Texas Freight Advisory Committee

Meeting starts at 8:10 AM with roll call shortly after.

Thank you for attending!

Help make this a successful webinar:
• Ensure your phone and computer microphone are muted.
• Familiarize yourself with the chat box and participant list.
• If not speaking, periodically check your devices to ensure they are muted.

If you have unmuted your device and are trying to speak but no one is hearing you, touch *6 or send your message to the chat box. If you’re still having difficulty, text Kale Driemeier at 512-649-6825.

Meeting sign-in sheet: Scan QR Code
<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:10-8:30 am</td>
<td>Introductions and Welcome</td>
<td>• New Committee Members</td>
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<tr>
<td></td>
<td></td>
<td>▪ Judge Ed Emmett, TxFAC Chair</td>
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<tr>
<td></td>
<td></td>
<td>▪ Commissioner Laura Ryan, Texas Transportation Commission</td>
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<td>▪ Commissioner Alvin New, Texas Transportation Commission</td>
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<td></td>
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<td>▪ Brandye Hendrickson, Deputy Executive Director, TxDOT</td>
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<td>▪ Caroline Mays, AICP, Director, Freight, Trade, and Connectivity Section, TxDOT</td>
</tr>
<tr>
<td>8:30-8:40 am</td>
<td>Overview of Today’s Meeting</td>
<td>• Recap of April 20, 2021 TxFAC Meeting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Sherry Pifer, TxDOT, Freight Planning</td>
</tr>
<tr>
<td>8:40-9:40 am</td>
<td>Modal Updates</td>
<td>Each panel member will give a brief update on the issues, challenges, and lessons learned</td>
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<tr>
<td></td>
<td></td>
<td>▪ Rail: Megan Shea, BNSF Railway</td>
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<tr>
<td></td>
<td></td>
<td>▪ Tyson Moeller, Union Pacific Railroad</td>
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<td></td>
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<td>▪ Trucking: John Esparza, Texas Trucking Association</td>
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<td></td>
<td></td>
<td>▪ Clark Greer, Coca-Cola Southwest Beverages</td>
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<td></td>
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<td>▪ Ports: Roger Guenther, Port of Houston Authority</td>
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<tr>
<td></td>
<td></td>
<td>▪ Sean Strawbridge, Port of Corpus Christi Authority</td>
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<tr>
<td>9:40-9:50 am</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>9:50-10:30 am</td>
<td>Texas-Mexico Border Transportation Master Plan</td>
<td>▪ Gerry Schwebel, IBC Bank</td>
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<td></td>
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<td>▪ Sam Vale, Starr-Camargo Bridge Company</td>
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<td>▪ Eduardo Calvo, El Paso MPO</td>
</tr>
<tr>
<td>10:30-10:45 am</td>
<td>New Federal Infrastructure Bill Update</td>
<td>▪ Melanie Alvord, TxDOT, Federal Affairs</td>
</tr>
<tr>
<td>10:45-11:40 am</td>
<td>2018 TFMP Implementation</td>
<td>▪ Sherry Pifer, TxDOT, Freight Planning</td>
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<td></td>
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<td>▪ Paula Dowell, Cambridge Systematics</td>
</tr>
<tr>
<td>11:40-11:45 am</td>
<td>2023 Texas Multimodal Freight Mobility Plan Development</td>
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<tr>
<td>11:45-12:00 pm</td>
<td>Overview of Senate Bill 1308</td>
<td>▪ Aisa Showery, TxDOT, Int. Trade/Border Planning</td>
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<td></td>
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<td>▪ Caroline Mays, AICP, TxDOT</td>
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<td></td>
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<td>▪ Judge Ed Emmett</td>
</tr>
</tbody>
</table>
Modal Updates – Panel Members

Rail:
- Megan Shea, BNSF Railway (TxFAC/BTAC Member)
- Tyson Moeller, Union Pacific Railroad (TxFAC/BTAC Member)

Trucking:
- John Esparza, Texas Trucking Association (TxFAC/BTAC Member)
- Clark Greer, Coca-Cola Southwest Beverages (TxFAC Member)

Seaports:
- Roger Guenther, Port of Houston Authority (TxFAC/PAAC Member)
- Sean Strawbridge, Port of Corpus Christi Authority (TxFAC/PAAC Member)
Business Update

Consumer Products

Industrial Products

Agricultural Products

Coal
2020 Review

- **Challenges**
  - Rapid drop in volume, followed by an even faster recovery

- **Lessons Learned**
  - Flexibility is key as situations change
  - Always be ready to adapt and think creatively to serve our customers

- **Successes**
  - Record low for slow orders on the system
  - Communication and relationships with others in supply chain

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**Priorities for the 2023 Freight Plan Development**

- Efficient rail movement across the Texas/Mexico border
- Effective public partnerships for freight planning
  - Advancing the DFW Freight Mobility Study Phase III
  - Kicking off other key location studies
- Supply chain resiliency
Modal Updates – Panel Members

Rail:
- Megan Shea, BNSF Railway (*TxFAC/BTAC Member*)
- Tyson Moeller, Union Pacific Railroad (*TxFAC/BTAC Member*)

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- John Esparza, Texas Trucking Association (*TxFAC/BTAC Member*)
- Clark Greer, Coca-Cola Southwest Beverages (*TxFAC Member*)

Seaports:
- Roger Guenther, Port of Houston Authority (*TxFAC/PAAC Member*)
- Sean Strawbridge, Port of Corpus Christi Authority (*TxFAC/PAAC Member*)
Border Transportation Master Plan Panel Discussion

- BTAC Members
  - Gerry Schwebel, IBC Bank
  - Sam Vale, Starr-Camargo Bridge Company
  - Eduardo Calvo, El Paso MPO
Infrastructure Investment and Jobs Act: Freight Provisions
(as passed by the U.S. Senate)

Melanie Alvord
Director, Federal Affairs Section

August 24, 2021
Overview

- IIJA covers Fiscal Years 2022—2026.
- Includes the traditional surface (highway) reauthorization bill.
  - Current authorization bill, the FAST Act, expires on September 30, 2021.
- Also includes Divisions on Energy, Drinking Water, Wastewater, and Broadband.
- Provides $550 billion in new spending, including: $110 billion for roads, bridges, and other major projects. $66 billion for passenger rail and freight, and more than $39 billion for public transit.
- Division J of the bill includes advanced appropriations over five years, including additional funds for programs established earlier in the bill.
  - These advanced appropriations are in addition to funding enacted annually through the appropriations process through FY26.
  - The potential for rescissions exists.
New Freight Office

- Establishes an Office of Multimodal Freight Infrastructure and Policy within USDOT.
  - Housed within the Office of the Secretary.
  - Headed by an Assistant Secretary of Multimodal Freight.
  - This new Freight Office is intended to be a one-stop-shop responsible for developing and managing freight policy and funding programs within USDOT.

- Would administer the following freight-related grant programs:
  - New Megaprojects Program.
  - RAISE grant (formerly BUILD), now statutory.
  - INFRA grants.

- Adds six new components to the National Freight Strategic Plan.

- Requires USDOT to submit a report within 30 days on the implementation of a National Multimodal Freight Network.
New Requirements: State Freight Plans (1)

- Adds the following components to State Freight Plans:
  - The most recent commercial motor vehicle parking facilities assessment conducted by the state;
  - The most recent supply chain cargo flows in the State, expressed by mode of transportation;
  - An inventory of commercial ports in the state;
  - If applicable, consideration of the findings or recommendations made by any multi-state freight compact to which a state belongs;
  - The impacts of e-commerce on freight infrastructure in the State;
  - Considerations of military freight;
  - Strategies and goals to decrease the severity of impacts of extreme weather and natural disasters on freight mobility;
New Requirements: State Freight Plans (2)

- The impacts of freight movement on:
  - local air pollution;
  - flooding and stormwater runoff; and,
  - on wildlife habitat loss.

- Requires states to consult with relevant state motor carrier safety personnel, when updating its freight plan to assess:
  - A state’s ability to provide adequate parking and rest facilities for commercial motor vehicles traveling interstate;
  - Volume of commercial motor vehicle traffic in the state; and,
  - Whether there are any areas within the state with a shortage of adequate commercial motor vehicle parking facilities, including an analysis of the underlying causes of such a shortage.
New Requirements: State Freight Plans (3)

- Each State Freight Plan must include a requirement that the state:
  - Enhance reliability or redundancy of freight transportation; or
  - Incorporate the ability to rapidly restore access and reliability with respect to freight transportation.

- USDOT is required to conduct a study on:
  - Preparing to supply power to applicable electrical freight infrastructure; and,
  - Safely integrating freight into intelligent transportation systems.

- Requires State Freight Plans to address an eight-year forecast period, instead of the current five-year forecast period.

- Requires states to update State Freight Plans every four years, instead of the current requirement of every 5 years.
State Collaboration with the National Multimodal Freight Network

- Provides states an opportunity to submit proposed freight network designations.

- Increases from 20% to 30% the amount of total mileage designations a state may propose to the National Multimodal Freight Network in the state.

- USDOT must accept a designation from a state if the designation meets the applicable requirements.
**Funding for Significant Freight Programs**

- **Local and Regional Project Assistance—RAISE Grants:**
  - $7.5 billion over 5 years ($1.5 billion for each of FY22-FY26).
  - Now statutory; was previously added annually through the appropriations process.

- **National Infrastructure Project Assistance—Mega-Projects Grants:**
  - $5 billion over 5 years; $1 billion for each of FY22-FY26.

- **Nationally Significant Freight & Highway Projects—INFRA Grants:**
  - $8 billion over 5 years—
    - $4.8 billion from the Highway Trust Fund; and,
    - $3.2 billion in advanced appropriations.

- **National Highway Freight Program:**
  - $7.15 billion over 5 years.
  - Texas to receive $704 million over 5 years.
Infrastructure Investment and Jobs Act (IIJA)

Funding for Bridges

- Bridge Funding—Distributed by Formula:
  - $27.5 billion for a bridge replacement, rehabilitation, preservation, protection, and construction program, to be distributed in equal amounts for each of FY22—FY26.
  - Texas should receive $537.2 million over 5 years.

- Bridge Investment Program—Discretionary Grants:
  - $12.5 billion over 5 years.
  - Average of $2.5 billion per year.
Infrastructure Investment and Jobs Act (IIJA)

Funding for Emissions Reduction & Electric Vehicle Charging

- Carbon Reduction Program—Distributed by Formula:
  - $6.42 billion to reduce transportation emissions over 5 years.
  - Texas can expect to receive $641.3 million over 5 years.

- Reduction of Truck Emissions at Port Facilities:
  - $400 million over 5 years.
    - $150 million from Highway Trust Fund.
    - $250 million in advanced appropriations.

- Electric Vehicle Charging Infrastructure:
  - $5 billion over 5 years.
  - Texas expects to receive $407.8 million over 5 years.
Infrastructure Investment and Jobs Act (IIJA)

Rail Provisions

- **Railway-Highway Crossings Program:**
  - Provides $1.225 billion in formula funds over 5 years.
  - Texas expects to receive $104.5 million over 5 years.
  - Requires USDOT to evaluate the requirements and structure of the railway-highways crossings program within three years and produce a report within four years.

- **Creates a New Railroad Crossing Elimination Program Grant Program:**
  - Authorizes $2.5 billion over 5 years.
  - Appropriates $3 billion over 5 years for competitive, discretionary grants.
Next Steps

- Passed the Senate by a vote of 69-30 on August 10, 2021.

- House Speaker has announced that the House will not consider the Senate’s Infrastructure bill until the Senate passes the larger $3.2 trillion Budget Reconciliation bill.
  - The earliest a reconciliation bill could come before the Senate is after September 15.
  - To pass a reconciliation bill of that size will require the support of all democratic Senators; at least one has announced she cannot support that level of spending.

- The White House has announced President Biden’s support for both the Infrastructure and Budget Reconciliation bills.
Freight Plan Recommendations

- **Policies** – Broad policy recommendations to help change the way freight planning is approached

- **Programs** – Programs and initiatives that can be undertaken to achieve policy goals

- **Projects** – Infrastructure investments that support policy goals and improve freight movement in Texas

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2018 Texas Freight Mobility Plan

- **21 Policies**
  - Regulatory
  - Institutional

- **13 Programs**
  - TxDOT internal processes
  - External programs

- **2,594 Projects**
  - Under development
  - Strategic projects
2018 TFMP Policy Recommendations Implementation

- Design standards recommendations provided in the *Freight Infrastructure Design Considerations* Final Report
- Freight bottlenecks identified through the *Texas Congestion Analysis Tool (TCAT)*
- Rural connectivity addressed in *Ports-to-Plains* Study
- Economic development addressed through *Economic Role of Freight* in Texas Final Report
- Freight-based technology solutions provided in the *Freight Network Technology and Operations Plan* and TCAT
- Freight mobility at the border addressed in *Border Transportation Master Plan* and *Rio Grande Valley Freight and Trade Transportation Plan*
- Energy sector needs addressed in *Permian Basin Freight and Energy Sector Transportation Plan*
- **Continued outreach** to public and private sector partners through stakeholder meetings across the state and in Mexico
Truck Parking Program

- Truck Parking Study completed in April 2020
- I-10 Truck Parking Availability System (TPAS) grant received and underway
- San Angelo District truck parking study underway
- Federal grant application for Texas Triangle TPAS submitted in August 2021
- Truck Parking Implementation contract kicking off September 2021
- TxDOT allocated $30 million per year for next 10 years to expand and add truck parking
Freight Infrastructure Design Considerations

Key Attributes Analyzed Include:

- Geometrics
- Intersections and Interchanges
- Bridge and Structure
- Pavement
- Traffic Operations
- Work Zones

“HIGH” PRIORITIZATION

Definition

- Attributes that demonstrate improvement to mobility, safety, or other Texas Freight Mobility Plan goals.

Qualifying Attributes

- Lane width
- Outside shoulder width
- Bridge vertical clearance
- Railroad-highway bridge clearance
- Intersection turning radius
- Sight distances
- Acceleration lane
Permian Basin Freight and Energy Sector Transportation Plan

- Energy sector needs addressed in Permian Basin Freight and Energy Sector Transportation Plan
- Develop regional freight plan to address local and regional energy sector freight activities, challenges, opportunities and strategies
- Identified Policy, Program, and Projects for the Permian Basin Region
Identified and Develop 6 Concepts of Operation's to advance in Texas:

- Safety Warning Detection System
- Statewide Traffic Operations Center
- Smart Freight Connector
- Blocked Rail Crossing Traffic Management System
- AV Infrastructure, Connected Signing, & Data
- High-Resolution Freight Traveler Information System
**RGV Regional Freight and Trade Plan and Border Transportation Master Plan**

- **BTMP**: The 2021 Texas-Mexico Border Transportation Master Plan (BTMP) is a comprehensive, multi-modal, long-range binational plan that outlines 22 policies, 153 programs, and 661 project recommendations.

- **RGV**: Developed regional freight plan to address local and regional energy sector freight activities, challenges, opportunities and strategies
  - Identified Policy, Program, and Projects for the Rio Grande Valley
Economic Role of Freight In Texas

- Freight supports 24% of statewide jobs
- Freight supported jobs generate about 27% of statewide wages
- Freight dependent businesses generate about 28% of Total Gross State Product
2018 TFMP Program Recommendations Implementation

- Freight Fluidity Monitoring Program
- Texas Congestion Analysis Tool (TCAT)
- Freight Data Program and Dashboard
- Oversize/Overweight Truck Data and Analysis Report
- Panama Canal Expansion Report
- Freight Investment Optimization Tools
- Freight Training Program
- Freight Equity Analysis
- Truck Parking Program
Implementation Progress – Freight Investment Plan Projects

Unconstrained Freight Investment Needs

The Freight Plan Identifies Unconstrained Freight Investment Needs

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

5-Year Fiscally Constrained Freight Investment Plan

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
1,273 highway freight projects let in FY2016 through FY2021 (highway projects included in the UTP)

$14.9 billion in total project costs

All 25 TxDOT districts had highway freight project lettings

Four districts with more than $1 billion in highway freight project lettings:
- Houston, $2.6 billion
- Dallas, $2.1 billion
- Austin, $2.0 billion
- San Antonio, $1.2 billion
2018 TFMP Highway Project Recommendations Implementation: By District
<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>FHWA Apportionment ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>$100,641,720</td>
</tr>
<tr>
<td>2017</td>
<td>$102,692,370</td>
</tr>
<tr>
<td>2018</td>
<td>$110,224,954</td>
</tr>
<tr>
<td>2019</td>
<td>$119,944,099</td>
</tr>
<tr>
<td>2020</td>
<td>$138,429,943</td>
</tr>
<tr>
<td>2021</td>
<td>$146,645,223</td>
</tr>
<tr>
<td>Total</td>
<td>$718,578,309</td>
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</tbody>
</table>

For most projects, TxDOT provides a 20% match.

Total project cost: $882 million.

30 highway projects and 1 rail (multimodal) project.
12 TxDOT districts had NHFP funded projects

Project categories:
- Safety
- Bridge Improvements
- Capacity Expansion
2019: Waco District – Capacity Expansion and Bridge Improvements

- I-35E Lane Additions
- Funding Amount: $114 million (80% Federal)
- Construction Letting: 5/1/2019
- Construction Completion Date: 2/18/2023

The new I-35E construction project rebuilds and widens I-35 through the Waco District. Interstate will be rebuilt AND EXPANDED:

- Total of six lanes, three in each direction
- All existing bridges will also be replaced and widened to accommodate the additional travel lanes.
2020: Pharr District – Safety and Capacity Expansion

- US 83 Improvements
- Funding Amount: $96 million (80% Federal)
- Construction Letting: 10/1/2019
- Construction Completion Date: 5/27/2022

US 83 is a major north-south highway which runs 1,885 miles from Brownsville to the Canadian border in North Dakota. This project includes the construction of a four-lane controlled-access highway that will help:

- Reduce congestion
- Increase mobility, safety, and corridor connectivity
2021: Corpus Christi District – Bridge Improvements, Safety, and Capacity Expansion

- I-37 Improvements Funding Amount $81 million (80% Federal)
- Construction Letting: 5/1/2021
- Construction Completion Date: 1/31/2026

I-37 is the primary connection to the Port of Corpus Christi; the interstate serves as a freight corridor and major hurricane evacuation route. This project:

- Replaces the existing Nueces River bridges with more resilient higher, wider structures
- Facilitates safer and more efficient hurricane evacuations
- Constructs additional travel lanes
Outline

- Approach to Developing the New TFMP
- Supply Chain Input
- Stakeholder Engagement
- Schedule and Next Steps
Summary Approach

COLLECT DATA, REVIEW MATERIALS, IDENTIFY SUPPLY CHAINS

DEVELOP AND VET SUPPLY CHAINS

TFMP GOALS AND OBJECTIVES

SUPPLY CHAIN WORKING GROUPS

SUPPLY CHAIN NETWORK, NEEDS, TRENDS, AND STRATEGIES

TECHNICAL ANALYSIS

DOCUMENTATION

DRAFT FINAL REPORT

FINAL REPORT

FACT SHEETS, EXECUTIVE SUMMARY
Key Technical Tasks

CRITICAL INDUSTRIES AND SUPPLY CHAINS
DATA DRIVEN, STAKEHOLDER INFORMED

- Identify industries and document their supply chains
- Document freight transportation requirements of supply chains
  - Stakeholder input, commodity flow analysis, and industry data
- Industry and supply chain dashboard
  - Interactive data visualization that relates freight network to supply chains

Foundation for remaining technical tasks and plan
Key Technical Tasks

MULTIMODAL FREIGHT NETWORK DESIGNATION

• Freight Network Identification and Assessment
  • Based on process and criteria developed in 2018 TFMP
• Industry and supply chain findings
  • Commodity flows
  • Stakeholder input
• Draft and final network
  • Overlay FNIA network with supply chain networks
  • Finalize based on workshop input

Network used for needs assessment
Key Technical Tasks

NEEDS ASSESSMENT

- Mobility, efficiency and reliability
- Enhanced safety assessment
- Asset preservation, design and management
- Connectivity and accessibility
- Technology and operations
- Resiliency
  - Case studies of freight disruptions
  - Modal and supply chain interviews
  - THFN resiliency ratings
- Equity, land use and environmental
Freight Investment Plan and Recommendations

- **Policies**
  - Systemwide/statewide/modal
  - Supply chain specific

- **Programs**
  - Systemwide/statewide/modal
  - Supply chain specific

- **Projects**
  - Planned
  - Strategic
  - Unmet needs
  - Constrained and unconstrained
  - Infrastructure, operations and technology
Documentation and Deliverables

- Tech reports
- Graphic summary final plan
- Graphic executive summary
- GIS files
- Updated freight investment optimization framework
- Supply chain dashboard
Discussion
Input on Critical Freight Intensive Industries and Supply Chains
Texas Freight Advisory Committee

TxFAC Indicated Critical Supply Chains was an Important Topic...

- Understand the role of the freight network in ensuring competitive supply chains
- Identify the most important parts of the transportation network
- Document the freight transportation needs and challenges
- Develop strategies and recommendations to address needs

How important is addressing the following topics in the new plan?

- Scenario planning
- Network resiliency
- Equity
- Critical supply chains
- Multimodal corridors and gateways
- Freight operations and technologies
- Climate change
## Factors in Identifying Critical Industries to Focus on in TFMP

<table>
<thead>
<tr>
<th>Governor’s Office on Economic Development</th>
<th>Identifies key industry clusters to target for growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ECONOMIC BASE ANALYSIS</strong></td>
<td>Analyzes industries based on concentration and growth</td>
</tr>
<tr>
<td><strong>EXPORT, IMPORT, AND COMMODITY FLOW ANALYSIS</strong></td>
<td>Analyzes the volume and value of goods transported</td>
</tr>
<tr>
<td><strong>Tx FAC INPUT</strong></td>
<td>Provides insights into strategic importance of TMFN to industries</td>
</tr>
</tbody>
</table>

- **Combine factors to develop a list of priority freight intensive industries**
- **Use TxFAC input and coordination with TxDOT to finalize industries most critical for TFMP development**
Governor's Office on Economic Development - Target Industry Clusters

- Advanced manufacturing
- Aerospace, aviation, and defense
- Biotechnology and life sciences
- Energy
- Information technology
- Petroleum refining and chemical products
- Corporate services
- Creative industry
### Industries with Highest Volumes of Commodity Flows, 2018

<table>
<thead>
<tr>
<th>Industry Name</th>
<th>2018 Tonnage (Millions)</th>
<th>Industry Name</th>
<th>2018 Tonnage (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and gas extraction*</td>
<td>1,277.00</td>
<td>Primary metal manufacturing</td>
<td>30</td>
</tr>
<tr>
<td>Chemical manufacturing including resins</td>
<td>602.8</td>
<td>Machinery manufacturing</td>
<td>29.6</td>
</tr>
<tr>
<td>Construction</td>
<td>404.6</td>
<td>Computers, electrical equipment</td>
<td>29</td>
</tr>
<tr>
<td>Wholesalers and distributors</td>
<td>109</td>
<td>Transportation equipment</td>
<td>24</td>
</tr>
<tr>
<td>Crop and animal production</td>
<td>95.7</td>
<td>Paper manufacturing</td>
<td>17.7</td>
</tr>
<tr>
<td>Food manufacturing</td>
<td>90.8</td>
<td>Primary and fabricated metal manufacturing</td>
<td>16.2</td>
</tr>
<tr>
<td>Wood manufacturing</td>
<td>30</td>
<td>Rubbers and plastics</td>
<td>12.2</td>
</tr>
</tbody>
</table>

* Includes estimates for brine, fresh water, and sand used in fracking activity

- Top 14 industry sub-sectors (out of 91) account for 2,715.5 million tons or 92.9% of statewide total
# Top International Exports and Imports by Commodity/Industry, by Value, 2018

<table>
<thead>
<tr>
<th>Top 10 Export Goods</th>
<th>Export (Billions of Dollars)</th>
<th>Top 10 Import Goods</th>
<th>Import (Billions of Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil &amp; Mineral Fuels</td>
<td>$110</td>
<td>Electronics</td>
<td>$93</td>
</tr>
<tr>
<td>Electronics</td>
<td>$56</td>
<td>Oil &amp; Mineral Fuels</td>
<td>$50</td>
</tr>
<tr>
<td>Industrial Machinery</td>
<td>$35</td>
<td>Motor Vehicles &amp; Parts</td>
<td>$35</td>
</tr>
<tr>
<td>Basic Chemicals</td>
<td>$24</td>
<td>Industrial Machinery</td>
<td>$27</td>
</tr>
<tr>
<td>Plastics</td>
<td>$23</td>
<td>Plastics</td>
<td>$8</td>
</tr>
<tr>
<td>Motor Vehicles &amp; Parts</td>
<td>$11</td>
<td>Precision Instruments</td>
<td>$8</td>
</tr>
<tr>
<td>Aircraft</td>
<td>$9</td>
<td>Misc.</td>
<td>$7</td>
</tr>
<tr>
<td>Precision Instruments</td>
<td>$8</td>
<td>Furniture</td>
<td>$7</td>
</tr>
<tr>
<td>Chemical Products</td>
<td>$8</td>
<td>Basic Chemicals</td>
<td>$7</td>
</tr>
<tr>
<td>Iron &amp; Steel Articles</td>
<td>$4</td>
<td>Iron &amp; Steel Articles</td>
<td>$5</td>
</tr>
</tbody>
</table>

Adapted from Global Edge, [https://globaledge.msu.edu/states/texas/tradestats#source_1](https://globaledge.msu.edu/states/texas/tradestats#source_1), last accessed June 7, 2020.
## Candidate Industries to Include in TFMP Freight Transportation Requirements

<table>
<thead>
<tr>
<th>Industry Name</th>
<th>Industry Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop production</td>
<td>Primary metal manufacturing</td>
</tr>
<tr>
<td>Animal production</td>
<td>Fabricated metal manufacturing</td>
</tr>
<tr>
<td>Oil and gas extraction</td>
<td>Machinery manufacturing</td>
</tr>
<tr>
<td>Construction</td>
<td>Computer and electronic products</td>
</tr>
<tr>
<td>Food manufacturing</td>
<td>Electrical equipment, appliance, and components</td>
</tr>
<tr>
<td>Wood manufacturing</td>
<td>Transportation equipment</td>
</tr>
<tr>
<td>Paper manufacturing</td>
<td>Wholesalers and distributors</td>
</tr>
<tr>
<td>Chemical manufacturing including resins</td>
<td>Rubber and plastics</td>
</tr>
</tbody>
</table>

Are there other industries we should consider?
Stakeholder Outreach
Stakeholder Engagement

KEY ACTIVITIES

- TxFAC
- Supply chain working groups
- Workshops
- Industry forums
- Interviews
- Survey
Schedule

ACCESSING CRITICAL SUPPLY CHAINS, UNDERSTANDING THE TEXAS MULTIMODAL FREIGHT NETWORK
Freight and Economic Profiles; Supply Chain Analysis, Network Designation; Trends, Disruptors & Opportunities

ASSESSING CURRENT & FUTURE FREIGHT NEEDS
Commodity Flow Forecasts and Scenarios; Needs Assessment

DEVELOPING STRATEGIES
Policy, Program, and Project Strategies

STAKEHOLDER OUTREACH

SUPPLY CHAIN WORKING GROUP #1
Infrastructure, Trends, Disruptors, Opportunities
STAKEHOLDER FORUM #1
Goals, Freight Profiles, Freight System
STATEWIDE STAKEHOLDER SURVEY

SUPPLY CHAIN WORKING GROUP #2
Needs and Forecasts
STAKEHOLDER FORUM #2
Forecasts, Needs, Strategies
STATEWIDE STAKEHOLDER SURVEY

SUPPLY CHAIN WORKING GROUP #3
Strategies and Implementation
STAKEHOLDER FORUM #3
Forecasts, Needs, Strategies
STATEWIDE STAKEHOLDER SURVEY

TxFAC Meetings
Next 90 Days

- **Technical tasks**
  - Compile data needs and inventory, launch web data warehouse and collect data
  - Finalize goals and objectives
  - Identify critical industries and analyzing their supply chains
  - Start updating Freight Investment Optimization tools

- **Stakeholder engagement**
  - Establish supply chain working groups
  - Plan and execute first round of workshops: October 24 - November 5, 2021
Thank you!

Contact info the TFMP

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Texas Freight Advisory Committee

Senate Bill 1308

Benefits and Impacts of Automated and Connected Driving Systems

August 24, 2021
Wrap Up Discussion

- Caroline Mays, AICP, TxDOT
- Judge Ed Emmett

- Next Committee Meeting is Wednesday, November 10