TEXAS FREIGHT MOBILITY PLAN UPDATE
Round 2 Workshop Summary

Workshop Input to Freight Plan Update

Round 2 workshops
- Review Freight Network
- Identify needs and opportunities on Freight Network
- Provide input on project prioritization criteria and weighting

To be used in update of Freight Plan
- Finalize Freight Network
- Identify and screen projects and recommendations
- Develop Freight Investment Plan
### Workshop Locations and Attendance

<table>
<thead>
<tr>
<th>Workshop Location</th>
<th>Date</th>
<th>Attendees</th>
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<tbody>
<tr>
<td>El Paso</td>
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<td>Midland/Odessa</td>
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### Workshop Topics and Exercises

- Overview of workshops
- Texas Multimodal Freight Network (TMFN) designation and feedback
  - Texas Highway Freight Network (THFN)
  - Critical Rural Freight Corridors (CRFCs)
  - Critical Urban Freight Corridors (CUFCs)
  - Railroads, Ports and Waterways and airports
- TMFN needs identification
- Project identification
- Project prioritization process
  - Input on criteria (worksheet exercise)
  - Input on weighting of criteria (interactive polling)
### Summary of Workshop Comments from Web Mapping Session

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Addition to THFN</th>
<th>Deletion from THFN</th>
<th>Preference on CRFC</th>
<th>Future corridor or need</th>
<th>General concern</th>
<th>Mobility need</th>
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<td>121</td>
<td>14</td>
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### Example of Map Input

- Interactive mapping stations
- Ability to zoom in and out and examine different layers of data
- Facilitator captured data on map in real time
### Highest Ranking Project Prioritization Criteria by Location

<table>
<thead>
<tr>
<th>Workshop</th>
<th>Top Criteria</th>
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<tr>
<td>El Paso</td>
<td>Project reduces freight travel time</td>
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<tr>
<td>Midland</td>
<td>Project improves facility that is structurally deficient or functionally obsolete for freight vehicles on the TMFN</td>
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<tr>
<td>Lubbock</td>
<td>Project improves freight travel time reliability</td>
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<td>Fort Worth</td>
<td>Project improves freight travel time reliability</td>
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<tr>
<td>Laredo</td>
<td>Project improves freight travel time reliability</td>
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<tr>
<td>Brownsville</td>
<td>Project reduces freight travel time</td>
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<td>Corpus Christi</td>
<td>Project addresses a freight safety hotspot</td>
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<tr>
<td>Houston</td>
<td>Project improves freight travel time reliability</td>
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<td>Project improves freight travel time reliability</td>
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<tr>
<td>Dallas</td>
<td>Project improves freight travel time reliability</td>
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<tr>
<td>San Antonio</td>
<td>Project improves freight travel time reliability</td>
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</table>
Objective

- Present final updated Texas Multimodal Freight Network
- Present final Texas Highway Freight Network
- Present final Critical Urban Freight Corridors
- Discuss and finalize Critical Rural Freight Corridors
  - Review process
  - Present findings
  - Obtain TxFAC input and recommendation
Texas Highway Freight Network
- Rail network
- Ports and waterways
- Air cargo airports
- Border ports of entry
Evaluation and Designation Process

- Develop criteria based on goals
- Quantify value for each criteria
- Score each criteria
- Sum all criteria
- Develop draft THFN
- Incorporate & compare against Trunk System and existing network
- Rank facilities based on total weighted scores
- Weight criteria based on input
- Designate critical urban and rural corridors
- Draft final system for TXFAC approval
- Final Texas Highway Freight Network
Components of the Updated Texas Highway Freight Network

Texas Highway Freight Network

- All highways scoring the average score and above in the designation process
- Texas’ portion of the National Highway Freight Network
- All highways on the Texas Trunk System
- All highways on the previously adopted freight network

The Final Texas Highway Freight Network

21,793 miles
CRITICAL FREIGHT CORRIDORS

CRITICAL URBAN FREIGHT CORRIDORS
Critical Urban Freight Corridors

- MPOs >500,000 population submitted corridors
  - Resulted in 299 miles
  - Represents 80% of total CUFC mileage
- TxDOT to designate remaining 73 miles

MPOs Submitting CUFCs
- Alamo Area MPO
- Capital Area MPO
- El Paso MPO
- Hidalgo MPO
- Houston-Galveston Area Council
- North Central Texas Council of Governments

MPO Identified Critical Urban Freight Corridors
Approach for Designating Remaining CUFCs

- FAST Act Criteria
  - Connects an intermodal facility to:
    - the national Primary Highway Freight System or interstate system; or
    - an intermodal freight facility;
  - Provides an alternative highway option important to goods movement; or
  - Serves a major freight generator, logistic center, or manufacturing and warehouse industrial land

- TxDOT designated remaining based on:
  - Highest scoring corridors from designation process
  - Stakeholder input
    - Input from TxFAC
    - Consultation with MPOs
    - Input from workshops
  - Qualifying project in UTP in next 5 years

Draft TxDOT Identified Critical Urban Freight Corridors

<table>
<thead>
<tr>
<th>Urban Area</th>
<th>Description</th>
<th>Miles</th>
<th>Avg Designation Process Score</th>
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<tbody>
<tr>
<td>Sherman</td>
<td>US 75 from SH 56 to FM 1417</td>
<td>3.9</td>
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<tr>
<td>Lubbock</td>
<td>US 84 from IH 27 to SS331</td>
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<td>Laredo</td>
<td>SL 20 from IH 35 to US 83</td>
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<td>FM 3464 from FM 1472 to IH 35</td>
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<td>40</td>
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<td>Laredo</td>
<td>US 59 from Arkansas Av to Watson Rd</td>
<td>2.6</td>
<td>25</td>
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<td>Brownsville</td>
<td>FM 511 from IH 69E to SH 48</td>
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<td>Corpus Christi</td>
<td>US 181 from IH 37 to SH 35</td>
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<td>Beaumont</td>
<td>US 90 from FM 364 to IH 10</td>
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<td>30</td>
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<tr>
<td>Beaumont</td>
<td>US 69 from US 96 to IH 10</td>
<td>9.5</td>
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<td>Port Arthur</td>
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<td>15.3</td>
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<tr>
<td>Total/Avg</td>
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<td>72.7</td>
<td>28.6</td>
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Draft TxDOT Identified Critical Urban Freight Corridors

Draft Final Critical Urban Corridors
Designating Critical Rural Freight Corridors

- TxDOT to designate 745 miles
- Identifying candidate corridors
  - Identified corridors meeting requirements in FAST Act
  - Focused on providing connectivity to PHFS
  - Examined highest scoring corridors out of that subset
  - Compared to input from stakeholder workshops and DEs
- Resulted in 2,198 miles of candidate corridors
Selecting Final Draft CRFCs

- Comparing TxFAC input against input from workshops
  - Stakeholders voiced support for all corridors that received TxFAC votes
  - Stakeholder suggested dropping some corridors from consideration due to lack of projects
  - Strong stakeholder support for corridors not receiving broad TxFAC support - primarily in the west

- Refining the CRFCs designation process
  - FHWA certification will be based on FAST Act criteria
  - Stakeholder input from workshops provided data not available for designation process
  - While designation process included FAST Act requirements, inclusion of additional economic criteria favored more populated areas

Refined Approach for Designating CRFCs

- Driven by FAST Act Requirements
- Restricted to primary arterials that meet one or more of the following:
  - Minimum of 25 percent of the AADT from trucks
  - Provides access to energy exploration, development, installation, or production areas
  - Connects the PHFS or the Interstate System to facilities that handle more than:
    - 50,000 20-foot equivalent units per year; or
    - 500,000 tons per year of bulk commodities;
  - Provides access to:
    - a grain elevator;
    - an agricultural facility;
    - a mining facility;
    - a forestry facility; or
    - an intermodal facility
  - Connects to an international port of entry
  - Provides access to significant air, rail, water, or other freight facilities in the State
Identified THFN corridors to be scored
- Primary arterials
- Outside urbanized areas

Scored by adding up number of FAST Act criteria met
- Scored each segment

Designate 745 miles
- Corridors that met most criteria
- Corridors with fully funded UTP project in next 5 years

Rural Corridors on THFN Scored based on FAST Act Criteria

<table>
<thead>
<tr>
<th>Number of Criteria</th>
<th>Miles</th>
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<tr>
<td>One FAST Act Criterion</td>
<td>2,406</td>
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<td>3,746</td>
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<td>Three FAST Act Criteria</td>
<td>2,211</td>
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<tr>
<td>Four to Five FAST Act Criteria</td>
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Primary Rural Arterial THFN w/ FAST Criteria
- Number Criteria Met
- Four to Five Criteria Met
- Three Criteria Met
- Two Criteria Met
- One Criteria Met

National Highway Freight Network
- NON_PUHS_US
- PUHS
- Texas Highway Freight Network
CRFCs Meeting Three or More FAST ACT Criteria

2, 667 miles

Comparing Previous Candidate CRFCs to Proposed New CRFCs

2, 198 miles 2, 667 miles
Overlaying the Original and Refined Candidates for CRFCs

Principal Rural Arterial TH/FN w/ FAST Criteria - TxDOT
Number Criteria Met
Four to Five Criteria Met
Three Criteria Met

Old Potential CRFC

National Highway Freight Network
NON_PHRS_US
PHRS

TxDOT Proposed CRFCs for Discussion

<table>
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<tr>
<th>CRFC_ID</th>
<th>Description</th>
<th>Miles</th>
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<tbody>
<tr>
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<td>IH 6 / US 281 from IH 20 to IH 220</td>
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<td>3</td>
<td>US 64 from Lubbock to IH 28</td>
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<td>US 87 from IH 20 to San Angelo</td>
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<td>US 79 from Austin to IH 63</td>
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<td>6</td>
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<td>US 83 from IH 10 to Midland</td>
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<td>Total Miles</td>
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8 corridors = 649 miles
Leaves 96 miles to designate
Next Steps

- Finalize Critical Freight Corridors
- Board of Transportation adoption
- FHWA certification
Objectives and Outcomes

- Present and discuss Freight Network needs assessment process and findings
- Present and discuss process for identifying freight projects
- Present and discuss projects on Freight Network compared to needs and gaps
- Present and discuss draft criteria for evaluating and prioritizing freight projects
- Obtain feedback from TxFAC on:
  - Freight Network needs
  - Updated freight project lists
  - Freight Network gaps
  - Project prioritization weighting criteria
Freight Plan Project Identification Process

Needs Assessment
- Stakeholder Input
- Data analysis of existing and future freight conditions and demand

Project Identification
- Map Unified Transportation Projects to Freight Network
- Compare existing Unified Transportation Program Projects to needs
- Develop strategic projects

Prioritization
- Develop evaluation criteria
- Screen and evaluate projects

Freight Investment Plan

HIGHWAY FREIGHT NETWORK NEEDS IDENTIFICATION
Highway Freight Project Identification Process

Identify and evaluate freight needs on THFN

Map UTP projects on THFN

Map UTP projects to freight needs

Identify gaps – segments of THFN with needs and no planned project

Review with TxFAC

Highway Freight Network Needs

Mobility and Reliability
- Level of service (measure of volume to capacity)
- Truck travel time buffer index
- Freight Bottlenecks

Safety
- Truck involved crash rate
- Severe injury and fatality truck involved crashes

Freight Asset Utilization and Management
- Vertical bridge clearance
- Bridge load restriction
- Pavement conditions

Alternative Routes
- Needs on alternative routes to PHFS

Frontage Roads Needs
- Interstates without frontage roads

Rural Roads Freight Needs
- 2-lane road
- Access to oil production facilities
HIGHWAY FREIGHT NETWORK MOBILITY AND RELIABILITY NEEDS

Level of Service

Texas Highway Freight Network 2040 Daily Level of Service
- A
- B
- C
- D
- E
- F

Freight Advisory Committee
July 20, 2017
Most Congested Roadways on THFN

Truck Travel Time Reliability
Truck Involved Crashes, 2014-2016 - Fatality

Fatal Truck Crashes per Highway Mile

- > 3.5
- 1.78
- < 0

Texas Highway Freight Network

Highway Freight Network Asset Management and Utilization Needs
Asset Management and Utilization Needs – Pavement Conditions

- Poor Pavement Condition
  - Poor Pavement
    - TXDOT Poor Category
  - Texas Highway Freight Network

Asset Management and Utilization – Bridge Conditions

- Poor condition
- Vertical clearance <14’
- Vertical clearance 14’ to 16’
- Vertical clearance 16’ to 18’
HIGHWAY FREIGHT NETWORK FRONTAGE ROADS, RURAL ROADS AND ALTERNATIVE ROUTES NEEDS

Primary Freight Network Frontage Route Needs

668 miles or 5.1%, of interstates without frontage roads
What is the Unified Transportation Program (UTP)?

- TxDOT’s 10-year plan to *guide transportation development*
- Required by the Texas Administrative Code and approved each year by the Texas Transportation Commission (TTC)
- Organized by 12 Categories of funding, each covering a different scope of work
- Includes projects involving highways, aviation, public transportation, and state and coastal waterways
- Outlines project selection process by Category
- Requires public involvement
- It is not a budget or a guarantee that projects will/can be built.

*The UTP authorizes projects & programs for development and planning activities*
UTP Connects Anticipated Funding to Projects

<table>
<thead>
<tr>
<th>Mission</th>
<th>Goals</th>
<th>Plans</th>
<th>Program</th>
<th>Projects</th>
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<tr>
<td>Federal Funds</td>
<td>State Highway Fund</td>
<td>Non-traditional Funds</td>
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<tr>
<td>Federal programs eligible for reimbursement (FAST Act)</td>
<td>Includes federal reimbursements and state funds (includes Prop 1, Prop 7)</td>
<td>Provides the required match on federally funded projects</td>
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<td>Texas Mobility Fund (TMF)</td>
<td>Proposition 12</td>
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<td>Proposition 14</td>
<td>Concessions/ regional toll revenue</td>
<td>Local Funds</td>
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TxDOT Funding Categories

1. Preventive Maintenance and Rehabilitation
2. Metro and Urban Area Corridor Projects
3. Non-traditionally Funded Projects
4. Statewide Connectivity Corridor Projects
5. Congestion Mitigation and Air Quality Improvement
6. Structures Replacement and Rehabilitation
7. Metropolitan Mobility and Rehabilitation
8. Safety
9. Transportation Alternatives Program
10. Supplemental Transportation Projects
11. District Discretionary
12. Strategic Priority

Fully Funded UTP Projects on Highway Freight Network- 10 Years

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<th>Total Cost</th>
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### Partially Funded UTP Projects on Highway Freight Network - 10 Years

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<th>Shortfall</th>
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### Fully Funded UTP Projects on Highway Freight Network – Next 5 Years

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Partially Funded UTP Projects on Highway Freight Network – Next 5 Years

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Highway Freight Network
UTP Projects over Next 5 Years
Partially Funded

Texas Department of Transportation

HIGHWAY FREIGHT PROJECTS, NEEDS, GAPS
Example: Project Gaps in Connections to Border Ports of Entry

Example: Mobility and Connectivity Project Gaps in Urban Areas
Example: Highway Freight Network Safety Project Gaps

Asset Management and Utilization Projects- First 5 Years
Frontage Road Needs and UTP Project – 10 Years

Example: Frontage Road Project Gaps
Rural Highway Freight Needs and UTP Projects - First 5 Years

Example: Rural Highway Freight Project Gaps
Alternative Freight Route Needs and UTP Projects – First 5 Years

Example: Alternative Freight Routes Project Gaps
DISCUSSION OF HIGHWAY PROJECTS LIST

Highway Needs and Projects - Next Steps

- **UTP Projects**
  - TxFAC review list and provide feedback

- **Gaps in Needs and Projects**
  - Develop list of gap projects
  - Vet with Districts and other stakeholders

- **Strategic Projects**
  - Develop list of long term needs and projects
  - Screen based on alternative freight futures
Highway Freight Projects Prioritization Process

1. Develop criteria
2. Weight criteria
3. Screen projects
Develop Criteria Tied to Texas Freight Mobility Plan Goals

- Asset Management and Utilization
- Safety
- Mobility and Connectivity
- Multimodal Connectivity
- Economic Competitiveness
- Stewardship
- Sustainable Funding
- Customer Service

Proposed Highway Freight Project Prioritization Criteria

- Project supports growth in freight volumes for targeted supply chains
- Project supports access to Megasite (2000+ acres) or other certified development site
- Project improves facility design for more efficient freight movement
- Project improves freight travel time reliability
- Project improves access to freight generator/terminal
- Project reduces freight travel time
- Project enhances the state of good repair on the TMFN
- Project improves facility that is structurally deficient or functionally obsolete for freight vehicles on the TMFN
- Project addresses a freight safety hotspot
- Project enhances safety on a high volume Hazardous Material Route
- Project eliminates at grade crossings on the TMFN
- Project encourages truck to rail diversion
- Project has some funding from an alternative source
- Project improves access to efficient real-time travel information (delays, construction schedules, incidents, truck parking, etc.) on the THFN
- Projects address need on alternative freight route
- Project addresses need on a rural freight corridor
http://Camsys.participoll.com/

Highway Project Evaluation Criteria

Economic Competitiveness Criteria

A B C D
Not relevant Somewhat relevant Relevant Very relevant
Highway Project Evaluation Criteria

Mobility and Reliability Criteria

A B C D

Not relevant Somewhat relevant Relevant Very relevant

Highway Project Evaluation Criteria

Multimodal Connectivity Criteria

A B C D

Not relevant Somewhat relevant Relevant Very relevant
**Highway Project Evaluation Criteria**

**Asset Management and Utilization Criteria**

- A: Not relevant
- B: Somewhat relevant
- C: Relevant
- D: Very relevant

**Safety Criteria**

- A: Not relevant
- B: Somewhat relevant
- C: Relevant
- D: Very relevant
Highway Project Evaluation Criteria

Sustainable Funding Criteria

A B C D
Not relevant Somewhat relevant Relevant Very relevant

Technology Criteria

A B C D
Not relevant Somewhat relevant Relevant Very relevant
Developing Weights for Criteria

Workshop polling + TxFAC polling + MPO and District polling = Final weighting
Class 1 Rail Project Identification Process

Class 1 Rail Project Working Group
Class 1 railroads, H—GAC, Gulf Coast Rail District, NCTCOG, TxDOT

Class 1 rail project working group reviewed projects
Developed draft updated rail project list
Review updated draft with rail working group and TxFAC

Shortline Rail Project Identification Process

Series of meetings between TxDOT and shortlines
Developed needs and draft updated shortline rail project list
Review updated draft with TxFAC
Example Rail At-Grade Crossing Needs

Summary of Draft Updated Class 1 Rail Projects

- Total 46 projects
- Includes:
  - 23 grade separations
  - 4 rail bridge projects
  - 4 line rehabilitations
  - 6 mainline/doubletrack projects
  - 4 studies
  - 5 various other projects
Summary of Draft Shortline Railroad Projects

- 5 projects
  - 3 track extension
  - 2 rehabilitation to 286k capacity
- $28.7 million

### Draft Class 1 Rail Projects

<table>
<thead>
<tr>
<th>MPO</th>
<th>Location</th>
<th>Project Name</th>
<th>Project Description</th>
<th>Public Sponsor</th>
<th>Railroad Stakeholder(s)</th>
<th>Public Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amarillo MPO</td>
<td>Amarillo</td>
<td>Farmers Avenue Grade Separation</td>
<td>BNSF Hereford Subdivision, MP 558.36, Road crosses four tracks, (DOT #014695D)</td>
<td>TxDOT Rail Division</td>
<td>BNSF</td>
<td>Per FHWA / FRA policy and guidance.</td>
</tr>
<tr>
<td>Beaumont-Port Arthur MPO</td>
<td>Beaumont</td>
<td>Neches River Rail Crossing</td>
<td>Construction of a second bridge for a rail crossing of the Neches River at Beaumont</td>
<td>TxDOT Rail Division</td>
<td>BNSF, KCS, UP</td>
<td>The annual direct benefit to be generated by the project in the short term is estimated at $4.5 million (in 2016$)</td>
</tr>
<tr>
<td>Corpus Christi MPO</td>
<td>Corpus Christi</td>
<td>Corpus Christi Grade Crossing Relief</td>
<td>Create northbound wye connection toward Houston from Gregory. This is to support the Port of Corpus Christi's expansion out of LaQuinta</td>
<td>TxDOT Rail Division</td>
<td>UP</td>
<td>Per FHWA / FRA policy and guidance.</td>
</tr>
</tbody>
</table>

**NOTE:** 1. Identification as a "CLASS I RAILROAD STAKEHOLDER" indicates the project affects the railroad's owned network or operations and does not imply commitment to financially participate or otherwise support.
## Draft Shortline Railroad Projects

<table>
<thead>
<tr>
<th>Location</th>
<th>Project Name</th>
<th>Project Description</th>
<th>Estimated Cost ($000)</th>
<th>Rail Sponsor</th>
<th>Rail Benefits</th>
<th>Public Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brownwood</td>
<td>Brownwood &amp; Camp Bowie Industrial Park Rail-Served Improvement</td>
<td>Extension of tracks to access Brownwood Industrial Park will create competitive transportation logistics options and attract new economic development and companies to locate in Brownwood.</td>
<td>$2,384</td>
<td>Access to Industrial Park</td>
<td>New jobs and tax base for communities in Brownwood, Texas.</td>
<td></td>
</tr>
<tr>
<td>Etter</td>
<td>TXNW / BNSF Interchange</td>
<td>Construction of 11,000 feet of track at the TXNW-BNSF rail interchange at Etter, Texas.</td>
<td>$5,595</td>
<td>Unit-train efficiency, BNSF blocking improvements</td>
<td>New jobs and tax base for communities in Moore County, Texas.</td>
<td></td>
</tr>
<tr>
<td>Greenville</td>
<td>Dallas, Garland A Northeastern Railroad-Greenville Sub Rehabilitation</td>
<td>Rehabilitation of the McKinney sub would raise rail intercity to increase truck cars and increase velocity, efficiency, and potential rail served customers to the DFW Metropolis.</td>
<td>$9,000</td>
<td>256 upgrade, Maintenance</td>
<td>Increased efficiency and safety</td>
<td></td>
</tr>
<tr>
<td>Harwood</td>
<td>TXGN / Union Pacific</td>
<td>Construction of 8,000 feet of track at the TXGN-UP rail interchange at Harwood, Texas.</td>
<td>$3,297</td>
<td>Unit-train and Manifest traffic operational efficiency</td>
<td>New jobs and tax base for communities in Gonzales County, Texas.</td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION OF RAIL PROJECTS LIST
Ports and Waterways Project Identification Process

- Review Texas Ports 2015-2016 Capital Program
- Input from the ports
- Review updated draft with TxFAC
- Compare to needs assessment to identify gaps
### Summary of Updated Port Projects

<table>
<thead>
<tr>
<th>Port</th>
<th>Number of Projects</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaumont</td>
<td>33</td>
<td>$452,043</td>
</tr>
<tr>
<td>Brownsville</td>
<td>11</td>
<td>$376,382</td>
</tr>
<tr>
<td>Calhoun</td>
<td>5</td>
<td>$650,150</td>
</tr>
<tr>
<td>Corpus Christi</td>
<td>10</td>
<td>$181,476</td>
</tr>
<tr>
<td>Freeport</td>
<td>6</td>
<td>$297,270</td>
</tr>
<tr>
<td>Galveston</td>
<td>7</td>
<td>$129,853</td>
</tr>
<tr>
<td>Houston</td>
<td>37</td>
<td>$2,056,091</td>
</tr>
<tr>
<td>Port Arthur</td>
<td>15</td>
<td>$147,587</td>
</tr>
<tr>
<td>Victoria</td>
<td>8</td>
<td>$66,300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>132</strong></td>
<td><strong>$4,357,152</strong></td>
</tr>
</tbody>
</table>

### Summary of Updated Port Projects by Type

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Number of Projects</th>
<th>Cost ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Access</td>
<td>46</td>
<td>$1,697,943</td>
</tr>
<tr>
<td>Port Facilities</td>
<td>43</td>
<td>$1,151,567</td>
</tr>
<tr>
<td>Channels</td>
<td>8</td>
<td>$934,650</td>
</tr>
<tr>
<td>Rail</td>
<td>23</td>
<td>$292,667</td>
</tr>
<tr>
<td>Staging &amp; Properties</td>
<td>10</td>
<td>$218,325</td>
</tr>
<tr>
<td>Misc. (Power, Clearance)</td>
<td>2</td>
<td>$62,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>132</strong></td>
<td><strong>$4,357,152</strong></td>
</tr>
</tbody>
</table>
### Draft Updated Port Projects

<table>
<thead>
<tr>
<th>Port/Location</th>
<th>Project Description</th>
<th>Estimated Cost (in thousands)</th>
<th>Source</th>
<th>Project Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaumont</td>
<td>Orange County Crude Facility Rail Improvement</td>
<td>$25,000</td>
<td>Texas Ports 2015-2016 Capital Program</td>
<td>High</td>
</tr>
<tr>
<td>Beaumont</td>
<td>Overpass at Carroll Street Crossing Port Main Lead Track</td>
<td>$10,000</td>
<td>Texas Ports 2015-2016 Capital Program</td>
<td>High</td>
</tr>
<tr>
<td>Beaumont</td>
<td>Storage &amp; Conveyors with Rail Improvements</td>
<td>$10,000</td>
<td>Texas Ports 2015-2016 Capital Program</td>
<td>High</td>
</tr>
<tr>
<td>Beaumont</td>
<td>Access Roadway to Hwy 90 with Overpass at KCS and new entrance/security checkpoint</td>
<td>$9,000</td>
<td>Texas Ports 2015-2016 Capital Program</td>
<td>High</td>
</tr>
<tr>
<td>Beaumont</td>
<td>Development of Carroll St. &amp; Buford St. Lots</td>
<td>$5,700</td>
<td>Texas Ports 2015-2016 Capital Program</td>
<td>High</td>
</tr>
<tr>
<td>Beaumont</td>
<td>Second Access Roadway to I-10 (0.5 mile of Old Hwy 90 between new overpass and I-10)</td>
<td>$2,000</td>
<td>Texas Ports 2015-2016 Capital Program</td>
<td>High</td>
</tr>
</tbody>
</table>

### Updated Gulf Intracoastal Waterway Projects

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazos River Floodgates and Colorado River Locks</td>
<td>TBD 2014 GIWW Master Plan</td>
</tr>
<tr>
<td>Placement of revetments along placement areas</td>
<td>TBD 2014 GIWW Master Plan</td>
</tr>
<tr>
<td>New fleeting areas: Provide funding assistance for the creation of new fleeting areas that would accommodate all available barge traffic</td>
<td>TBD 2014 GIWW Master Plan</td>
</tr>
<tr>
<td>Replacement of FM 457 swing bridge (Caney Creek Bridge)</td>
<td>TBD 2014 GIWW Master Plan</td>
</tr>
<tr>
<td>Real estate options for PA86 placement area in Brazoria County</td>
<td>TBD 2014 GIWW Master Plan</td>
</tr>
<tr>
<td>Dredging and widening navigational channel projects identified in the Water Resources Reform and Development Act, the annual Energy and Water Appropriations Act or other legislation under US Army Corps of Engineers authorized projects (conjunction with federal and local partner funding)</td>
<td>$60,000 TxDOT Legislative Appropriations Request (2015-2016)</td>
</tr>
</tbody>
</table>
DISCUSSION OF PORT PROJECTS LIST

AIR CARGO ACCESS NEEDS AND PROJECTS
Air Cargo Access Project Identification Process

- Review individual airport plans
- Input from the airports
- Review updated draft with TxFAC
- Compare to needs assessment to identify gaps

Updated Air Cargo Highway Access Projects

<table>
<thead>
<tr>
<th>Airport</th>
<th>Projects</th>
<th>Unfunded Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>$1,000</td>
</tr>
<tr>
<td>DFW</td>
<td>14</td>
<td>$1,932,237</td>
</tr>
<tr>
<td>IAH</td>
<td>8</td>
<td>$400,698</td>
</tr>
<tr>
<td>SAT</td>
<td>11</td>
<td>$1,511,770</td>
</tr>
<tr>
<td>AFW</td>
<td>12</td>
<td>$957,470</td>
</tr>
<tr>
<td>ELP</td>
<td>11</td>
<td>$388,049</td>
</tr>
<tr>
<td>AUS</td>
<td>11</td>
<td>$518,710</td>
</tr>
<tr>
<td>LRD</td>
<td>3</td>
<td>$144,890</td>
</tr>
<tr>
<td>TOTAL</td>
<td>70</td>
<td>$5,854,824</td>
</tr>
</tbody>
</table>
## Draft Updated Air Cargo Highway Access Projects

<table>
<thead>
<tr>
<th>Airport</th>
<th>Highway</th>
<th>From</th>
<th>To</th>
<th>Description</th>
<th>Funding Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFW</td>
<td>BU 287P</td>
<td>AT W. BAILEY</td>
<td>IN SAGINAW</td>
<td>CONSTRUCT NEW OVERPASS BRIDGE</td>
<td>$11,000,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BOSWELL RD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFW</td>
<td>FM 156</td>
<td>US 81/287</td>
<td>WATAUGA ROAD</td>
<td>WIDEN TO 4 LANE DIVIDED</td>
<td>$52,555,001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(MCHELROY)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFW</td>
<td>FM 157</td>
<td>MID CITIES BLVD</td>
<td>MIDWAY DRIVE</td>
<td>WIDEN FROM 4 TO 6 LANES</td>
<td></td>
</tr>
<tr>
<td>AFW</td>
<td>FM 1709</td>
<td>US 377</td>
<td>SH 114</td>
<td>DESIGN OF SIGNAL INTERCONNECT AND CCTV SYSTEM</td>
<td></td>
</tr>
<tr>
<td>AFW</td>
<td>FM 3029</td>
<td>AT FM 1938</td>
<td></td>
<td>IMPROVE TRAFFIC SIGNALS, ADD RIGHT TURN LANE</td>
<td>$58,221</td>
</tr>
<tr>
<td>AFW</td>
<td>I-30</td>
<td>OAKLAND BLVD</td>
<td>COOPER STREET</td>
<td>CONSTRUCT ADDITIONAL THRU LANES &amp; UPGRADE TO STANDARDS &amp; TMS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IN FT WORTH, E</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Next Steps

<table>
<thead>
<tr>
<th>July</th>
<th>Update highway project lists with draft 2018 UTP when available</th>
<th>TxFAC review projects lists and provide feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>July/Aug</td>
<td>Finalize project lists</td>
<td>Screen and prioritize projects</td>
</tr>
<tr>
<td>Aug</td>
<td>Develop freight investment plan</td>
<td></td>
</tr>
</tbody>
</table>
Goals and Outcomes:

- Present significant updates by chapter
- Obtain feedback from TxFAC on updated chapters
- Discuss schedule for completing update
Chapter 2: Strategic Goals

- Objective of chapter
  - Develop strategic goals
    - Guide freight planning efforts
    - Gauge the success of these efforts
  - Identify objectives for each goal.
    - Make measurable progress toward the attainment of the freight transportation system goals
    - Realize the Texas Freight Mobility Plan purpose:

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

Approach to updating Freight Plan goals

- Review updated national and state goals
- Stakeholder input
- Updated goals
Chapter 2: Strategic Goals

Meeting National and Statewide Goals

- Asset Management
- Safety
- Mobility and Reliability
- Multimodal Connectivity
- Economic Competitiveness
- Stewardship
- Sustainable Funding
- Customer Service

FAST Act

- State of Good Repair
- Safety, Security, Efficiency, Resiliency
- Short & Long Distance Movement
- Economic Competitiveness
- Environmental

TTP 2040

- Asset Management
- Safety
- Mobility and Reliability
- Multimodal Connectivity
- Stewardship
- Sustainable Funding
- Customer Service

2017-2021 Strategic Plan

- Preserve our Assets
- Promote Safety
- Optimize System Performance
- Foster Stewardship

Focus on the Customer
Deliver the Right Projects

Chapter 2: Strategic Goals

- Asset Management and Utilization
- Safety
- Mobility and Connectivity
- Multimodal Connectivity
- Economic Competitiveness
- Stewardship
- Sustainable Funding
- Customer Service
### Chapter 2: Strategic Goals – Summary of Updates

<table>
<thead>
<tr>
<th>Section</th>
<th>Change</th>
<th>Note/Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Establishment of Consistent Goals</td>
<td>Updated state and national guidance to FAST Act and TxDOT’s 2017-2021 Strategic Plan</td>
<td>Updating to most recent guidance available</td>
</tr>
<tr>
<td></td>
<td>Addition of callout box on MAP-21 and FAST Act</td>
<td>Requested by TxDOT; clarifies differences between acts</td>
</tr>
<tr>
<td>2.2 Texas Freight Mobility Plan Goals</td>
<td>Removal of “Technology” as a goal</td>
<td>TxFAC input</td>
</tr>
<tr>
<td></td>
<td>Update from “Asset Management” to “Asset Management and Utilization”</td>
<td>TxFAC input</td>
</tr>
<tr>
<td></td>
<td>Addition of LOS to first Mobility and Reliability objective</td>
<td>TxDOT request; specificity on measure for unacceptable congestion conditions</td>
</tr>
<tr>
<td></td>
<td>Moved goals before statement of benefits on alignment</td>
<td>TxDOT request</td>
</tr>
<tr>
<td></td>
<td>Updated Exhibit 2-1</td>
<td>Updating to most recent guidance available</td>
</tr>
<tr>
<td>2.3 Using Goals to Drive the Freight Plan</td>
<td>Addition of explanation of and example from Appendix A</td>
<td>TxDOT request</td>
</tr>
</tbody>
</table>

**QUESTIONS/COMMENTS ON CHAPTER 2**
Texas Freight Mobility Plan
Chapter 4: Freight Policies, Strategies, and Institutions

- Objective of chapter is to:
  - Identify Texas’ freight policies, strategies, and institutions that guide freight transportation investment decisions
  - Discuss various financing programs available to fund freight policies and investments.
Chapter 4: Freight Policies, Strategies, and Institutions

Approach to updating Freight Plan policies, strategies and institutions

Review and update national and state freight policies and institutions  
Stakeholder input  
Updated policies, strategies and institutions

TxDOT Funding Sources ($ Million)  
2016-2017

- State Highway Funds: $11,360.4 (49%)
- Federal Funds: $8,357.6 (35%)
- General Revenue Funds: $507.3 (2%)
- Texas Mobility Funds: $788.6 (4%)
- Bond Proceeds: $2,021.6 (9%)
- Interagency Contracts: $9.0 (0%)
Chapter 4: Freight Policies, Strategies, and Institutions

<table>
<thead>
<tr>
<th>Section</th>
<th>Update</th>
<th>Note/Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Freight Policies and Strategies</td>
<td>No changes, Policies and strategies are discussed in Chapters 2 and 12 which will drive most changes.</td>
<td></td>
</tr>
<tr>
<td>4.2 Freight-Related Institutions and Policies</td>
<td>Agencies were reviewed to ensure that their roles are the same as they were in the original TFMP. Some agencies were reordered based on their importance to freight planning and the Texas Secretary of State's Office was added to this list. The role of an agency can change over time and updates here are to ensure that as freight planning evolves, an accurate representation of stakeholders is maintained.</td>
<td></td>
</tr>
<tr>
<td>4.3 Freight Infrastructure Funding and Financing</td>
<td>New federal legislation (FAST Act) related to freight planning and funding. UTP process description and summary of projects by funding type. Updates with most recently available information from private partners, such as railroads. Since the first TFMP was released, new federal legislation changed the existing policies and funding for transportation, specifically creating new funding sources for freight projects. This update includes this new legislation and any applicable updates for other modal partners. Prevent information from being too dated when TFMP is updated and to reflect the most current conditions of such constraints.</td>
<td></td>
</tr>
<tr>
<td>4.4 Statutory and Constitutional Constraints on Freight-Related Investments and Policies</td>
<td>Updates on statistics, such as the amount of funding allocated to the Available School Fund, and updated sources. Added to finalize chapter and provide conclusions of findings.</td>
<td></td>
</tr>
<tr>
<td>4.5 Conclusion</td>
<td>Conclusions added.</td>
<td></td>
</tr>
</tbody>
</table>

QUESTIONS/COMMENTS ON CHAPTER 4
Chapter 9: Overview of Trends, Needs, and Issues

Texas Freight Mobility Plan
Chapter 9: Overview of Trends, Needs, and Issues

Objective of chapter:

- Discuss trends most likely to impact freight flows in Texas

- Discuss how trends are likely to affect the:
  - Volume of freight
  - Pattern of freight flows
  - Freight needs and issues
  - Freight projects and recommendations

- Identify general freight needs and issues
Chapter 9: Overview of Trends, Needs, and Issues

Approach to updating Freight Plan trends, needs and issues

Refresh, collect and analyze latest data

Stakeholder input

Updated trends, needs and issues

Chapter 9: Overview of Trends, Needs, and Issues

Updated Key Trends Impacting Freight Flows

<table>
<thead>
<tr>
<th>Categories</th>
<th>Trends</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade and Employment</td>
<td>Key international trade markets</td>
</tr>
<tr>
<td></td>
<td>Panama Canal expansion</td>
</tr>
<tr>
<td></td>
<td>Employment and industry trends</td>
</tr>
<tr>
<td>Demographics</td>
<td>Significant population growth</td>
</tr>
<tr>
<td></td>
<td>Mega-regions</td>
</tr>
<tr>
<td>Energy</td>
<td>Texas oil and gas production</td>
</tr>
<tr>
<td></td>
<td>Renewable energy</td>
</tr>
<tr>
<td></td>
<td>Alternative transportation fuels</td>
</tr>
<tr>
<td>Technology</td>
<td>Intelligent Transportation Systems (ITS)</td>
</tr>
<tr>
<td></td>
<td>Autonomous freight vehicles</td>
</tr>
<tr>
<td></td>
<td>Alternate delivery systems</td>
</tr>
<tr>
<td></td>
<td>On-demand shipping</td>
</tr>
<tr>
<td>Business and Consumer Practices</td>
<td>Sourcing</td>
</tr>
<tr>
<td></td>
<td>Advances in manufacturing</td>
</tr>
<tr>
<td></td>
<td>E-commerce</td>
</tr>
</tbody>
</table>
Texas’ Freight Transportation Challenges

CAPACITY/CONGESTION
Truck travel time reliability, urban congestion, Amazon effect

SYSTEM OPERATIONS
freight network, traffic management center, bridge conditions

SAFETY
Truck involved crashes, truck parking, at-grade rail crossings

CONNECTIVITY
between modes, urban/rural

INSTITUTIONAL COORDINATION
collaboration and partnerships

BORDER/PORTS–OF-ENTRY
congestion, wait times, coordination, security

PUBLIC AWARENESS/EDUCATION
Business case for freight

FUNDING
Invest in freight, alternative funding

Chapter 9: Overview of Trends, Needs, and Issues

Summary of Updates

<table>
<thead>
<tr>
<th>Section</th>
<th>Change</th>
<th>Note/Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Update from Chapter 8 to Chapter 9</td>
<td>Addition of chapter</td>
</tr>
<tr>
<td></td>
<td>Updated all trend charts from two snapshots to year-by-year trends</td>
<td>Increase richness of information</td>
</tr>
<tr>
<td>9.1 Significant Freight System Trends</td>
<td>Updated all statistics to 2016</td>
<td>More recent data available</td>
</tr>
<tr>
<td>9.1.1 Trade and Employment</td>
<td>Addition of discussion on non-NAFTA partners</td>
<td>Other significant trading partners exist</td>
</tr>
<tr>
<td></td>
<td>Addition of stakeholder input on how trade trends will affect their region</td>
<td>Stakeholder input available</td>
</tr>
<tr>
<td></td>
<td>Addition of summary section drawing conclusions from each trade and employment trend</td>
<td>Explicitly connects trends to Texas freight</td>
</tr>
<tr>
<td>9.1.2 Demographics</td>
<td>Addition of summary section drawing conclusions from each demographic trend</td>
<td>Explicitly connects trends to Texas freight</td>
</tr>
<tr>
<td>9.1.3 Energy</td>
<td>Addition of discussion on natural gas production in U.S. and in Texas</td>
<td>Domestic natural gas production is an important opportunity for Texas</td>
</tr>
<tr>
<td></td>
<td>Enhanced discussion of Texas’ role in U.S. renewable energy production</td>
<td>Texas is a national leader in wind generation, an industry with OSOW freight challenges</td>
</tr>
<tr>
<td></td>
<td>Addition of summary section drawing conclusions from each energy trend</td>
<td>Explicitly connects trends to Texas freight</td>
</tr>
</tbody>
</table>
## Chapter 9: Overview of Trends, Needs, and Issues

### Summary of Updates, cont.

<table>
<thead>
<tr>
<th>Section</th>
<th>Change</th>
<th>Note/Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1.4 Technology</td>
<td>Updated status of FRATIS deployments</td>
<td>Previous conditions are no longer accurate</td>
</tr>
<tr>
<td></td>
<td>Removed section on Dedicated Truck Lanes</td>
<td>While a possible freight solution, truck lanes are not a technological innovation</td>
</tr>
<tr>
<td></td>
<td>Expanded discussion of autonomous vehicles to include connected vehicle technology</td>
<td>Significant trend not previously covered in the chapter</td>
</tr>
<tr>
<td></td>
<td>Expanded discussion of autonomous and connected vehicles to include regulatory developments</td>
<td>State and national policy regarding autonomous vehicles has evolved since last plan</td>
</tr>
<tr>
<td></td>
<td>Addition of section on Alternate Delivery Systems (freight shuttle, drones, etc.)</td>
<td>Emerging possibilities exist for freight movement outside of existing systems</td>
</tr>
<tr>
<td></td>
<td>Addition of section on On-Demand Shipping</td>
<td>“Uber-like” transportation has rapidly grown and presents a freight opportunity</td>
</tr>
<tr>
<td></td>
<td>Addition of summary section drawing conclusions from each technology trend</td>
<td>Explicitly connects trends to Texas freight</td>
</tr>
<tr>
<td>9.1.5 Business and Consumer Practices</td>
<td>Addition of section 9.1.5 to discuss business and consumer practices.</td>
<td>Behavior of individuals and firms affects freight movement</td>
</tr>
<tr>
<td></td>
<td>• Sourcing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Advances in manufacturing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• E-commerce (moved from 9.1.4)</td>
<td></td>
</tr>
<tr>
<td>9.2 Significant Freight System Needs and Issues</td>
<td>Updated list of general transportation needs to reflect current conditions</td>
<td>Added some and revised some descriptions</td>
</tr>
</tbody>
</table>

Freight Advisory Committee

July 20, 2017

QUESTIONS/COMMENTS ON CHAPTER 9

TEXAS DEPARTMENT OF TRANSPORTATION
Schedule for Remaining Chapters and Draft Plan

Aug 1
- Chapter 3
- Chapter 5
- Chapter 10

Aug 8
- Chapter 7
- Chapter 8
- Chapter 11

Aug 14
- Chapter 6
- Chapter 12
- Chapter 13

Aug 18
- Draft Plan
- Executive summary