Welcome to the Border Trade Advisory Committee Meeting

- The meeting will start at 8:00 a.m. CST
- Please turn off your video and mute your phones
- We will be using the Mentimeter polling application during this meeting
  - You may find it helpful to load www.menti.com into the browser of your device now. The meeting code is: 39 31 0

Having trouble connecting?
Contact Eduardo Hagert:
via text (512-578-9346) or in the chat box
<table>
<thead>
<tr>
<th></th>
<th>Agenda</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction/Opening Remarks</td>
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<td>2</td>
<td>Activities since Previous Meeting (April 2020)</td>
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<td>3</td>
<td>Introduction (Chapter 1)</td>
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<td>Goals, Objectives, and Institutions (Chapter 2)</td>
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<td>Texas-Mexico Border: Past and Present (Chapter 3)</td>
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<td>Binational Multimodal Transportation Network Designation (Chapter 4)</td>
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<td>Needs Assessment and System Performance (Chapter 5)</td>
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<td>8</td>
<td>Preliminary Future Forecasts for the Border Region (Chapter 6)</td>
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<td>Preliminary Results on Economic Importance of the Border (Chapter 7)</td>
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<td>10</td>
<td>Next Steps and Closing Remarks</td>
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Recap of Previous BTAC Meeting (April 2020)

- Stakeholder outreach
  - BNRSC round 4 themes

- Refinements made to Chapters 1 (Introduction) and 2 (Goals, Objectives, and Institutions) based on BTAC/BNRSC member feedback
  - Update base year of data to 2018/2019
  - Update institutions and agencies involved in key aspects of the binational relation that impacts the U.S.-Mexico border

- Further development of Chapters 3 (Texas-Mexico Border: Past And Present), 4 (Binational Multimodal Transportation Network Designation), and 5 (Needs Assessment and System Performance)
  - Includes review of wait time versus crossing time
Introduction

Chapter 1
### Chapter Purpose

- Provide background information on the importance of the Texas-Mexico border
- Provide purpose of the BTMP
- Show BTMP development process
- Provide BTMP Final Report content

### Key Messages

- Texas-Mexico border connects people and commerce throughout U.S. and Mexico
- Blueprint for binational policy, program, and projects
- Identify transportation issues, needs, challenges, opportunities, and strategies
- Underpinned by data-driven analysis and binational stakeholder input

### Refinements/Changes

- In 2019, Mexico was the largest trading partner of the U.S.
- Addition of cultural/personal ties aspect
- Economic, demographic, and goods movement information updated to 2019
Mexico is the largest trading partner of the U.S.
  - 68% of trade between the two countries passes through the Texas-Mexico border

U.S.-Mexico trade has more than tripled between 1994 and 2019
  - Increased from $173 billion to $615 billion

Border region population grew 70% from 4.4 million in 1990 to 7.4 million in 2019

In 2019, more than 32 million cars, 19 million pedestrians, and 90,000 passenger buses crossed the Texas-Mexico border
Goals, Objectives, and Institutions

Chapter 2
## Goals, Objectives, and Institutions Overview

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Refinements/Changes</th>
</tr>
</thead>
</table>
| - Present BTMP vision and mission  
- Present BTMP goals and objectives  
- Identify the institutions and agencies that partner along the Texas-Mexico border and their roles | - Goals and objectives developed through consensus  
- Joint management and collaborative efforts between binational partners allow border to function effectively | - Update institutions and agencies for border policy development, planning, and infrastructure development  
- Differentiate border management process, roles, and procedures |
Refinements to Goals, Objectives, and Institutions (Chapter 2)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Discuss the current coordination between local, state, and federal agencies and how collaboration can be improved and enhanced</td>
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<td></td>
<td>Cover alternative sources of funding as an option for the border</td>
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<td>Consider showing the process flows in a graphic way to simplify content</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Include reference to coordination, plus added binational coordination for responses to border emergencies/disruptions</td>
</tr>
<tr>
<td>Include reference to Donation Acceptance Program (DAP) and role of private sector</td>
</tr>
<tr>
<td>Add visuals to chapter</td>
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</table>

- Identified **opportunities for better coordination** along the border
  - Both between the two countries and between the agencies in each country
- Described **Resiliency Planning** and **Joint Incident Management and Emergency Response** along the border
  - Including Sister Cities agreement
- Identified agencies leading planning efforts **inside and outside border crossings**
- **Expanded list of agencies and stakeholders** of Texas-Mexico border
Institutional Relations at the Border (2.3)

- A large number of institutions and agencies on both sides of the border involved in U.S.-Mexico border

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>BORDER POLICY DEVELOPMENT</th>
<th>BORDER PLANNING</th>
<th>BORDER MANAGEMENT &amp; OPERATIONS</th>
<th>INFRASTRUCTURE AT BORDER CROSSINGS</th>
<th>INFRASTRUCTURE CONNECTING TO BORDER CROSSINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. side</td>
<td>Federally-led (oversight by DOS)</td>
<td>Inside border crossings: led by CBP; outside border crossings: USDOT guidance, with active state DOT participation</td>
<td>Federally-led (CBP)</td>
<td>Federally-led (GSA), shared with states, counties, cities, or private sector</td>
<td>Based on ownership of infrastructure/network</td>
</tr>
<tr>
<td>Mexico side</td>
<td>Federally-led (oversight by SRE)</td>
<td>Federally-based process. Inside border crossings: led by Aduanas and SCT; outside border crossings: led by SCT</td>
<td>Federally-led (Aduanas)</td>
<td>Federally-led (INDAABIN), shared with states or private sector</td>
<td>Federally-led; small state, local, and private sector role</td>
</tr>
<tr>
<td>Binational coordination mechanisms</td>
<td>21st Border Initiative, high economic dialogue</td>
<td>JWC, BBBXG, ad-hoc regional efforts</td>
<td>Ad-hoc groups at individual border crossings</td>
<td>Ad-hoc groups at individual border crossings</td>
<td>On a project-by-project basis</td>
</tr>
</tbody>
</table>

- Gaps in coordination between levels of government within each country and lack of standardized mechanisms for local stakeholders to participate in border-related decisions
## U.S.-Mexico and Texas-Mexico Border Planning Processes (2.3)

### U.S. Planning Process

**Federal**
- CBP leads “inside border crossing” planning
  - 5-year planning document for land POE capital investments
- Guidance by USDOT on transportation planning process “outside border crossing”
  - FAST Act
  - Statewide planning requirements
  - Metropolitan planning requirements

**Texas**
- Texas Transportation Plan (TTP) 2040
- TxDOT Strategic Plan
- Statewide Transportation Improvement Program (STIP)
- Texas-Mexico Border Transportation Master Plan
- Texas Freight Mobility Plan 2018
- Metropolitan Transportation Plans

### Mexico Planning Process

**“General Planning Law” (1985)**
- Norms and principles (including National Development Plan)
- Basis for integration and functioning (National System of Democratic Planning)
- Basis of participation and coordination

**National Development Plan**
- Describes programs that need to be developed including:
  - Sectorial plans (for key federal agencies)
  - Institutional (for quasi-governmental agencies)

**Other Plans**
- Aduanas leads “inside border crossing” planning
  - Infrastructure Modernization Plan (IMP)
- SCT supports “inside border crossing” planning and leads transportation planning process “outside border crossing”
  - Sectorial Plan for Transportation and Communications
BTAC Feedback

1. Did we adequately address your comments from the last BTAC meeting?
2. Are there other topics that need to be included in this chapter?
Texas-Mexico Border: Past and Present

Chapter 3
## Texas-Mexico Border: Past and Present Overview

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Refinements/Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Identify the trends and current conditions of the Texas-Mexico border</td>
<td>- The border region population and employment is growing</td>
<td>- Information data points updated to 2019</td>
</tr>
<tr>
<td>- Provide high-level socioeconomic and cross-border movements</td>
<td>- The border sustains trade between all Texas counties, all U.S. states, and all Mexican states</td>
<td>- Synthesized information about factors affecting travel demand</td>
</tr>
<tr>
<td>- Describe binational multimodal transportation infrastructure</td>
<td>- Cross-border freight continues to grow, yet people crossings have declined</td>
<td>- Described history of border infrastructure</td>
</tr>
<tr>
<td>- Guide preliminary identification of issues and needs</td>
<td>- Investments in border infrastructure and connecting infrastructure have not kept pace with population and trade growth</td>
<td>- Added description of current state of border transportation infrastructure</td>
</tr>
<tr>
<td>Chapter</td>
<td>Feedback</td>
<td>Response</td>
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<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
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<tr>
<td>3</td>
<td>Update current conditions data to 2019, where possible</td>
<td>Updated socioeconomic, trade, and infrastructure data to 2019, where available</td>
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<td></td>
<td>Provide additional information on border crossing wait times</td>
<td>Amplified border wait time trends in chapter to illustrate trends</td>
</tr>
<tr>
<td></td>
<td>Consider ways to collect southbound movements more accurately</td>
<td>Continued to work with SCT/SAT and examined other sources; there are no borderwide southbound data sources</td>
</tr>
<tr>
<td></td>
<td>Show data on commerce between ports and more details for the transportation of goods</td>
<td>Added more detail on maritime; additional details are available in technical papers</td>
</tr>
<tr>
<td></td>
<td>Enhance the border story to weave in cultural and geographic ties</td>
<td>Improved border story with specific language, examples, and bullets</td>
</tr>
<tr>
<td><strong>Texas-Mexico Border Story: What’s Been Covered (3.1 to 3.6)</strong></td>
<td></td>
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<tr>
<td>---------------------------------------------------------------</td>
<td></td>
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<tr>
<td><strong>Population</strong></td>
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<tr>
<td>▪ 7.4 million people live along the border (2019)</td>
<td></td>
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<tr>
<td>▪ Borderwide population increased 70% from 1990 to 2019</td>
<td></td>
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<tr>
<td><strong>Employment</strong></td>
<td></td>
<td></td>
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<tr>
<td>▪ 97% employment growth from 1990 to 2019</td>
<td></td>
<td></td>
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<tr>
<td>– Texas: 76%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Mexico: 114%</td>
<td></td>
<td></td>
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<tr>
<td><strong>Income</strong></td>
<td></td>
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<tr>
<td>▪ Incomes in Texas border counties increased by 20%, outpacing U.S. growth rate (4%)</td>
<td></td>
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<tr>
<td>▪ Texas border poverty line declined, from 36% in 1990 to 23% in 2018</td>
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<tr>
<td>▪ Incomes in Mexico border states grew between 2010 and 2015</td>
<td></td>
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<tr>
<td><strong>Education</strong></td>
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<tr>
<td>▪ An increase in federal education programs have led to more Texas high school and college graduates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Educación media superior obligatoria 2012 has driven educational advancements in Mexico</td>
<td></td>
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<tr>
<td><strong>History</strong></td>
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<tr>
<td>▪ International bridge development began after the U.S.-Mexico Rio Grande Rectification Treaty of 1933</td>
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<tr>
<td>▪ Although trade is growing, border crossing investments have not kept pace</td>
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<tr>
<td><strong>Trade</strong></td>
<td></td>
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<tr>
<td>▪ Majority of U.S.-Mexico trade is handled by the border</td>
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<tr>
<td>▪ Ratification of NAFTA has tripled trade across the border from 1994 to 2019</td>
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</tbody>
</table>
Overview of Border Transportation Infrastructure History

- Only 10 bridge crossings along the Texas-Mexico border were built or improved upon since 1994.
- September 11th fundamentally altered border security and operating procedures.
- Only one-third of border facilities constructed since 1980 have seen additional investment.
- USMCA and continued population growth places additional pressure on the border.
Cross-Border Trade Connections to all Texas Counties (3.6)

Northbound Movements: Trade Destinations by County

Southbound Movements: Trade Origins by County
Cross-Border Trade Connecting all U.S. and Mexican States (3.6)

Northbound Movements: Origins (MX) and Destinations (U.S.)

Southbound Movements: Origins (U.S.) and Destinations (MX)
### Current State of Border Transportation Infrastructure System

| Border Crossings | - Texas-Mexico border region added seven new bridge crossings right after NAFTA  
- Border activity is dynamic; border transportation infrastructure is not as adaptable  |
|------------------|----------------------------------------------------------------------------------|
| Highway System   | - Primary conduit for people and goods movement  
- Facilitates daily life for millions of residents and sustains local and global trade  |
| Freight Rail System | - Provides lower-cost shipping for bulk agricultural commodities, minerals and international shipping containers  
- Unified cargo processing in Laredo creates efficient cross-border rail trade  |
| Aviation         | - Enables business, personal travel, and cargo movements on numerous U.S. and Mexican carriers  
- 15 airports in Texas have regularly scheduled flights to 31 airports throughout Mexico  |
| Seaports         | - Short sea shipping across the Gulf of Mexico is competitive with truck and rail  
- Seaport shipping alleviates congestion at land border crossings  |
| Pipelines        | - Predominantly used for U.S. exports, with vast majority of the total capacity used for outflows to Mexico  
- 13 import and export pipeline terminals exist along the border  |
Highway and Roadway Network (3.7)

- 30,200 lane miles serve the border region
- Passenger vehicle miles traveled (VMT) in border region increased 35% and commercial VMT increased 17% from 2005 to 2018
- Cross-border truck trade increased 52% between 2006 and 2019
- Roadway capacity increased 14% between 2006 and 2019
Highway and Roadway Network (3.7)

- Highway and roadway infrastructure has not kept pace with passenger and freight growth in the border region.

The number of northbound trucks increased by 2 million or 93% since 1996.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
</tr>
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<tbody>
<tr>
<td>1996</td>
<td>2.2 Million</td>
</tr>
<tr>
<td>2017</td>
<td>4.2 Million</td>
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</tbody>
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BTS border crossing data only provides border entry information.
Each year, **84.8 million people** cross the Texas-Mexico border.*

*There is a lack of southbound data on the movement of people in the border region.
Freight rail infrastructure has not grown at the same rate as rail trade and traffic.

The number of northbound railcars increased by 769,152 or 305% since 1996.

<table>
<thead>
<tr>
<th>Year</th>
<th>Northbound</th>
<th>Southbound</th>
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</thead>
<tbody>
<tr>
<td>2006</td>
<td>$19.9 Bil.</td>
<td>$27.0 Bil.</td>
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<tr>
<td>2007</td>
<td>$25.8 Bil.</td>
<td>$49.0 Bil.</td>
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Texas-Mexico Cross-Border Rail Trade Value

- Billions
- 2006: $19.9 Bil.
- 2007: $25.8 Bil.
- 2008: $27.0 Bil.
- 2009: $27.0 Bil.
- 2010: $27.0 Bil.
- 2011: $27.0 Bil.
- 2012: $27.0 Bil.
- 2013: $27.0 Bil.
- 2014: $27.0 Bil.
- 2015: $27.0 Bil.
- 2016: $27.0 Bil.
- 2017: $27.0 Bil.
- 2018: $27.0 Bil.
- 2019: $27.0 Bil.

251,769 Railcars (1996) vs. 1.0 million Railcars (2019)
Mobility and Reliability: Northbound Wait Times – Commercial Vehicles (3.12.2)

- **Commercial vehicles**: From 2003-2019, median wait times were relatively steady; 90th percentile wait times more than doubled (over 21 minutes) across the entire border region.

50th Percentile Border Wait Time: Commercial Vehicle (Standard)

90th Percentile Border Wait Time: Commercial Vehicle (Standard)
Mobility and Reliability: Northbound Wait Times – Personal Vehicles (3.12.2)

- **Personal vehicles:** Median wait times increased **213%** (17 minutes) across the border between 2003-2019

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50th Percentile Border Wait Time: Personal Vehicle (Standard)

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<tbody>
<tr>
<td>Wait Time (Minute)</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
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<td>21</td>
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<td>24</td>
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90th Percentile Border Wait Time: Personal Vehicle (Standard)

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<tbody>
<tr>
<td>Wait Time (Minute)</td>
<td>30</td>
<td>32</td>
<td>34</td>
<td>36</td>
<td>38</td>
<td>40</td>
<td>42</td>
<td>44</td>
<td>46</td>
<td>48</td>
<td>50</td>
<td>52</td>
<td>54</td>
<td>56</td>
<td>58</td>
<td>60</td>
<td>62</td>
</tr>
</tbody>
</table>

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Legend:
- **Border Total**
- **Laredo Region**
- **RGV Region**
- **El Paso Region**
Bicycles/Pedestrians: Median wait times increased slightly in the Laredo and RGV regions, while remaining stable in the El Paso region during the same time period.
Mobility and Reliability: Roadway Delay and Congestion (3.12.3)

- Roadway congestion in the Texas-Mexico border region is concentrated in urban areas and around border crossings.
- **El Paso Region**: most congestion occurs on the I-10 corridor and FH 45.
- **Laredo Region**: congested corridors are north-south I-35, FH 85, and I-69.
El Paso Region Congestion
Laredo Region Congestion
RGV Region Congestion
Safety and Security: Roadway Incidents (3.12.4)

- Commercial vehicle and pedestrian/cyclist crashes in the border region have steadily declined since 2015.
- Crashes in Mexico declined significantly over the past few years.

**Total Commercial Vehicle Crashes by Region**

**Total Pedestrian/Cyclist Crashes by Region**

![Graphs showing trends in crashes by region over years from 2015 to 2019.](image-url)
Safety and Security: Rail Incidents (3.12.4)

- Between 2008 and 2017, **rail incidents declined 78%** on the Texas side and remained constant on the Mexico side of the borderwide region.
Asset Preservation: Pavement Conditions (3.12.5)

- Between 2010 and 2019, Texas-side border pavement conditions stayed relatively consistent.
- Within the Mexico border states, pavement conditions are of higher quality than the national averages.

**Texas Borderwide Pavement Conditions**

![Graph showing pavement conditions from 2020 to 2019 for different regions.]

**Mexico Border States – Percent of Pavements Deficient**

<table>
<thead>
<tr>
<th>Mexico Border States</th>
<th>Percent of Pavements Deficient 2010</th>
<th>Percent of Pavements Deficient 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coahuila</td>
<td>34.3%</td>
<td>30.0%</td>
</tr>
<tr>
<td>Chihuahua</td>
<td>41.3%</td>
<td>43.9%</td>
</tr>
<tr>
<td>Nuevo León</td>
<td>28.9%</td>
<td>26.2%</td>
</tr>
<tr>
<td>Tamaulipas</td>
<td>38.8%</td>
<td>41.0%</td>
</tr>
<tr>
<td>National</td>
<td>68.0%</td>
<td>67.3%</td>
</tr>
</tbody>
</table>
Asset Preservation: Bridge Conditions (3.12.5)

- **Bridge conditions in the Texas border counties improved** between 2012 and 2014, but have been declining since 2014.
- As of 2019, **bridge conditions in the El Paso and RGV Regions are higher than the average score** in the Texas borderwide region, while bridge condition scores in the Laredo Region are lower.

![Texas Borderwide Bridge Conditions (2012–2019)](chart.png)
Asset Preservation: Border Crossing Conditions (3.12.5)

- All Texas-Mexico border crossings are in **good or fair** condition—with the exception of Fort Hancock-El Porvenir.
- Many structures may **require future investments** to ensure infrastructure is able to **meet transportation demands**.
BTAC Feedback

1. Did we adequately address your comments from the last BTAC meeting?

2. Are there other topics that need to be included in this chapter?
### Designation Process for Binational Multimodal Transportation Corridors

#### Overview

**Chapter Purpose**
- Summarize the binational multimodal transportation network designation process for:
  - Texas and local regions
  - Mexico’s four border states
  - U.S. and Mexico

**Key Messages**
- Three border regions were identified, consistent with previous efforts
- 5-sphere planning analysis structure
- Developed designation criteria
- 11 multimodal transportation corridors are designated

**Refinements/Changes**
- Provides a consistent framework for ongoing transportation planning in the region
- Integration, accessibility, and connectivity are key criteria used in designation
- Process for designation began at border crossings and expanded geographically and by mode
- Six designated corridors serve north-south movements and five serve east-west movements
### Refinements to Binational Multimodal Transportation Network Designation (Chapter 4)

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Feedback</th>
<th>Response</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>Include Mazatlán-Durango-Monterrey-Reynosa corridor</td>
<td>Added Mazatlán-Durango-Monterrey-Reynosa corridor</td>
</tr>
<tr>
<td></td>
<td>Include Port of Brownsville</td>
<td>Added Port of Brownsville</td>
</tr>
<tr>
<td></td>
<td>Include Port of Matamoros</td>
<td>The Port of Matamoros could not be added because it was not finished by 2017 (baseline year), but it will be considered for Chapter 8 – Identification of Future Needs and Strategies</td>
</tr>
</tbody>
</table>
Binational Multimodal Network Designation (4.1.4)
Binational Multimodal Network Designation (4.1.4)
Binational Networks Supporting the Texas-Mexico Border (4.4)

- Integrates the 29 border crossings with the multimodal transportation networks
- Identifies binational trade corridors from existing planning documents and stakeholder input
- Identifies multimodal systems supporting these trade corridors
- Designates multimodal, cross-border corridors based on integration, connectivity and accessibility criteria
BTAC Feedback

1. Please identify any missing corridors.
2. What other elements should we consider in this chapter?
Chapter 6: Future Forecasts for the Border Region

Preliminary Analysis and Findings
Future Forecasts for the Border Region Overview

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Preliminary Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Provide future forecasts to 2050 of the movements of people and goods</td>
<td>- Forecast methodology accounts for historical trends and future factors</td>
<td>- An additional 30 million people will cross the border – most by personal vehicle</td>
</tr>
<tr>
<td>- Assess future demand for the binational transportation systems serving the Texas-Mexico border</td>
<td>- Future factors include social, technical, environmental, economic, and political considerations</td>
<td>- Truck and train movements almost triple – stressing border infrastructure capacity</td>
</tr>
<tr>
<td></td>
<td>- Movement of people and goods are forecasted by mode, POE, geography</td>
<td>- The value of trade crossing the border more than triples – making an effective border critical for the U.S. and Mexican economies</td>
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<tr>
<td></td>
<td>- Future scenarios will assess:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Employment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- National economic activity (GDP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Exchange rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Border policies</td>
<td></td>
</tr>
</tbody>
</table>
# Texas-Mexico Border Story: Looking to the Future

| Population | 8.8 million people live along the border (2050)  
Borderwide population increases another 18% (1.3 million) from 2017 to 2050 |
|------------|-------------------------------------------------------------------------------------------------|
| Employment | Continued employment growth in border region from 2017 to 2050  
Texas: 2.1% growth per year  
Mexico: continued growth |
| Income     | Incomes in Texas border counties expected to grow 0.5% per year  
Texas border poverty expected to continue declining between 2017 and 2050  
Incomes in Mexico border states expected to grow between 2017 and 2050 |
| Education  | Texas border region high school and college/technical school graduation rates continue to increase between 2017 and 2050  
More Mexico border residents are expected to complete secondary and upper education due to compulsory upper secondary education policies |
| Trade      | Ratification of USMCA continue the economic competitiveness developed under NAFTA  
COVID-19 may result in short-term trade decline/longer-term near-shoring of manufacturing |
The Future of the Border Region: Population

- Population in the border region is projected to grow annually by:
  - **Texas**: 0.44% from 2017 to 2050
  - **Mexico**: 0.52% from 2017 to 2050
- Population has not been a good predictor of the cross-border movement of people
  - While the border region population grew through 2019, the movement of people through the border declined more than 50 million

Source: Texas Demographic Center, 2018 Population Projections (2010-2050); CONAPO, Projections of the Population of the Municipalities of Mexico (2015-2030), UN World Population Prospects 2019
The Future of the Border Region: Employment

- The cross-border movement of people is influenced by local factors:
  - Employment
  - Exchange rates
  - Gasoline prices
  - Border policies

- Employment in the border region is expected to grow annually by:
  - **Texas: 2.1% annual growth** from 2017 to 2050
  - Employment forecasts are not available for Mexico

More than 99% of the movement of people starts and ends within 60 miles of the border.
The Future of the National Economies

- The cross-border movement of goods are influenced by national and international economic trends, particularly the U.S. economy.
- Truck and rail border crossings tend to be longer distance.
- Mexico was the U.S.' largest trading partner in goods (2019).
- U.S. trade is forecast to outpace economic growth annually from 2017 to 2030 (per U.S. Congressional Budget Office):
  - Economic Growth: 1.9%
  - Exports: 2.2%
  - Imports: 2.4%
Forecasting Methodology

- Developed forecasts of the movements of people and goods by POE
  - People: number of people, passenger vehicles, buses, pedestrians
  - Goods: trucks, railcars, tons, value
- Conducted trend analysis of border crossings and socioeconomic factors
- Collected forecasts of socioeconomic variables to form a mid-case or “most likely” forecast
- Allocated POE forecasts to border crossings
- Forecasts calibrated to other sources
Forecast Data Sources

- Approach consistent with planning reports and research
- External inputs to forecast
  - Bureau of Transportation Statistics (BTS)
  - Texas SAM-V4 model
  - Texas Demographic Center
  - Energy Information Agency (EIA)
  - Organization for Economic Cooperation and Development (OECD)
- Forecasts validated against those developed by other sources
  - 2018 Texas Freight Mobility Plan
  - Freight Analysis Framework (FAF)
  - TRANSEARCH forecasts
  - FHWA border forecasts
- Reviewed Metropolitan Planning Organization Long-Range Plans
- 25 million additional people will cross the border through POEs in 2050 (28% growth)
- Personal vehicles remain the major mode of personal travel

**Preliminary Future Movement of People Through Texas-Mexico Border: Mid-Case Forecast Borderwide**

![Bar chart showing movement of people through the border from 2017 to 2050.](chart)

- **2017**
  - Personal Vehicle Passengers: 87.7
  - Pedestrians: (remaining portion)
  - Bus Passengers: (remaining portion)

- **2050**
  - Personal Vehicle Passengers: 112.4
  - Pedestrians: (remaining portion)
  - Bus Passengers: (remaining portion)

*number of people*
The movement of people is broadly distributed across the three border regions.
Trucks are expected to nearly triple (189% growth)

Railcars expected to more than double (163% growth)
Preliminary Future Movement of Goods Through Texas-Mexico Border: Mid-Case Forecast by Region

Movement of Goods

Northbound Truck Movements by Region, 2050

- El Paso: 2.2
- Laredo: 7.1
- Rio Grande Valley: 3.1

Northbound Railcar Movements by Region, 2050

- El Paso: 0.2
- Laredo: 2.1
- Rio Grande Valley: 0.3

Goods are moved mostly through the Laredo/Coahuila/Nuevo León/Tamaulipas Region
Preliminary Future Value of Trade Through Texas-Mexico Border

- **Tonnage is expected to more than triple** (219% overall) with faster growth in the northbound direction.
- Truck tonnage grows faster (251%) than rail tonnage (170%).

**Total Northbound Tonnage**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>44.8</td>
<td>152.7</td>
</tr>
<tr>
<td>Rail</td>
<td>0</td>
<td>52.9</td>
</tr>
</tbody>
</table>

**Total Southbound Tonnage**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>63.0</td>
<td>190.9</td>
</tr>
<tr>
<td>Rail</td>
<td>0</td>
<td>37.8</td>
</tr>
</tbody>
</table>
Mexico is the U.S.’ largest trading partner in goods – just over half the value of trade through the border is Mexican exports to the U.S.

The value of trade (250%) grows faster than the movement of goods (184%) due to greater growth in higher value supply chains such as high technology.
Alternate Future Scenarios for the Border

- The mid case reflects a continuation of prevailing trends
  - 2.1% annual employment growth
  - 1.8% annual economic growth (U.S.)
  - Stable currencies

- Alternate future scenarios are based on factors affecting the movement of people and goods across the border
  - **Low case:** slower economic growth and restrictive border policies
  - **High case:** higher economic growth, facilitative border policies and additional infrastructure

<table>
<thead>
<tr>
<th>Low-Case Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Slower employment growth (1.3% per year)</td>
</tr>
<tr>
<td>• Slower national economic growth (1.6% per year)</td>
</tr>
<tr>
<td>• Peso (40% devaluation)</td>
</tr>
<tr>
<td>• Restrictive border &amp; trade policies (-10% impact)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High-Case Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Additional infrastructure investments</td>
</tr>
<tr>
<td>• Faster employment growth (2.4% per year)</td>
</tr>
<tr>
<td>• Faster national economic growth (2% per year)</td>
</tr>
<tr>
<td>• Peso (20% appreciation)</td>
</tr>
<tr>
<td>• Greater trade integration (+10% impact)</td>
</tr>
</tbody>
</table>

Question: Do the assumptions for the alternate scenarios make sense to you?
In the low case, the movement of people is lower due to economic conditions, the exchange rate, and border policies
- Cross-border land movements decline by more than 18 million to 2011 levels

In the high case, the movement of people increases by more than 50 million, straining border infrastructure
- Consistent with post-2011 trends
Preliminary Alternate Future Scenarios: Movement of Goods

- Even in the low case, cross-border movement of goods doubles, which will strain border infrastructure
  - Over the long run, the U.S. and Mexico economies still grow, driving the demand for goods

- In the high case, trucks more than triple and rail containers nearly triple, driving the need for additional capacity
  - With greater economic integration between the U.S. and Mexico, an efficient border is critical for the economies of both countries
Preliminary Assessment of Future Congestion

- **Border crossing capacity is anticipated to be strained** even further, in particular for the movement of goods
  - Commercial vehicles expected to grow across capacity-constrained border crossings
  - Wait times anticipated to increase significantly if no action is taken

- **North-south regional roadways providing access to border crossings are particularly affected** with limited other options to move people and goods
  - I-35 into and out of Laredo
  - I-10 in El Paso, impacting east-west connectivity with Laredo and RGV regions
  - I-69, US 59, and US 77 in RGV
What Do the Forecast Results Mean for the BTMP?

- Usage of the POEs along the Texas-Mexico border will increase, regardless of future scenario.
- Infrastructure improvements will be needed to accommodate future demand.
- The mix of traffic across the border will shift towards the movement of goods.
BTAC Feedback

1. Do the forecast results make sense to you? Please explain.
Chapter 7: Economic Importance of the Border

Preliminary Analysis and Findings
## Economic Importance of the Border

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Preliminary Findings</th>
</tr>
</thead>
</table>
| - Demonstrate the economic importance of the border  
  - Highlight the economic impacts of border delays  
  - Provide input into the investment plan | - The Texas-Mexico border supports the economies of the border region in Mexico, Texas, and the U.S.  
  - The benefit of trade extends to U.S. and Mexican states beyond the border  
  - Current delays at the border represent missed economic opportunities  
  - Future delays will grow as a result of increased demand | - The Texas-Mexico border generates more than $268 billion annually in GDP and generates 4.9 million jobs in both countries  
  - 97% of the total economic impact is due to the movement of goods  
  - The movement of people contributes more than $9 billion annually to the GDP of the border region  
  - Border crossing delays represent missed economic opportunities of more than $2.7 billion annually in both countries |
The movement of people and goods through the Texas-Mexico border has a significant impact on both countries. The border generates more than $268 billion annually in GDP:
- $168 billion in the U.S.
- $100 billion in Mexico
The majority of this impact is due to the movement of goods.
The movement of people and goods **generates 4.9 million jobs** on both sides of the border
- 1.5 million jobs in the U.S.
- 3.4 million jobs in Mexico

These jobs support economies at all levels of geography:
- National: both countries
- State: border states
- Regional: border region

* State results include border region results in Mexico
Preliminary Economic Importance of Cross-Border Trade/Goods

- Total economic impact
- Key supply chain impact
- Binational, national, state, and regional economic impact
Preliminary Economic Importance of Cross-Border Trade/Goods – Methodology

1. Estimate the value of exports by supply chain, origin, and POE
   • Data: supply chain profile 2017 data
   • Source: U.S. Census Bureau Trade Data Online (TDO), Freight Analysis Framework (FAF), Bureau of Transportation Statistics (BTS) TransBorder Freight Data

2. Estimate the impacts of exports using input-output models
   • Data: 2018 multipliers for U.S., 2015 multipliers for Mexico
   • Source: IMPLAN

Measures and outcomes
   • Gross Domestic Product (GDP), employment, and labor income
The economic impact of goods movement across the Texas-Mexico border reaches the entire U.S. and Mexico.

Manufacturing integration after NAFTA has allowed (and USMCA will allow) North American manufacturing to be more competitive with Asia.

The Texas-Mexico border trade has had a nationally significant impact on GDP in both countries.
Higher-value added manufacturing in durable goods, including machinery, contribute the most to the U.S. and Mexican economies.

Goods move across the border, benefiting from the abundance of Mexican labor and U.S. technology.

### Preliminary Economic Importance of Key Supply Chains through the Border

<table>
<thead>
<tr>
<th>Supply Chain</th>
<th>United States</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits, Vegetables, and Grains</td>
<td>$161.6 billion</td>
<td>$97.1 billion</td>
</tr>
<tr>
<td>High Tech</td>
<td>$50.4 billion</td>
<td>$52.5 billion</td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>$41.7 billion</td>
<td>$32.4 billion</td>
</tr>
<tr>
<td>Other Supply Chains (Combined)</td>
<td>$109.1 billion</td>
<td>$61.1 billion</td>
</tr>
</tbody>
</table>

Impact of Key Supply Chains on GDP
Preliminary Economic Impact of Trade by Geography

Economic Impact of Movement of Goods through Texas-Mexico Border

Billions

United States
- $22.3 B
- $33.2 B
- $106.1 B
- $161.6 billion

Mexico*
- $46.0 B
- $51.1 B
- $97.1 billion

* State results include border region results in Mexico
Preliminary Economic Impact of Trade Through the Border by Region

Economic Impact of Movement of Goods though Texas-Mexico Border

![Chart showing economic impact of goods movement across the Texas-Mexico border by region.]

- **$161.6 billion**
  - **RGV, $20.7 B**
  - **Laredo, $96.0 B**
  - **El Paso, $45.0 B**

- **$97.1 billion**
  - **Tamaulipas, $16.0 B**
  - **Coahuila-NL-Tam, $56.7 B**
  - **Chihuahua, $24.4 B**

United States vs. Mexico

Billions
Preliminary Economic Importance of Cross-Border Movement of People

- Total economic impact
- Economic impact by mode and region
- Economic impact on hospitality industries
Preliminary Economic Importance of Cross-Border Movement of People – Methodology

1. Estimate expenditures by categories
   - Categories: retail, hotels & restaurants, recreation & entertainment, miscellaneous
   - Data: crossing data, expenditure estimates
   - Source: U.S. Customs and Border Protection (CBP), San Diego Association of Governments (SANDAG), Arizona Office of Tourism

2. Estimate the impacts of expenditures using input-output models
   - Data: 2018 multipliers for U.S., 2015 multipliers for Mexico
   - Source: IMPLAN

Measures and outcomes
   - Gross Domestic Product (GDP), employment, and labor income
Pedestrian and personal vehicle trips strongly influence the border economy.

Historically, Mexican nationals visit and shop in Texas.

The movement of people generates over $9 billion annually in GDP:
- 79% by personal vehicle
- 20% by foot (pedestrian)
- 1% by bus

The impacts are greatest in the El Paso/Santa Teresa/Chihuahua and Rio Grande Valley/Tamaulipas Regions.

**Economic Impact of Movement of People Through Texas-Mexico Border**

- **Texas**
  - El Paso, $2.6 billion
  - Laredo, $1.7 billion

- **Mexico Border States**
  - Chihuahua, $1.1 billion
  - Coah-NL-Tam, $0.7 billion
  - Tamaulipas, $0.9 billion

Total: $6.5 billion

Additional: $2.8 billion
Employment in these sectors explains why job growth in some areas of the border was among the fastest in the U.S. through the early 2000s.

The retail industry, particularly in the U.S., benefits from the movement of people across the border.
Preliminary Economic Cost of Congestion

- Economic impact of border wait times and crossing times
- Economic impact of wait times for movement of people and goods
1. Estimate lost exports and expenditures due to delays at border
   - Based on how industries and people react to changes to delays at land ports of entry (elasticities)
   - Data: crossing data, delay data, supply chain profile 2017 data, demand elasticities
   - Source: U.S. Customs and Border Protection (CBP), Texas A&M Transportation Institute (TTI), San Diego Association of Governments (SANDAG), Arizona Office of Tourism, plus prior supply chain profile and crossing data

2. Estimate impacts using input-output models
   - Data: 2018 multipliers for U.S., 2015 multipliers for Mexico
   - Source: IMPLAN

Measures and outcomes
   - Gross Domestic Product (GDP), employment, and labor income
Border delays represent missed opportunities to the U.S. and Mexican economies (more than $2.7 billion in GDP)

- This impact almost doubles with crossing time (to $4.5 billion in GDP)
  - Texas: $1.2 billion annually
- Delays at the border increase transportation costs for goods, making them more expensive and reducing demand
- Decreases in reliability for just-in-time logistics reduces competitiveness with other nations
Delays at the border for the movement of people and goods represent missed economic opportunities in all three regions.
Preliminary Economic Impacts of Delays to the Movement of Goods on GDP by Geography

Economic Impact of Goods Wait Time on GDP by Geography

* State results include border region results in Mexico

- United States:
  - National: $257 M
  - Border States: $82 M
  - Border Region: $526 M
  - Total: $866 million

- Mexico*:
  - National: $215 M
  - Border States: $663 M
  - Border Region: $526 M
  - Total: $878 million

- National
- Border States
- Border Region
Border delays affect key supply chains in the U.S. and Mexico.
Preliminary Economic Impacts of Delays to the Movement of People on GDP by Region

Economic Impact of People Wait Time on GDP by Region

Millions

- Texas
  - RGV, $214.8 M
  - Laredo, $159.3 M
  - El Paso, $245.5 M

- Mexican Border States
  - Tamaulipas, $99.9 M
  - Coah.-NL-Tam, $76.3 M
  - Chihuahua, $118.9 M

El Paso, $245.5 M
Chihuahua, $118.9 M
RGV, $214.8 M
Coah.-NL-Tam, $76.3 M
Tamaulipas, $99.9 M

$619 million
$295 million

Economic Impact of People Wait Time on GDP by Region

Texas-Mexico Border Transportation Master Plan

June 17, 2020
What do the economic impact results mean for the BTMP?

- Investments in border crossings and the border region’s roads will help reduce delays.
- Facilitating the flow of goods across the Texas-Mexico border is important for the U.S. and Mexico remaining competitive with other nations.
- Investments will also increase regional trade in high-value added manufactured goods and preserve jobs in both countries.
BTAC Feedback

1. Do the economic impact results make sense to you? Please explain.

2. Which economic impact measures (GDP, employment, labor income) would you most like to see?
### Study Tasks/Three Month Look-Ahead

<table>
<thead>
<tr>
<th>Forecasts (Task 6)</th>
<th>Economic Analysis (Task 7)</th>
<th>Recommendations &amp; Investment Plan (Task 8)</th>
<th>Implementation Plan (Task 9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Refine future scenarios</td>
<td>- Refine assessment of economic importance of trade through the border</td>
<td>- Discuss project prioritization process</td>
<td>- Identify methodology to create implementation plan</td>
</tr>
<tr>
<td>- Refine future forecasts</td>
<td>- Refine assessment of economic impact of wait times</td>
<td>- Draft prioritize policies, programs &amp; projects from existing plans and stakeholders</td>
<td>- Draft implementation plans for high-priority policies, programs &amp; projects</td>
</tr>
<tr>
<td></td>
<td>- Assess economic impact of BTMP recommendations</td>
<td>- Identify funding sources</td>
<td></td>
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</tbody>
</table>

### Next BNRSC Meetings

<table>
<thead>
<tr>
<th>LRD: June 30, 2020</th>
<th>RGV: July 1, 2020</th>
<th>ELP: July 2, 2020</th>
</tr>
</thead>
</table>

### Next BTAC Meeting

- **July 2020**

### Next BTAC Meeting Content

- Chapter 6: Future Forecasts for the Border Region (Recap)
- Chapter 7: Economic Importance of the Border (Recap)
- Chapter 8: Identification of Future Needs and Strategies
- Chapter 9: Stakeholder Engagement
<table>
<thead>
<tr>
<th>Event Description</th>
<th>Date/Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTAC Review Chapters 2-7</td>
<td>June 2020</td>
</tr>
<tr>
<td>BNRSC Round 4</td>
<td>April 21-23, 2020</td>
</tr>
<tr>
<td>BTAC Review Chapters 8-11</td>
<td>August 2020</td>
</tr>
<tr>
<td>Full Round Feedback</td>
<td>July 2020</td>
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<tr>
<td>Full Round Feedback present Final Report</td>
<td>September 2020</td>
</tr>
<tr>
<td>BTAC Final Report &amp; PPT Review</td>
<td>September 2020</td>
</tr>
<tr>
<td>Texas Transportation Commission Meeting</td>
<td>May 2020</td>
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<tr>
<td>Texas Transportation Commission Meeting</td>
<td>May 2020</td>
</tr>
<tr>
<td>BNRSC Round 5</td>
<td>June-July 2020</td>
</tr>
<tr>
<td>Texas Transportation Commission Meeting</td>
<td>May 2020</td>
</tr>
<tr>
<td>BTAC Review Chapters 2-7</td>
<td>June 2020</td>
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</table>
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