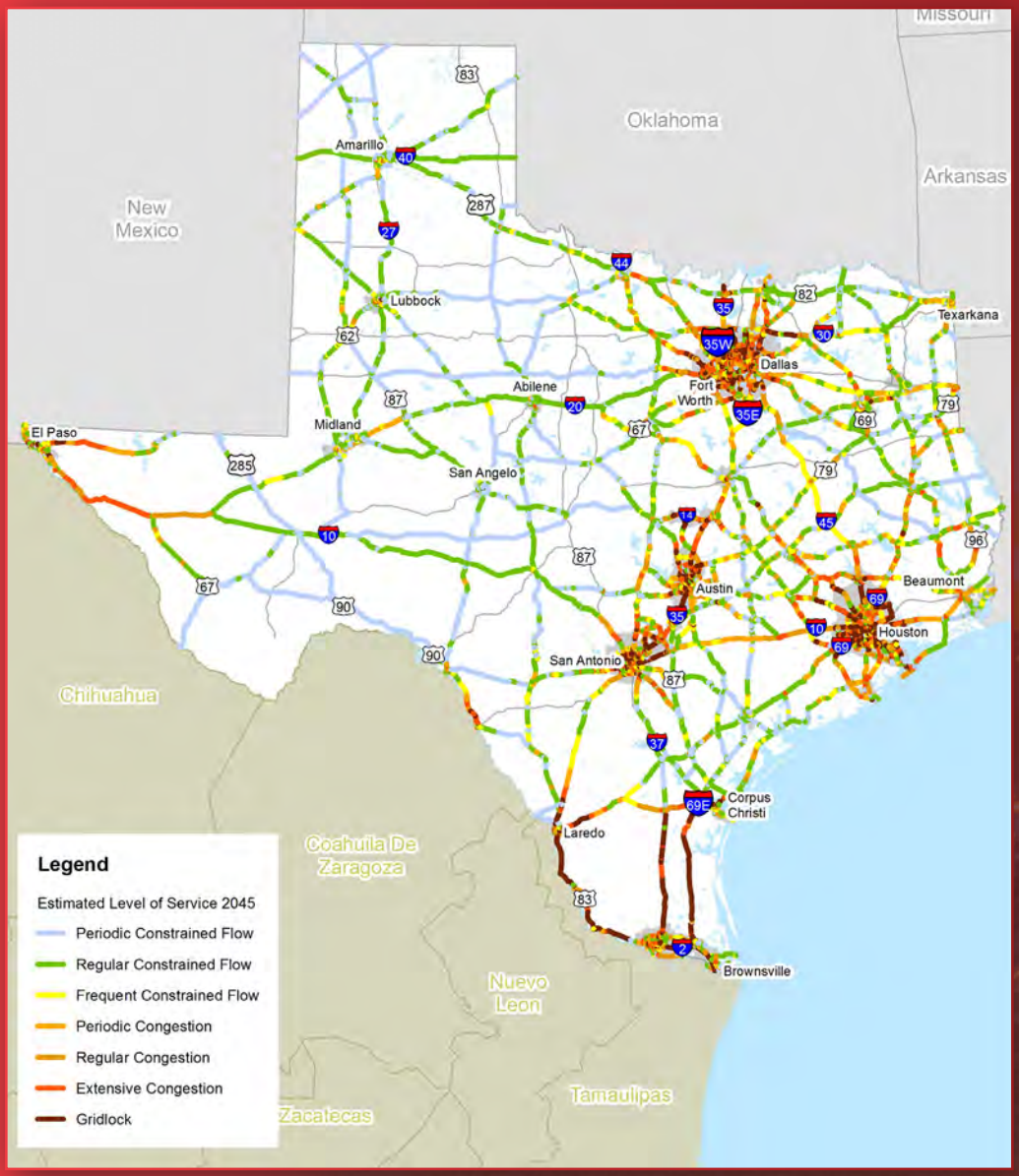


Deteriorating Level of Service

Increased congestion, truck tonnage, daily truck trips and truck-miles traveled on the Texas interstate system, coupled with population growth and other factors, will significantly constrain the efficient movement of freight and people throughout the state. Large stretches of interstate corridors are predicted to have inadequate Levels of Service (LOS) in 2045, including: I-35 from Laredo to Dallas-Fort Worth, I-45 from Houston to Dallas, I-10 from Houston to San Antonio, I-20 in Fort Worth to US 84 in Abilene, and I-10 from I-20 to El Paso. This congestion on the state's interstate system demonstrates the impact on Texas' businesses and residents and the need for continued infrastructure investments.

Support the Development of Other Freight Modes

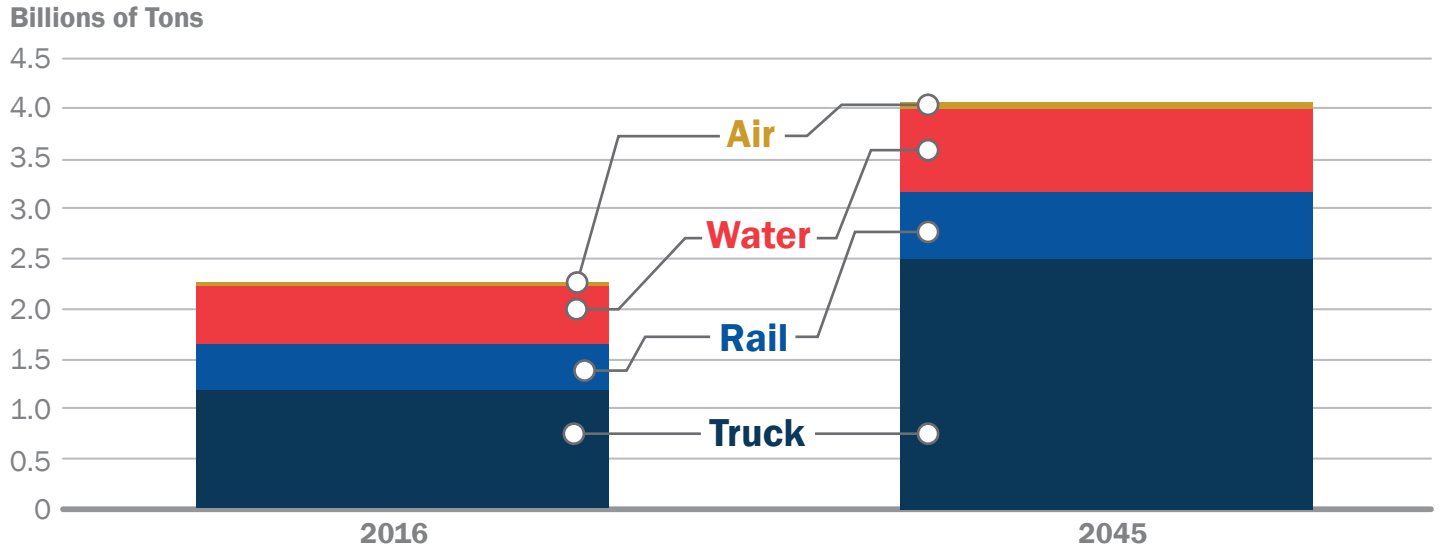
These trends highlight the need to explore development and investment in modes other than highways to move both freight and people in the future for Texas to continue to be economically competitive.



Projected Highway Congestion 2045

Texas Freight Tonnage by Mode

Freight is projected to grow significantly across all modes, and investment needs to keep pace to accommodate current and future demand.



Highway

Highway tonnage is expected to double from 1.2 billion tons in 2016 to 2.5 billion tons in 2045 - a projected increase of 1.3 billion tons and growth of 108%. During this period, value is forecasted to grow by 213% from $1.7 trillion to $5.2 trillion.

Rail

Rail is expected to increase from 441 million tons in 2016 to 668 million tons by 2045 — a projected increase of 227 million tons and a growth of 51%. Rail value is projected to increase by 102% from $719 billion in 2016 to $1.5 trillion in 2045.

Water

Water tonnage is projected to grow from 598 million tons in 2016 to 889 million tons by 2045 — an increase of 291 million tons and a growth of 49%. This expected tonnage growth results in a 65% increase in value during the same period from $501 billion to $828 billion.

Air

Air is estimated to yield the fastest growth, from 1.8 million to 4.2 million tons — an increase of 2.4 million tons between 2016 and 2045 representing a 129% growth. While the growth rate is the highest of all modes, air carries the least amount of freight by tonnage at less than 1% of all freight. The value of air cargo is forecasted to increase from $11 billion to $37 billion — a 225% increase.

Modal Shifts

The types of commodities being moved and the originations and destinations of those moves impact modal choice and modal shifts. The forecast does not account for modal shifts. The resulting share of tonnage between modes changes because of relative growth rates, with highway tonnage outpacing other modes due to its strength in the intrastate market. However, factors such as increased highway congestion, industry challenges such as truck-driver shortages and the potential for new services from other modes mean the forecast might understate growth in non-highway modes as shippers seek alternatives.

A Stakeholder-Informed Freight Plan

TxDOT, in collaboration with a wide range of stakeholders, developed the Freight Plan to guide current and future freight transportation investment strategies in Texas.

- *The Texas Freight Advisory Committee (TxFAC)*
- *Two rounds of stakeholder workshops in 12 cities throughout the state*
- *TxDOT districts and divisions*
- *Metropolitan Planning Organizations (MPOs)*
- *Departments of transportation in Arkansas, Louisiana, New Mexico and Oklahoma*
- *General public*
- *Partners in Mexico*

TxFAC
KEY ROLE (Review, Revise, Approve)

Goals & Objectives
Needs and Challenges
Texas Highway Freight Network
Critical Urban and Rural Corridors
Performance Measures
Project Prioritization
Key Policies
Final Freight Plan

Workshops (Round 1)
KEY ROLE (Experiences, Knowledge, Recommendations)

Current Conditions
Future Conditions
Texas Highway Freight Network Designation

Surveys and Interviews
KEY ROLE (Experiences, Knowledge, Recommendations)

Modal Challenges
Identification and Verification of Trends

Webinars with MPOs and TxDOT Districts
KEY ROLE (Expertise, Corridor Designation, Knowledge)

Texas Highway Freight Network Designation
Critical Urban Freight Corridor Designation
Verification of Data and Trends

Workshops (Round 2)
KEY ROLE (Expertise, Corridor Designation, Knowledge)

Critical Rural Freight Corridors
Needs Assessment Criteria
Project Selection and Prioritization Criteria

Stakeholder Meetings
9 TxFAC meetings
23 stakeholder workshops in 12 cities
3 MPO webinars plus individual meetings
2 TxDOT District Webinars
Meetings with railroads, ports and border regions
Coordination calls with neighboring states

DELIVERING THE GOODS IN TEXAS

Texas Multimodal Freight Network (TMFN)

A key outcome of the 2017 Freight Plan is the designation of the Texas Multimodal Freight Network (TMFN). The network consists of key roadways (the Texas Highway Freight Network), railroads, ports and waterways, airports and international border crossings. The multimodal network outlines the key corridors that facilitate the efficient and safe movement of goods in Texas and are most critical for focusing investment.

313,000 roadway centerline miles
- **21,861** miles on the Texas Highway Freight Network
  - **745** miles of Critical Rural Freight Corridor
  - **372** miles of Critical Urban Freight Corridor

Transporting **1.2** billion tons

10,539 miles of railroads on the TMFN
- **3** Class I railroads
- **49** Class III or shortline railroads

Transporting **441** million tons

21 ports and the Gulf Intracoastal Waterway system
- **12** deepwater ports
  - **9** included on TMFN
- **9** shallow draft ports
  - **1** included on TMFN
- **379** miles of GIWW, all on TMFN

Transporting **598** million tons

24 commercial airports
- **7** air cargo airports on TMFN

Transporting **1.8** million tons

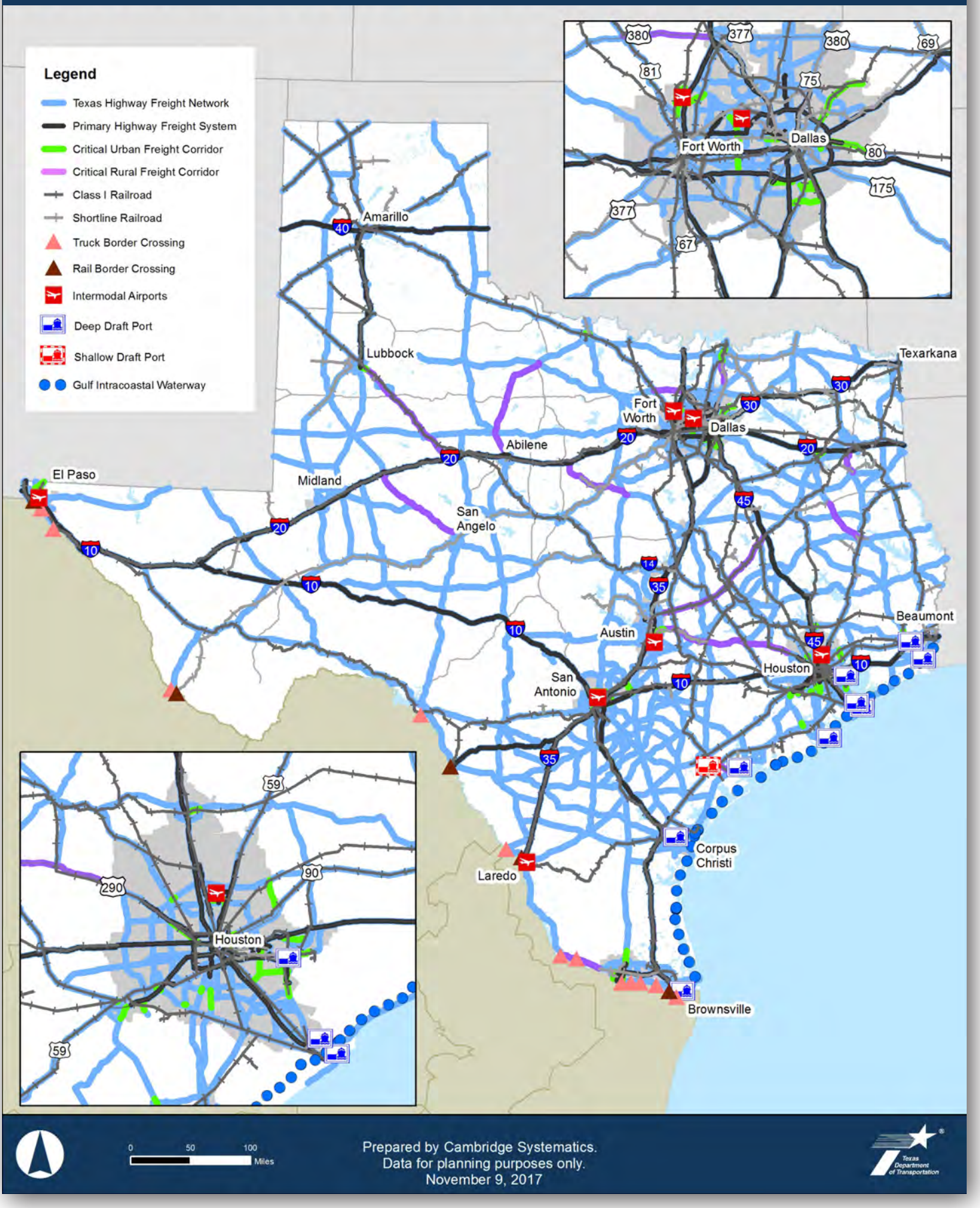
426,000 miles of pipeline
- **59%** intrastate
- **41%** interstate

Transporting **837** million tons

20 commercial international border crossings, all on the TMFN
- **15** commercial vehicle crossings
- **5** rail crossings

Facilitating **73.5** million tons

The Texas Multimodal Freight Network



Freight Plan Recommendations

Policies

- *Regulatory*
- *Institutional*

Programs

- *TxDOT internal processes*
- *External programs*

Projects

- *Under development*
- *Proposed projects*
- *Strategic projects*

Planning and Investing for Success

The Freight Plan provides a guide for the state to address its freight transportation needs. The Freight Plan establishes goals and strategies to guide strategic investment decisions and prioritize projects that support the state's transportation and economic development goals. 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 plans for the longer term strategic freight transportation investments, needed to address future freight movements to enhance the state's economic competitiveness.

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 railroads, ports, border ports-of-entry, and other agencies.

The recommended multimodal freight improvement strategy outlines statewide freight policy, program enhancements, and projects that will:

- Strengthen the freight and logistics industry in Texas by promoting a multimodal approach to freight mobility, reliability, efficiency and safety.
- Support long-term population, freight and economic growth, economic competitiveness and quality of life.
- Preserve, enhance and grow the Texas Multimodal Freight Network.

There are 22 freight policy recommendations, 13 freight program recommendations and over 2,500 multimodal projects identified in the 2017 Freight Plan. Implementing these recommendations will address freight transportation needs identified in this Freight Plan.

Freight Policy Recommendations

There are 22 freight policy recommendations that cover:

- TxDOT Freight Planning Capacity and Activities
- Multimodal Freight Network Designation and Investment
- Texas Highway Freight Network Design Guidelines and Implementation
- Multimodal Freight Planning, Programming and Implementation
- Multimodal Connectivity
- Rural Connectivity
- Urban Freight Movement
- Economic Development and Economic Competitiveness
- Texas as a Global Trade and Logistics Hub and Gateway
- Safety, Security and Resiliency of the Freight Transportation System
- Freight Transportation Asset Preservation
- Freight-Based Technology Solutions and Innovation
- Stewardship and Project Delivery
- International Border Crossings
- Energy Sector Development Transportation
- Rail Freight Transportation
- Port and Waterway Freight Transportation
- Air Cargo Transportation
- Pipeline Infrastructure
- Funding and Financing
- Institutional Coordination and Collaboration
- Public Education and Awareness

Freight Program Recommendations

The program recommendations support the policies outlined above and address the freight transportation challenges identified in the Freight Plan. Key program recommendations include:

- Continue to administer a comprehensive and multimodal TxDOT Freight Planning Program
- Develop a freight movement public education and public awareness program
- Develop and implement a statewide, technology-based freight safety and operations program
- Implement freight centric design guidelines
- Develop the Texas Highway Freight Network with freight-centric programs for Safety, Bridge Reconstruction, Interchange Reconstruction, and Statewide Construction Management and Coordination
- Develop a Statewide Commercial Vehicle Traffic Center and Incident Management Program

Freight Project Recommendations

The multimodal freight transportation project recommendations reflect the magnitude and complexity of moving freight in Texas and investment needed to address the challenges identified in the Freight Plan. There are over 2,500 planned multimodal projects at an estimated cost of $66 billion in the Freight Plan. Implementing these project recommendations will not only help achieve TxDOT's goals for safe and efficient freight transportation but also enhance the state's economic competitiveness. Project recommendations are divided into two components:

- ***Unconstrained Freight Investment Plan***
- ***5-Year Financially Constrained Freight Investment Plan***

The Unconstrained Freight Investment Plan

The Unconstrained Freight Investment Plan contains all planned and proposed freight projects in the Freight Plan. This includes planned TxDOT projects from the 2018 Unified Transportation Program and Project Tracker, public- and private-sector rail projects, stakeholder proposed projects, and strategic projects of statewide significance.

There are 2,594 multimodal freight projects costing an estimated $66 billion. These projects include planned highway and rail projects as well as proposed projects, many of which are multimodal.

The Unconstrained Freight Investment Plan identifies 2,370 planned highway projects for an estimated cost of $64.7 billion. $24.5 billion of funding has been identified, leaving a $40.2 billion shortfall. Additional proposed projects are estimated to bring the total cost to $66 billion or more.

Planned Highway Projects in the Unconstrained Freight Investment Plan

Priority	Partially Funded				Fully Funded			
	Number of Projects	Percent of Projects	Cost (Millions)	Percent of Cost	Number of Projects	Percent of Projects	Cost (Millions)	Percent of Cost
High	259	32%	$28,540	63%	444	28%	$10,839	57%
Medium	412	50%	$13,830	30%	790	51%	$6,265	33%
Low	143	18%	$3,275	7%	322	21%	$1,909	10%
Total	*814*	*100%*	*$45,645*	*100%*	*1,556*	*100%*	*$19,014*	*100%*

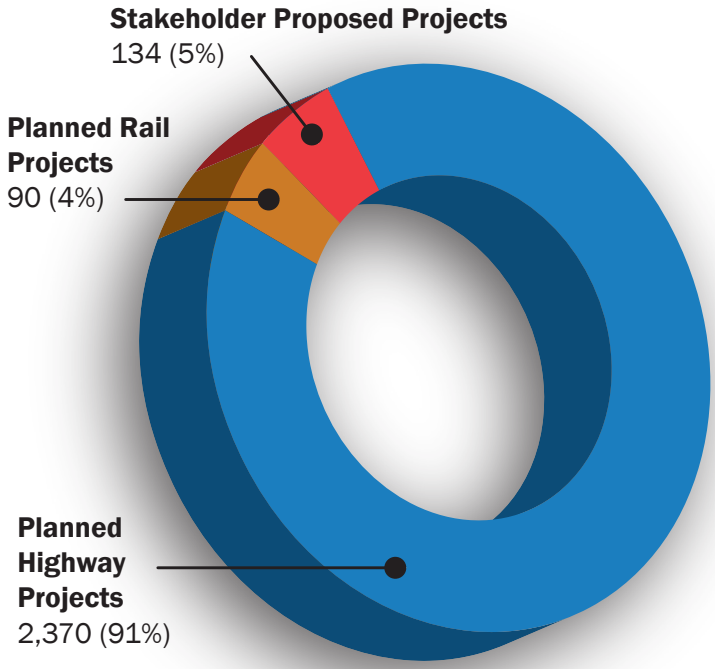
There are 259 high priority highway freight projects that are partially funded. These projects have a total cost of $28.5 billion and a shortfall of $24.9 billion.

There are 90 rail projects costing over $1.3 billion. Seven of these projects are fully funded projects to rehabilitate the South Orient Railway. The funding comes from TxDOT, a federal FASTLANE grant and a matching contribution from a private sector rail company. The remaining projects may require private sector involvement and are not yet fully funded.

Planned Rail Projects in the Unconstrained Freight Investment Plan

	Partially Funded		Fully Funded		Total	
	Number of Projects	Cost (Millions)	Number of Projects	Cost (Millions)	Number of Projects	Cost (Millions)
Total	*83*	*$1,279*	*7*	*$30*	*90*	*$1,309*

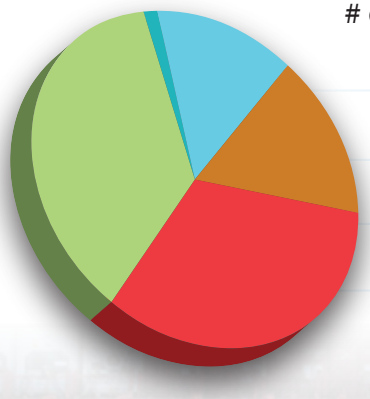
Unconstrained Freight Investment Needs



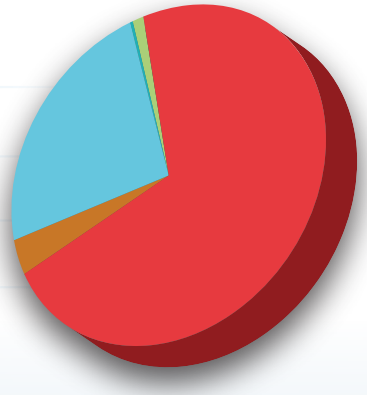
The Freight Plan Identifies Unconstrained Freight Investment Needs

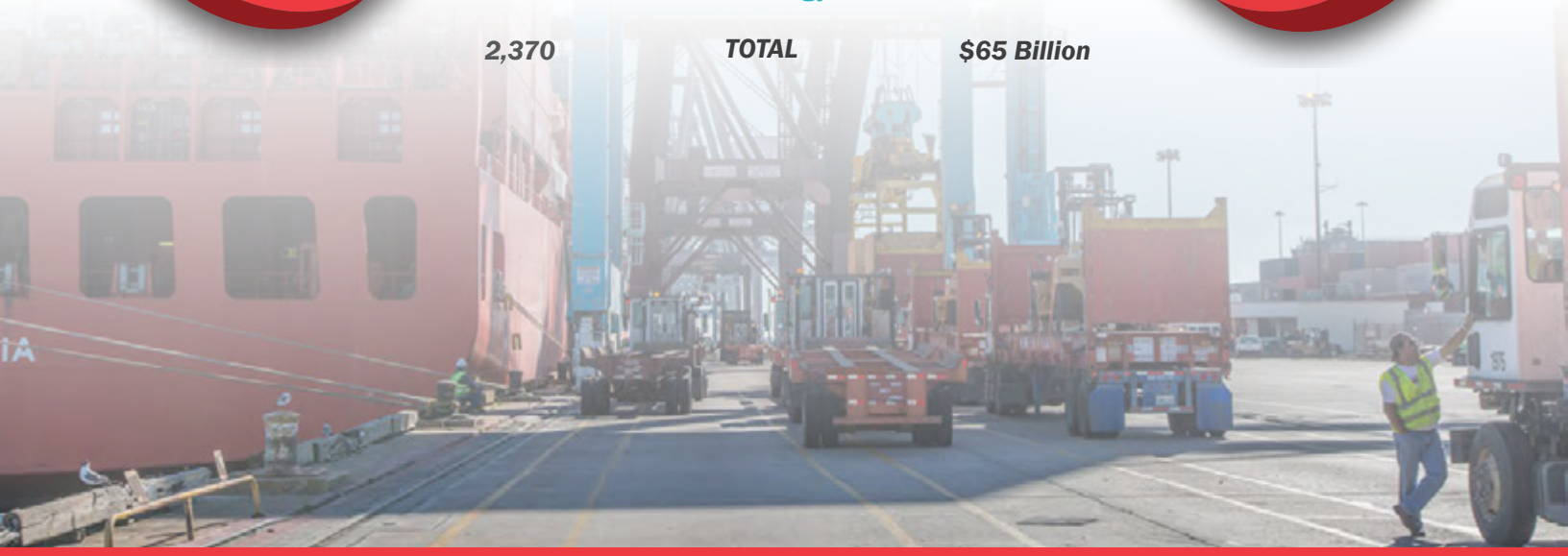
2,594 projects with an estimated cost of **$66 billion**

Summary of Highway Projects in the Unconstrained Freight Investment Plan by Need



# of Projects		Cost
325	**Alternative Routes**	$16 Billion
370	**Asset Preservation**	$2 Billion
801	**Mobility and Reliability**	$46 Billion
847	**Safety**	$693 Million
27	**Technology**	$159 Million
2,370	***TOTAL***	***$65 Billion***





Proposed Freight Projects

In addition to the planned projects in the Unconstrained Freight Investment Plan, projects that are not yet in any TxDOT or MPO plans were proposed by the TxFAC, ports, railroads, MPOs, and stakeholders throughout the state. Some of these projects were proposed to meet existing needs while others focused on meeting future or anticipated needs. These projects provide multimodal access to border crossings, ports, airports, intermodal rail yards, energy development and agricultural areas.

There are 134 proposed unplanned freight projects in the Unconstrained freight Investment Plan, including:

- ***65 projects** from the 23 stakeholder workshops held throughout the state.*
- ***47 projects** from the ports costing an estimated $1.8 billion.*
- ***22 projects** from the public and other stakeholders.*

Additionally, the TxFAC developed a list of two strategic projects and two strategic initiatives to advance future freight mobility and the state's continued economic competitiveness.

These unmet needs and proposed projects provide the opportunity to inform project development processes carried out by TxDOT districts, MPOs and local agencies. The proposed projects address:

- ***Congestion***
- ***Safety***
- ***Connectivity***
- ***Economic development needs***
- ***Asset preservation***

Unmet Freight Needs on the Texas Highway Freight Network with No Scheduled Project

14,640 miles on the THFN with **identified freight needs** and over **5,990 miles** with **no identified project** to meet those needs

2,792 miles on the THFN with medium and high **mobility and reliability needs** with **no identified projects**

5,899 miles on the THFN with **unmet safety needs**

133 miles with **unmet asset preservation needs on the THFN**

291 bridges on the THFN have vertical clearance of less than 15 feet

Over 686 miles or 21% of the Texas interstates do not have frontage roads

5-Year Freight Investment Plan

The Texas 5-year Freight Investment Plan includes only fully-funded projects during Fiscal Years 2016 through 2020. There are 515 projects in the 5-Year Freight Investment Plan at an estimated cost of $7.5 billion.

Projects by Goal Area

- ***Safety:***
  45% of projects and 1% of cost
- ***Mobility and Reliability:***
  30% of projects and 66% of cost
- ***Alternative Routes:***
  12% of projects and 26% of cost
- ***Asset Preservation:***
  12% of projects and 6% of cost
- ***Technology:***
  1% of projects and <1% of cost

Projects by Corridor

- ***80% of the National Primary Highway System***
- ***40% of the Texas Highway Freight Network***

5-Year Freight Investment Breakdown

515 projects that are fully-funded at an estimated cost of **$7.5 billion**

- **508** highway projects
- **7** rail projects

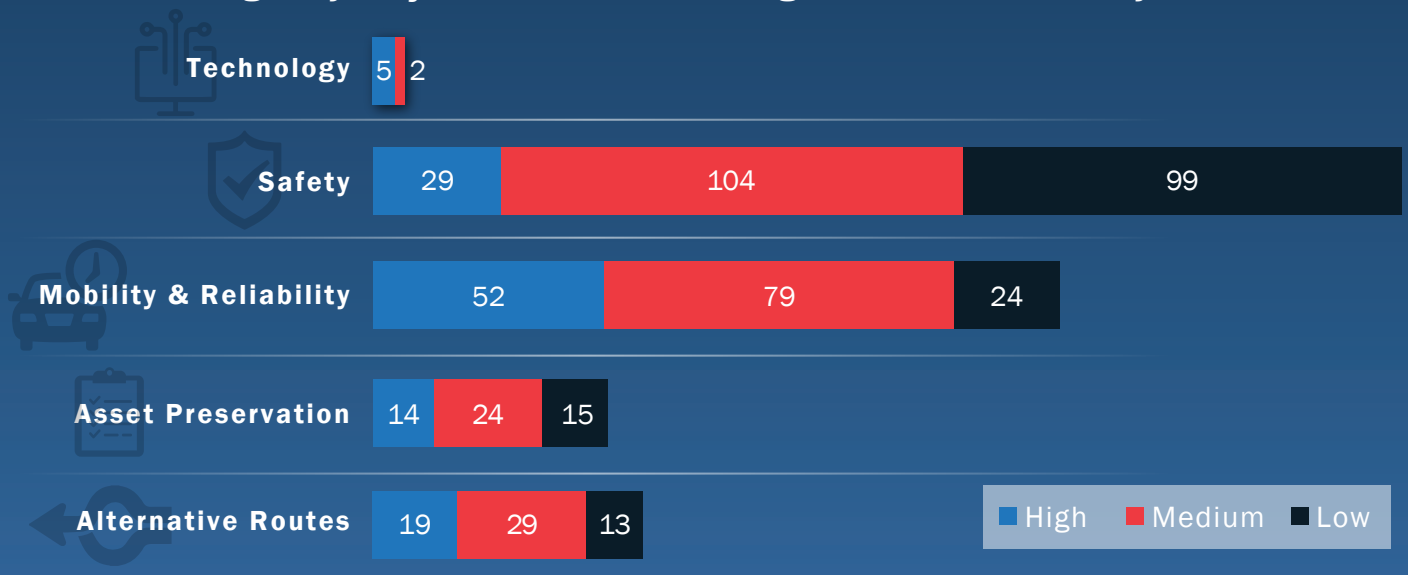
Highway projects include:

- **6** rail/highway grade separation projects at an estimated cost of **$105.9 million**
- **2** port access projects at an estimated cost of **$33 million**
- **3** air cargo access projects at an estimated cost of **$168 million**
- **22** commercial border crossing access projects at an estimated cost of **$133 million**

National Highway Freight Program Funds:

- **199** projects at an estimated cost of **$4.6 billion** are eligible
- **316** projects at an estimated cost of **$2.9 billion** are not eligible

Number of Highway Projects in the 5-Year Freight Investment Plan by Need and Priority



Texas Freight Mobility Plan Implementation

Implementation of Freight Plan Recommendations

An effective implementation of policies, programs and projects ensures that the goals of the plan are achieved. The implementation plan should be re-evaluated on a regular basis to adapt to freight needs and changes in priorities, funding sources and resources.

Actions for Implementing the Freight Policy Recommendations

Short-Term Freight Policy Actions	Medium-Term Freight Policy Actions
• Adopt the updated Texas Multimodal Freight Network. • Enhance flexibility for funding and financing multimodal freight projects. • Adopt change to develop multimodal freight planning, programming and implementation guidelines. • Develop and adopt freight centric design standards for the Texas Highway Freight Network. • Invest in multimodal solutions. • Align transportation investments with the state's vision for economic growth. • Develop Texas as a premier international trade and logistics gateway. • Pursue strategies to reduce crash rates and fatalities on the Freight Network. • Build awareness of the importance of freight movement to the state's economy. • Partner with railroads to develop rail solutions to ease highway traffic congestion.	• Invest in the preservation of the Texas Multimodal Freight Network. • Establish TxDOT as a leader in freight-based technology solutions and innovation. • Address air cargo in the next update of the TxDOT Texas Airport System Plan. • Improve the operational management of the Texas Highway Freight Network. • Identify current and future energy transportation needs and impacts. • Support strategies that address pipeline capacity needs and challenges. • Identify strategies to expand and improve maritime freight movements. • Coordinate with stakeholders to address multi-jurisdictional freight challenges. • Facilitate international border coordination to improve border crossing mobility.

Actions for Implementing the Freight Program Recommendations

Short-Term Freight Program Actions	Medium-Term Freight Program Actions
• Continue to develop and administer a comprehensive and multimodal TxDOT Freight Planning Program. • Develop a Freight Movement Public Education and Awareness Program. • Conduct a comprehensive and coordinated Texas-Mexico border master plan. • Conduct a Statewide Truck Parking and Rest Stop Study. • Develop a comprehensive Freight Rail Development and Improvement Program. • Continue to implement Freight Network Bridge Reconstruction and Replacement Program. • Develop a Highway Freight Network Design, Construction and Safety Standards Program.	• Develop a Statewide Traffic Management Center Concept of Operations and implementation Plan. • Develop a Statewide Commercial Vehicle Traffic Incident Management Program. • Develop a Statewide Construction Management and Coordination Program. • Develop resiliency strategies for the Texas Multimodal Freight Network. • Conduct a comprehensive statewide HAZMAT Transportation Study. • Develop an Off-Peak and 24-hour Operation Pilot Program.

Implementing the Unconstrained Freight Investment Plan

The Unconstrained Freight Investment Plan provides a challenge since there is a significant funding gap between the projects identified and the funding available. As a result, these projects face higher risk of not being implemented and will require more focus on the part of TxDOT, MPOs, local agencies and private sector stakeholders in terms of monitoring the progress and ensuring that high-priority projects remain in the Unified Transportation Program and other project development plans.

Priority	Partially Funded		Fully Funded		Total	
	Number of Projects	Cost (Millions)	Number of Projects	Cost (Millions)	Number of Projects	Cost (Millions)
High	259	$28,540	451	$10,869	710	$39,409
Medium	412	$13,830	790	$6,265	1,202	$20,095
Low	143	$3,276	322	$1,909	465	$5,185
Not Prioritized*	217	$1,279	—	$0	217	$1,279
Total	***1,031***	***$46,925***	***1,563***	***$19,043***	***2,594***	***$65,968***

**Stakeholder proposed projects and non-TxDOT and rail projects were not prioritized. Cost for many proposed projects have not been developed, and the full cost to implement all projects will be higher.*

The Unconstrained Freight Investment Plan represents TxDOT's comprehensive plan for longer range investment in the Texas Multimodal Freight Network, identifying 2,594 projects at an estimated cost of $66 billion. About 60% of the projects are fully funded, but the fully funded projects only represent 28% of the estimated $66 billion total cost.

The real challenge for TxDOT, MPOs, local agencies and private sector stakeholders is to focus funding on the highest priority freight projects while identifying additional revenue and flexible funding options to close the funding gap.

Implementing the 5-Year Freight Investment Plan

The 5-Year Financially Constrained Freight Investment Plan represents immediate and short-term strategies that are already scheduled for implementation. These projects have a high probability of being constructed in the short term. The focus should be on advancing the high priority projects that support safe and efficient movement of goods and advance the state's economic development goals.

5-Year Freight Investment Plan

Year	Number of Projects	Percent of Projects	Cost (Millions)	Percent of Cost
2016	7	1%	$78	1%
2017	10	2%	$427	6%
2018	214	42%	$2,180	29%
2019	183	35%	$2,348	31%
2020	101	20%	$2,455	33%
Total	***515***	***100%***	***$7,488***	***100%***

Projects in the 5-Year Freight Investment Plan by Priority

Priority	Number of Projects	Percent of Projects	Cost Estimate (Millions)	Percent of Cost
High	126	24%	$3,880	52%
Medium	238	46%	$2,535	34%
Low	151	30%	$1,073	14%
Total	***515***	***100%***	***$7,488***	***100%***

- ***High priority projects only represent 24% of projects.***
- ***Medium and low priority projects in the 5-Year Freight Investment Plan represent 76% of the projects and 48% of the estimated cost.***
- ***97% of the projects represent 93% of the estimated cost in the 5-Year Freight Investment Plan and are scheduled to commence during the last three years of the 5-Year Freight Investment Plan.***

Strategic Freight Transportation Projects

Strategic freight project recommendations are proposed, unplanned investments that will address the state's projected future freight transportation growth as well as address current unmet needs. These strategic projects rise to a higher level due to the potential impact on statewide and national freight movements and economic competitiveness. The Texas Freight Advisory Committee played a key role in proposing these strategic projects based on current and future freight volumes, trends and opportunities.

Strategic Freight Projects and Initiatives

Project	Description	Recommended Action
I-69 Bypass	From Grand Parkway to I-69 (Wharton County)	Undertake project development and conceptual design for bypass route to service area ports.
I-27	From Lubbock to Laredo	Conduct feasibility study for the extension of I-27 to catalyze economic development through improved trade flows and connectivity.
Initiative	**Description**	**Recommended Action**
Texas Global Gateway Concept	A program of projects, policies and actions necessary to expand Texas' role as a primary gateway for global trade for North America.	Develop a joint action plan between the Border Trade Advisory Committee, Texas Freight Advisory Committee and Port Authority Advisory Committee to outline investments, programs and policies necessary to address needs, opportunities and challenges for expanding global trade through the ports, border crossings and inland gateways.
Multimodal and alternative technology freight corridors	Seaport and border regions	Feasibility study for the development and potential deployment of a multimodal freight corridor study that examines intelligent/alternative transportation modes and technologies to move freight between high density origins and destinations within the state such as between inland distribution hubs and seaports and international border crossings.

Call for Action

Texas must be prepared to address the increase in goods that accompanies population, business and national and international trade growth. The Texas Freight Mobility Plan 2017 identifies a balanced, comprehensive and multimodal freight investment plan and implementation strategy the state will follow in order to meet current and future demands. Implementation of the Freight Plan will only be successful with the participation and collaboration of all public- and private-sector users and owners of the transportation system, including freight industry stakeholders and federal, state, regional and local agencies. TxDOT will continue to convene the TxFAC, the Border Trade Advisory Committee and the Port Authority Advisory Committee in addition to engaging other stakeholders during the implementation of the Freight Plan.

Implementing the recommended policies, programs and projects outlined in the Freight Plan is critical to the continued economic competitiveness and prosperity of the state of Texas.

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