Welcome to the Binational Regional Steering Committee Meeting

- The meeting will start at **8:30 a.m. MST** (9:30 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](http://www.menti.com) into the browser of your device now. The meeting code is: 15 50 66

**Having trouble connecting?**
Contact Giacomo Yaquinto:

via text (512-656-2818) or in the chat box
Texas-Mexico Border Transportation Master Plan

Binational Regional Steering Committee
El Paso/Santa Teresa/Chihuahua Region
Agenda

1. Introduction/Opening Remarks
2. Activities since Previous Meeting (June 2020)
3. Current and Future Needs Assessment (Chapter 5)
4. Identification and Evaluation of Strategies to Address Current and Future Needs (Chapter 8)
5. Future Forecasts for the Border Region (Chapter 6)
6. Next Steps and Closing Remarks
Recap of Previous BNRSC Meeting (June 2020)

- Stakeholder outreach
  - BTAC & BNRSC Round 5

- Received final input on:
  - Chapter 1: Introduction
  - Chapter 2: Goals, Objectives and Institutions
  - Chapter 4: Binational Multimodal Transportation Network Designation

- Reviewed:
  - Chapter 3: Texas-Mexico Border: Past and Present
  - Chapter 6: Future Forecasts for the Border Region
  - Chapter 7: Economic Importance of the Border
Current and Future Needs Assessment
Chapter 5
### Chapter Purpose
- Summarizes current and future issues and needs of the binational and multimodal transportation system
- Sets the stage for identifying strategies and solutions

### Key Messages
- Continued growth of population, trade, and travel demand has outpaced investments in borderwide infrastructure
- Policy, program, and project needs for cross-cutting themes that span across BTMP goal areas:
  - binational coordination, collaboration, and cooperation
  - integration of new technologies
  - data collection, harmonization, sharing, and analysis
  - system monitoring

### Preliminary Findings
- Highest system performance needs are concentrated within the last mile of the border—congestion, safety, and infrastructure asset conditions
- Economic potential of the border is not fully realized due to inefficiencies in border crossings and multimodal transportation system planning, investments, management, and operations
- Demand on binational border crossings and multimodal transportation network outpaces funding availability for infrastructure investments
Binational and Multimodal Coordination, Collaboration, and Cooperation (5.1.1): Borderwide

- Opportunity to improve comprehensive binational coordination among existing institutional frameworks to better plan, invest, manage, and operate border crossings and multimodal transportation network
Need for more consistent planning to integrate and deploy new technologies

- Need for standardized systems, processes, capabilities, data collection
- Opportunity to streamline permitting, inspection, and documentation procedures
- Potential for broader use of non-invasive screening technology
- Improvements in facilitating shared mobility modes, V2I communication, and alternative fuels
- Strategies to decrease long waits at at-grade crossings due to precision scheduled railroading
Data Collection, Harmonization, Sharing and Analysis (5.1.3):
Borderwide

- Need for comprehensive borderwide data collection strategy including comprehensive borderwide total crossing time data and accessible southbound volumes data by mode

- Need to improve trade and personal transportation data among binational federal, state, regional, local, and private partners
  - Limited federal policies in place to share border data between the U.S. and Mexico
  - Improvements in data harmonization between different partners
  - Better applications of binational data analysis programs
Need to develop an institutional framework for system monitoring and gaps in information on system performance for decision-making

- The vast, complex, and regional variation in transportation infrastructure makes performance monitoring **difficult**
- The uniqueness and dynamism of the region makes border-specific performance monitoring **important**
Issues and Needs by Goal: Sustainable Funding (5.2.1): Borderwide

- Demand outpaces funding available for infrastructure investments
- Need for consistent funding sources
- Need for data-driven prioritization process to allocate funding

<table>
<thead>
<tr>
<th>TxDOT 2019 Border District Trade Transportation Report - Border District Funding Shortfall</th>
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<tbody>
<tr>
<td><strong>El Paso District</strong></td>
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<tr>
<td>$0.2</td>
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<td>$0.5</td>
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<td>$677 million</td>
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<td><strong>Laredo District</strong></td>
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<td>$0.03</td>
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<td>$1.1</td>
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<td>$1.16 billion</td>
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<td><strong>Pharr District (RGV)</strong></td>
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<td>$0.2</td>
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<td>$3.4</td>
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<td>$3.63 billion</td>
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<td><strong>El Paso Region</strong></td>
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<td>$13 million</td>
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<td><strong>LaReDo Region</strong></td>
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<tr>
<td>$9 million</td>
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<tr>
<td><strong>RGV Region</strong></td>
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<tr>
<td>$21 million</td>
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</table>
Issues and Needs by Goal: Economic Competitiveness (5.2.2): Borderwide

- Need to reduce inefficiencies to improve the economic potential of the border
  - High border wait times and delays
  - Improvements in comprehensive U.S. and Mexico policy, program, and project coordination and investment
  - Improve efficient connecting infrastructure
  - Need to make the system more responsive to potential disruptions
  - Opportunities to meet current and future demands and projected growth

U.S.-Mexico Trade 2019 $615 B
Trade processed by the Texas-Mexico Border 2019 $421 B
Issues and Needs by Goal: Resiliency (5.2.3): Borderwide

- Need for a comprehensive binational framework for systemic processes, procedures, and investments in the case of unforeseen events
- Increased resiliency planning and enhanced network redundancy
- Recent border disruptions include:
  - Laredo/Nuevo Laredo tornado (2017)
  - Hurricane Harvey (2017)
  - Migrant crisis (2019)
  - COVID-19 (current)
Issues and Needs by Goal: Stewardship (5.2.4): Borderwide

- Growing transportation demand contributes to environmental and community issues along the border
  - Different U.S. and Mexico vehicle emission standards and regulations
  - Need for policies to reduce vehicle idling at the border
  - Opportunities to improve the consistency of air quality monitoring
  - High reliance on traditional energy sources and low use of alternative renewable energy uses
  - Improvements in hazardous material policies and disposal sites
Issues and Needs by Goal: Customer Service (5.2.5): Borderwide

- Need for better mechanisms for binational stakeholder participation in ongoing decision-making on border planning, investments, management, and operations
  - Continued need for language translation services
  - Improved processes to identify, organize, and track customer issues and needs
  - Better procedures to track customer engagement methods
  - Challenges in convening large in-person meetings during COVID-19 pandemic

The BTMP development process brought together an unprecedented 2,400 binational stakeholders to exchange ideas about the border.
Mobility and Reliability Needs: Border Crossing Delays (5.3.1): Borderwide

- Need to address increasing border crossing delays and wait times

Operational Efficiency Needs
- More robust and coordinated management
- Need to advance the broad adoption and integration of technologies
- Improved demand management
- Enhanced number of border inspection staff and hours of operation
- Opportunities to develop additional programs for expedited lanes
- Need for standardized systems and streamlined procedures across border crossings

Border Crossing Volume to Operational Capacity

<table>
<thead>
<tr>
<th>Mode</th>
<th>Underutilized</th>
<th>Overutilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Vehicles</td>
<td>1 Crossing</td>
<td>9 Crossings</td>
</tr>
<tr>
<td>Passenger Vehicles</td>
<td>0 Crossings</td>
<td>17 Crossings</td>
</tr>
<tr>
<td>Bike/Pedestrians</td>
<td>1 Crossing</td>
<td>7 Crossings</td>
</tr>
</tbody>
</table>
Mobility and Reliability Needs: Border Crossing Delays (5.3.1): Borderwide

- Need to address increasing border crossing delays and wait times

**System Capacity Needs**
- Capacity constraints of existing border and network infrastructure
- Overutilization of existing border crossings
- Limited multimodal network capacity
- Need for comprehensive performance monitoring system for preventable maintenance and continuous improvement
- Metric-based system to allocate funding

<table>
<thead>
<tr>
<th>Mode</th>
<th>Underutilized</th>
<th>Overutilized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Vehicles</td>
<td>4 Crossings</td>
<td>1 Crossing</td>
</tr>
<tr>
<td>Passenger Vehicles</td>
<td>4 Crossings</td>
<td>2 Crossings</td>
</tr>
<tr>
<td>Bike/Pedestrians</td>
<td>3 Crossings</td>
<td>0 Crossings</td>
</tr>
</tbody>
</table>
Mobility and Reliability Needs: Border Crossing Delays (5.3.1): El Paso/Santa Teresa/Chihuahua Region

Commercial Vehicle Crossings

**Small**
- **Presidio**: 2014-2018: 17%, 2050: 171%
- **Utilization Rate**

**Large**
- **Ysleta-Zaragoza**: 2014-2018: 49%, 2050: 221%
- **Utilization Rate**

**Volume-to-Total Capacity**
- **Volume-to-Operational Capacity**

**Santa Teresa Bridge of the Americas**

**Border Crossing Sizes**
- **Annual Northbound Volumes**
  - **Small**: Under 75 Thousand
  - **Medium**: 75-500 Thousand
  - **Large**: 500 Thousand - 1.5 Million
  - **Very Large**: 1.5 Million+
Mobility and Reliability Needs: Border Crossing Delays (5.3.1): El Paso/Santa Teresa/Chihuahua Region

POV Crossings

Small
- Tornillo-Guadalupe Intl.
  - 2014-2018: 11%
  - 2050: 41%
- Fort Hancock-El Porvenir
  - 2014-2018: 16%
  - 2050: 45%

Medium
- Santa Teresa
  - 2014-2018: 49%
  - 2050: 116%
- Good Neighbor
  - 2014-2018: 42%
  - 2050: 93%

Large
- Paso del Norte
  - 2014-2018: 42%
  - 2050: 93%
- Bridge of the Americas
  - 2014-2018: 54%
  - 2050: 61%
- Ysleta-Zaragoza
  - 2014-2018: 71%
  - 2050: 72%

PASSENGER VEHICLES

Border Crossing Sizes
- SMALL: Under 500 Thousand
- MEDIUM: 500 Thousand - 2 Million
- LARGE: 2 Million+

Annual Northbound Volumes
Mobility and Reliability Needs: Border Crossing Delays (5.3.1): El Paso/Santa Teresa/Chihuahua Region

Bicycle/Pedestrian Crossings

**Small**
- Tornillo-Guadalupe Intl.
  - Utilization Rate:
    - 2014-2018: 3%
    - 2050: 9%

**Medium**
- Santa Teresa
  - Utilization Rate:
    - 2014-2018: 30%
    - 2050: 58%

**Large**
- Paso del Norte
  - Utilization Rate:
    - 2014-2018: 111%
    - 2050: 142%

**Volume-to-Total Capacity**
- Bridge of the Americas
  - Utilization Rate:
    - 2014-2018: 28%
    - 2050: 66%

**Volume-to-Operational Capacity**
- Ysleta-Zaragoza
  - Utilization Rate:
    - 2014-2018: 27%
    - 2050: 66%

**BIKE/PEDESTRIAN**

<table>
<thead>
<tr>
<th>Border Crossing Sizes</th>
<th>Annual Northbound Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL</td>
<td>Under 100 Thousand</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>100 Thousand - 1 Million</td>
</tr>
<tr>
<td>LARGE</td>
<td>1 Million+</td>
</tr>
</tbody>
</table>
Mobility and Reliability Needs: Roadway Delays (Congestion) (5.3.2): Borderwide

- Congestion occurs due to transportation demand exceeding capacity, design issues, passenger/commercial lane conflicts, and lack of mode choices

<table>
<thead>
<tr>
<th>Operational Efficiency Needs</th>
<th>System Capacity Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvements to outdated transportation systems and traffic control</td>
<td>Opportunity to update roads to higher standards</td>
</tr>
<tr>
<td>Traffic optimization strategies and technology</td>
<td>Lane and intersection design issues</td>
</tr>
<tr>
<td>On- and off-ramp lengths</td>
<td>Limited lane capacity on current key roads</td>
</tr>
<tr>
<td>Alternative transportation choices</td>
<td>Limited connections between corridors and crossings</td>
</tr>
<tr>
<td>Connectivity for OS/OW vehicles</td>
<td>Highway/rail grade separations</td>
</tr>
<tr>
<td></td>
<td>Alternative transportation choices</td>
</tr>
<tr>
<td></td>
<td>Truck parking capacity and staging</td>
</tr>
</tbody>
</table>
Mobility and Reliability Needs: Roadway Delays (Congestion) (5.3.2): El Paso/Santa Teresa/Chihuahua Region

El Paso Region - 2018 Congestion

El Paso Region - 2050 Congestion
### Mobility and Reliability Needs: Roadway Delays (Congestion) (5.3.2):

**El Paso/Santa Teresa/Chihuahua Region**

| 1. Gateway Blvd./I-10/US 180 (N. Mesa St./SH 20 to Patriot Fwy./US 54) |
| 2. N. Mesa St./SH 20 (Executive Center Blvd. to Texas Ave.) |
| 3. N. Mesa St./SH 20 (CanAm Hwy./I-10/US 180/US 85 to Executive Center Blvd.) |
| 4. N. Zaragoza Rd./FM 659 (Gateway Blvd./I-10 to Joe Battle Blvd./Loop 375) |
| 5. Gateway Blvd./I-10 (Patriot Fwy./US 54 to Hawkins Blvd.) |
| 6. Sunland Park Dr. (Montoya Drain to N. Mesa St./SH 20) |
| 7. Lee Trevino Dr. (Montana Ave/US 180/US 62 to Gateway Blvd./I-10) |
| 8. Airway Blvd. (Airport Rd. to Gateway Blvd./I-10) |
| 9. Zaragoza Rd. (Av Waterfill to Gateway Blvd./I-10) |
Mobility and Reliability Needs: Multimodal Connectivity (5.3.3): El Paso/Santa Teresa/Chihuahua Region

- Improvements to congested intermodal **rail facilities** on the U.S. side of the border, especially in El Paso/Santa Teresa
- Enhancements to limited sidewalk connectivity, and gaps between the **bike and pedestrian** network and borderwide major destinations
- Improvements to frequency of **transit service**, bus delays, wait times, and lack of transit service connectivity to bike/pedestrian crossings
- Continued **population growth** will result in a higher demand for transit connections
Mobility and Reliability Needs: Multimodal Connectivity (5.3.3): El Paso/Santa Teresa/Chihuahua Region

- **Truck network** upgrades to higher standards to meet the demands of increasing truck-seaport movements

- Limited wayfinding between crossings and **border region airports** and limited local connectivity between areas surrounding the **regional airports**
Mobility and Reliability Needs: Rail Border Crossings (5.3.4):
El Paso/Santa Teresa/Chihuahua Region

- All rail bridges that connect Texas and Mexico in the region are **single-tracked**. This prevents simultaneous two-way operations and creates bottlenecks as trains queue in both directions.

- **El Paso Rail Bridges (UP and BNSF)**
  - Congestion and overutilization of connecting rail lines
  - Need for expanded rail capacity and a rail link

- **Presidio-Ojinaga International Rail Bridge**
  - Currently closed and being rehabilitated – limits regional rail capacity
  - Need for expanded train weight/speed allowances with improved infrastructure

**NORTHBOUND RAILCAR TRENDS:**

**1996 – 2019:**
+748,000 (305%)
from 252 thousand to 1 million railcars

**2019 – 2050:**
+1,600,000 (160%)
from 1 million to 2.6 million railcars
Mobility and Reliability Needs: Blocked Highway/Rail Crossings (5.3.5): El Paso/Santa Teresa/Chihuahua Region

- Improvements to highway/rail grade crossings needed
- A single stopped train can block all highway/rail crossings from the border to two miles north of the
- El Paso/Ciudad Juarez rail crossing through the downtown area of Ciudad Juarez has four highway/rail crossings.
- Congestion in the El Paso/Ciudad Juarez are

**BLOCKED HIGHWAY/RAIL CROSSING NEEDS**

- Locomotives and railcars block at-grade streets in border region urban areas when stopping for inspection and crew change
- Class I railroads have increased train lengths as part of the paradigm shift to precision scheduled railroading
Opportunities to reduce safety conflicts which occur in areas where commercial vehicles and other modes mix.

The number of incidents close to border crossings is growing as roads accommodate higher traffic volumes and larger sizes of commercial trucks.

Safety and Security: Border Crossing Safety (5.4.1): Borderwide

- Expand number of border crossings with capability to process hazardous materials
- Improve limited pedestrian and bike infrastructure at border crossings and connecting roads
- Potential to provide separate truck lanes at crossings that process hazardous materials
Regional corridors (I-10, Loop 375) have hot spot locations at connections with local routes such as when southbound traffic merges onto I-10 heading toward the border.

Highest POV crash rate at 340 crashes per 100 million vehicle miles traveled (VMT) between 2015 and 2019. This is higher than the statewide crash rate (258 crashes).

Lower Commercial Vehicle crash rate is 147 crashes per 100 million VMT, lower than the statewide crash rate (258 crashes) between 2015 and 2019.

Higher Bicycle/Pedestrian crash percentages at 2.0% of total crashes 1-mile from the border between 2015 and 2019 is higher than the statewide crash rate (1.5%)
Safety and Security: Rail Safety (5.4.3): El Paso/Santa Teresa/Chihuahua Region

- Outside Pecos, **clusters of hot spots** occur at intersections where at-grade rail crossings run closely parallel, at less than 100 feet, to intersections with major I-20 service roads.
- **Highway/rail infrastructure and operational issues** lead to increased incidents, particularly in hot spot locations.
Poor pavement conditions are concentrated near border crossings and on key corridors.

- 7% of I-10
- 4% of I-10/FH 45 El Paso
- 8% of Presidio-Ojinaga corridor
- 8% of regional roadways
- 26% of regional roadways 1 mile from the border
Texas maintains the largest bridge inventory in the nation, yet has the smallest percentage of structurally deficient bridges (1.3%).

92% of Texas bridges borderwide are in good or better condition.

<table>
<thead>
<tr>
<th>Region</th>
<th>Functionally Obsolete</th>
<th>Structurally Deficient</th>
<th>Good or Better</th>
<th>Percent Good or Better</th>
</tr>
</thead>
<tbody>
<tr>
<td>El Paso Region</td>
<td>93</td>
<td>3</td>
<td>931</td>
<td>90.7%</td>
</tr>
<tr>
<td>Laredo Region</td>
<td>54</td>
<td>2</td>
<td>811</td>
<td>93.5%</td>
</tr>
<tr>
<td>RGV Region</td>
<td>0</td>
<td>52</td>
<td>670</td>
<td>92.8</td>
</tr>
<tr>
<td>Borderwide</td>
<td>147</td>
<td>57</td>
<td>2,412</td>
<td>92.2%</td>
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El Paso Region Bridge Conditions

<table>
<thead>
<tr>
<th></th>
<th>Functionally Obsolete</th>
<th>Structurally Deficient</th>
<th>Good or Better</th>
<th>Percent Good or Better</th>
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<td>931</td>
<td>90.7%</td>
</tr>
</tbody>
</table>

- Poorer conditions concentrated in El Paso downtown area and near border crossings
- Four bridge structures have low vertical clearance (under 14”)
Asset Preservation: Border Crossing Conditions (5.5.3): Borderwide

- Border crossings have **no consistent funding sources nor asset management programs** to ensure adequate maintenance over time.
- Opportunities to improve the more than two-thirds of border crossings are in **fair condition** (and could deteriorate to poor conditions).
- **50% CBP facilities are in good condition**; Lake Falcon Dam Crossing and McAllen-Hidalgo facilities are rated in poor condition.
Asset Preservation: Rail Crossings (5.5.4): Borderwide

- Annual inspections and reports indicate whether the rail crossing is safe for current traffic and able to safely support the loadings (weight and mass).

- As of 2019, all rail crossings borderwide were in good serviceable condition.

- Rail intermodal facilities also require maintenance over time to ensure they can sufficiently facilitate truck-rail movements.
## Survey Sample of Needs by Border Crossing

<table>
<thead>
<tr>
<th></th>
<th>El Paso/Santa Teresa/Chihuahua Region</th>
<th>Laredo/Coahuila/Nuevo León/Tamaulipas Region</th>
<th>Rio Grande Valley/Tamaulipas Region</th>
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</thead>
<tbody>
<tr>
<td>Santa Teresa</td>
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<tr>
<td>Paso del Norte</td>
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<tr>
<td>Good Neighbor</td>
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<tr>
<td>Bridge of the Americas</td>
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<tr>
<td>Ysleta-Zaragoza</td>
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<tr>
<td>Tornillo-Guadalupe Int'l</td>
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<tr>
<td>Fort Hancock-El Porvenir</td>
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<tr>
<td>Presidio</td>
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<tr>
<td>Santa Teresa</td>
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<tr>
<td>Presidio</td>
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<tr>
<td>Capacity constraints of key corridors</td>
<td>X X X X XX</td>
<td>XX X XX</td>
<td>XX X XX</td>
</tr>
<tr>
<td>Capacity constraints of connectors</td>
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<td>X X X</td>
<td>X X X</td>
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<tr>
<td>Capacity constraints of interchanges</td>
<td>X X X</td>
<td>X X X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of connectivity to key corridors</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Traffic Impacts on neighborhoods and residential areas</td>
<td>X</td>
<td>X X X X</td>
<td>X</td>
</tr>
<tr>
<td>Lack of connectivity to key industries</td>
<td>X X</td>
<td>X X</td>
<td>X</td>
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BNRSC Feedback

1. Are there any needs that we missed?
Chapter 8: Identification and Evaluation of Strategies to Address Current and Future Needs

Approach and Preliminary Analysis
# Identification and Evaluation of Strategies to Address Current and Future Needs Overview

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Support Messages</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Identify key strategies that are consistent with policies, programs and projects to address current and future needs</td>
<td>- There are multiple solutions to address important needs, including policies, programs, and projects</td>
<td>- Provide the framework and criteria for strategy evaluation tied to goals, mode, region and movement of people and goods</td>
</tr>
<tr>
<td>- Organize the strategies in a way that assists stakeholders in linking them to identified needs in the present and future</td>
<td>- Strategies for border crossings and corridors will be evaluated using similar but separate approaches</td>
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<tr>
<td>- Evaluate strategies using criteria that reflects the BTMP goals</td>
<td>- Evaluation of strategies will be conducted using a regional approach</td>
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Approach Overview: Organize and Match Strategies to Goals and Needs

- Strategies will be organized in three categories:
  - **Policies**: Positions of a public entity or organization that provide an overall framework for investment or level of effort decision-making
  - **Programs**: A plan or system of actions that are repeatable across multiple platforms or locations
  - **Projects**:
    - Infrastructure: New or expanded physical capacity
    - Operational: Tools or techniques to apply to solutions

- Within each category, strategies will be further refined by whether they apply to:
  - Border crossings or corridors
  - Movement of goods or movement of people

- Many strategies suggested in this plan cross multiple goals and categories and can be used in a variety of locations
Preliminary Identification of Policies, Programs and Projects Strategies: Process Overview

Chapter 5: Current and Future Needs Identified

- List of Policies, Programs and Projects Existing Plans and Stakeholder Identified
- Link Policies, Programs and Projects to Needs Identified in Chapter 5
- Identify Gaps Not Addressed by Identified Policy, Program and Project Strategies
  
  Stakeholder input on additional policies, programs and projects to address gaps

Chapter 8: Evaluate Strategies

Chapters 10 and 11: Recommendations and Implementation Plan

Financially Unconstrained:
- High, Medium, Low Tiers

Financially Constrained:
- High, Medium, Low Tiers

Border region
Border crossing
Corridor
Borderwide

Recommendations (Chapter 10) & Implementation Plan (Chapter 11)
- High, Medium, Low Tiers by Geography

Stakeholder input:
- Timeline by short (1-5 years), mid (6-10 years) and long (11+ years)

Projects, policies, and programs by border region, border crossing, and passenger and freight modes
BNRSC Feedback

1. Are there any comments to the proposed approach and framework to identify strategies?
<table>
<thead>
<tr>
<th>Goal</th>
<th>Issue</th>
<th>Border Crossing Needs</th>
<th>Corridor Needs</th>
<th>Key Strategy Type</th>
</tr>
</thead>
</table>
| Mobility and Reliability: Operational Efficiency | Increasing border wait times and delays, roadway congestion, and blocked at-grade rail crossings | - Robust and coordinated border management  
- Broad integration and adoption of technologies (including border screening technology)  
- Demand management  
- Additional border inspection staff  
- Additional border hours of operation  
- Better distribution of passenger and commercial uses compared to transportation demand | - Updated transportation systems  
- Traffic optimization strategies and technology  
- Additional on-ramp and off-ramp length  
- Updated traffic signal control and coordination  
- Static message signs  
- Additional transportation choices  
- Additional connectivity for oversized and/or overweight vehicles | Policies, Programs |
| Mobility and Reliability: System Capacity | Insufficient physical capacity to accommodate growing traffic volumes | - Additional system capacity and alignment with existing border crossings and transportation network infrastructure  
- Additional capacity in existing border crossings  
- Limited multimodal network capacity | - Roads updated to modern design standards  
- More lane capacity on current key roads  
- More connections between corridors and crossings  
- Highway/rail grade separation  
- Alternative transportation choices  
- Additional truck parking capacity | Projects |
### Example: Strategies to Address Border Crossing Delays

#### Border Crossings – Movement of Goods

<table>
<thead>
<tr>
<th>POLICY</th>
<th>PROGRAM</th>
<th>PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issue/Need:</strong> Demand management</td>
<td><strong>Issue/Need:</strong> Additional border hours of operation</td>
<td><strong>Issue/Need:</strong> Better distribution of passenger and commercial uses compared to transportation demand</td>
</tr>
</tbody>
</table>

**Strategy:** Balance distribution of passenger and commercial uses based on transportation demand

**Strategy:** Truck
- Extended hours of operation at commercial border crossings

**Strategy:** Infrastructure
- **Truck**
  - Additional lanes to existing border crossings that are over-capacity (regular and/or FAST)

**Primary Goal:**
- Mobility and Reliability: Operational Efficiency

**Primary Goal:**
- Mobility and Reliability: Operational Efficiency

**Primary Goal:**
- Mobility and Reliability: Operational Efficiency
## Example: Strategies to Address Border Crossing Delays

### Border Crossings – Movement of People

<table>
<thead>
<tr>
<th>POLICY</th>
<th>PROGRAM</th>
<th>PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issue/Need:</strong> Demand management</td>
<td><strong>Issue/Need:</strong> Additional border inspection staff</td>
<td><strong>Issue/Need:</strong> Better distribution of passenger and commercial uses compared to transportation demand</td>
</tr>
</tbody>
</table>
| **Strategy:** Standardized information to users on wait times and congestion around border crossings | **Strategy:** Passenger Vehicles  
- Additional CBP staffing | **Strategy:** Infrastructure  
- *Passenger Vehicles*  
  - Additional lanes to existing border crossings that are over-capacity (regular and/or SENTRI) |

**Primary Goal:**  
- Mobility and Reliability: Operational Efficiency  
- Mobility and Reliability: Operational Efficiency  
- Mobility and Reliability: Operational Efficiency
Preliminary Evaluation of Policies, Programs and Projects:
Process Overview

Chapter 8: Preliminary Evaluation, Step 1

Inputs

List of Projects, Policies and Programs

Evaluation Step

Project, Policy, Program Evaluation
Order of magnitude evaluation of individual measures against key goals

Financially Unconstrained:
High, Medium, Low Tiers

Outputs

Border region
Border crossing
Corridor
Borderwide

Chapters 10 and 11: Recommendations and Implementation Plan
Steps 2 and 3

Financially Constrained:
High, Medium, Low Tiers

Border region
Border crossing
Corridor
Borderwide

Recommendations (Chapter 10) & Implementation Plan (Chapter 11)
High, Medium, Low Tiers by Geography

Stakeholder input:
Timeline by short (1-5 years), mid (6-10 years) and long (11+ years)

Projects, policies, and programs by border region, border crossing, and passenger and freight modes
BNRSC Feedback

1. Are there any comments to the proposed approach and framework to evaluate strategies?
Preliminary Evaluation Framework: Policies, Programs, and Projects

Candidate Policy, Program, Project List
- Clearly-defined
- Previous plans and studies
- Stakeholder needs
- BTMP needs and gaps

Goals and Objectives
- Measures linked to goals and objectives

Policy, Program, Project Evaluation
- Data-driven
- Stakeholder input
- Simple and transparent process

Determine Program and Project Priorities
- High, medium, and low tiers
- Border region, border crossings, and corridors
### Approach Overview: Quantitative and Qualitative Measures Linked to Goals

<table>
<thead>
<tr>
<th>BTMP Goals</th>
<th>Example Indicators for Border Crossings</th>
<th>Example Indicators for Corridors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and Security</td>
<td>Safety hotspots around border crossing</td>
<td>Safety hotspots in corridor; annual crashes, injuries, and fatalities per total miles traveled</td>
</tr>
<tr>
<td>Economic Competitiveness</td>
<td>Economic impacts of movements through border crossing; international trade value and weight through border crossing</td>
<td>International trade value and weight through corridor</td>
</tr>
<tr>
<td>Mobility and Reliability</td>
<td>Border wait times</td>
<td>Hours of delay</td>
</tr>
<tr>
<td>Multimodal Connectivity</td>
<td>Proximity to modal-transfer facilities; modal split through border crossing</td>
<td>Availability of modal-transfer facilities; modal split in corridor; cross-border origins and destinations</td>
</tr>
<tr>
<td>Cross-Border Resiliency</td>
<td>Bridge redundancy</td>
<td>Network redundancy; performance of hurricane evacuation routes</td>
</tr>
<tr>
<td>Asset Preservation</td>
<td>Asset condition – international bridges</td>
<td>Asset condition – pavements and bridges</td>
</tr>
<tr>
<td>Sustainable Funding</td>
<td>Amount of new funding made available for binational, multimodal projects</td>
<td>Amount of new funding made available for binational, multimodal projects</td>
</tr>
<tr>
<td>Stewardship</td>
<td>Community impacts and opportunities created</td>
<td>Community impacts and opportunities created</td>
</tr>
<tr>
<td>Customer Service</td>
<td>BTMP stakeholder engagement participation</td>
<td>BTMP stakeholder engagement participation</td>
</tr>
</tbody>
</table>
Proposed weights for BTMP goals developed through stakeholder input

<table>
<thead>
<tr>
<th>BTMP Goals</th>
<th>BTAC Votes</th>
<th>BNRSC Votes</th>
<th>Stakeholder Workshop Votes</th>
<th>Public Meeting Votes</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and Security</td>
<td>Top Priority: 4</td>
<td>Top Priority: 11</td>
<td>Top Priority: 21</td>
<td>Top Priority: 10</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 3</td>
<td>Second Priority: 7</td>
<td>Second Priority: 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Competitiveness</td>
<td>Top Priority: 12</td>
<td>Top Priority: 12</td>
<td>Top Priority: 22</td>
<td>Top Priority: 11</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 12</td>
<td>Second Priority: 21</td>
<td>Second Priority: 27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility and Reliability</td>
<td>Top Priority: 14</td>
<td>Top Priority: 25</td>
<td>Top Priority: 25</td>
<td>Top Priority: 32</td>
<td>37%</td>
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<tr>
<td></td>
<td>Second Priority: 15</td>
<td>Second Priority: 20</td>
<td>Second Priority: 58</td>
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<tr>
<td>Multimodal Connectivity</td>
<td>Top Priority: 4</td>
<td>Top Priority: 4</td>
<td>Top Priority: 6</td>
<td>Top Priority: 8</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 1</td>
<td>Second Priority: 7</td>
<td>Second Priority: 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross-Border Resiliency</td>
<td>Top Priority: 3</td>
<td>Top Priority: 8</td>
<td>Top Priority: 14</td>
<td>Top Priority: 3</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 3</td>
<td>Second Priority: 4</td>
<td>Second Priority: 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asset Preservation</td>
<td>Top Priority: 0</td>
<td>Top Priority: 7</td>
<td>Top Priority: 4</td>
<td>Top Priority: 1</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 1</td>
<td>Second Priority: 8</td>
<td>Second Priority: 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable Funding</td>
<td>Top Priority: 3</td>
<td>Top Priority: 1</td>
<td>Top Priority: 5</td>
<td>Top Priority: 1</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 3</td>
<td>Second Priority: 1</td>
<td>Second Priority: 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stewardship</td>
<td>Top Priority: 0</td>
<td>Top Priority: 0</td>
<td>Top Priority: 0</td>
<td>Top Priority: 0</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 0</td>
<td>Second Priority: 0</td>
<td>Second Priority: 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Service</td>
<td>Top Priority: 0</td>
<td>Top Priority: 0</td>
<td>Top Priority: 3</td>
<td>Top Priority: 4</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>Second Priority: 1</td>
<td>Second Priority: 2</td>
<td>Second Priority: 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BNRSC Feedback

1. Do you have any comments to the proposed weights for the BTMP goals?
Example of Project Evaluation for Border Crossings and Corridors Using BTMP Goals

<table>
<thead>
<tr>
<th>BTMP GOALS</th>
<th>POE A</th>
<th>POE B</th>
<th>POE C</th>
<th>Interstate A Widening</th>
<th>Interstate B Widening</th>
<th>Interstate C Widening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and Security</td>
<td>✓ ✓</td>
<td>✓ ✓</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Economic Competitiveness</td>
<td>✓ ✓</td>
<td>✓ ✓</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mobility and Reliability</td>
<td>✓ ✓</td>
<td>✓ ✓</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Multimodal Connectivity</td>
<td>✓ ✓</td>
<td>✓ ✓</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cross-Border Resiliency</td>
<td>✓ ✓</td>
<td>✓ ✓</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Asset Preservation</td>
<td>✓ ✓</td>
<td>✓ ✓</td>
<td>✓ ✓ ✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sustainable Funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stewardship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL POINTS</td>
<td>49</td>
<td>74</td>
<td>49</td>
<td>85</td>
<td>77</td>
<td>66</td>
</tr>
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</table>
Approach Overview: Determine Program and Project Priorities

- Thresholds for high, medium and low tiers

<table>
<thead>
<tr>
<th>Tier</th>
<th>Threshold (Points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>&gt; 70</td>
</tr>
<tr>
<td>Medium</td>
<td>40 – 70</td>
</tr>
<tr>
<td>Low</td>
<td>&lt; 40</td>
</tr>
</tbody>
</table>

- Weight of top three BTMP goals equals 73 points
BNRSC Feedback

1. Do you have any comments to the proposed thresholds for the tiers?

2. Are there any comments or additional questions to the proposed approach to identify and evaluate strategies?
Future Forecasts for the Texas-Mexico Border Region

Chapter 6
### Future Forecasts for the Texas-Mexico Border Region Overview

<table>
<thead>
<tr>
<th>Chapter Purpose</th>
<th>Key Messages</th>
<th>Refinements</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>Provide information on through movements by border crossing/POE, and system impacts</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>An additional 30 million people will cross the border – most by personal vehicle</td>
</tr>
<tr>
<td></td>
<td>Movement of people and goods are forecasted by mode, POE, geography</td>
<td>Truck and train movements almost triple – stressing border infrastructure capacity</td>
</tr>
<tr>
<td></td>
<td>Future scenarios will assess:</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>
</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>
Mid-Case Forecast for Movement of Goods

- Truck, rail, air cargo, pipeline, and maritime
- By movement, tonnage, and value
- By borderwide, regional, and POE/border crossing
Forecasts of Total Trade by Value Through the Texas-Mexico Border, 2017–2050 (6.8.1)

- Value of all trade **increases from** $408 billion in 2017 to $1.4 trillion in 2050, an increase of 243%
- In 2050, $434.1 billion (or 58%) of $749.4 billion in northbound trade (Mexican exports to the U.S.) is through Texas

### Northbound Value, 2017-2050

- 2017: $27.0 billion
- 2050: $434.1 billion

### Southbound Value, 2017-2050

- 2017: $7.7 billion
- 2050: $473.9 billion

<table>
<thead>
<tr>
<th>Year</th>
<th>Within Border Region</th>
<th>Within Rest of Texas</th>
<th>Through Texas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>$27.0</td>
<td>$61.4</td>
<td>$127.7</td>
</tr>
<tr>
<td>2050</td>
<td>$7.7</td>
<td>$15.8</td>
<td>$137.1</td>
</tr>
<tr>
<td>2017</td>
<td>$221.4</td>
<td>$93.9</td>
<td>$434.1</td>
</tr>
<tr>
<td>2050</td>
<td>$39.7</td>
<td>$63.4</td>
<td>$473.9</td>
</tr>
</tbody>
</table>
Forecasts of Total Trade by Tonnage Through the Texas-Mexico Border, 2017–2050 (6.8.1)

- Total tonnage increases from 107.8 million in 2017 to 344.0 million in 2050, an increase of 219% with faster growth in the northbound direction (241%)
- Most (more than 50% northbound and 70% southbound) of the tonnage crossing the border goes through Texas to other U.S. states
Future Movement of Goods by Tonnage Through Texas-Mexico Border: Truck (6.8.1)

- Tonnage moved by trucks increases from 64.8 million in 2017 to 227.5 million in 2050, an increase of 251%
- In 2050, the Laredo/Coahuila/Nuevo León/Tamaulipas Region accounts for 133.1 million (59%) of 227.5 million tons moved by trucks (compare a 62% share in 2017)
The Laredo POE grows from 38 million tons in 2017 to 117 million tons in 2050, an increase of 208%.

In 2050, the Laredo POE accounts for 117 million tons (or 51%) of 227.5 million tons moved by trucks, a decline from a 59% share in 2017.
Future Movement of Goods by Value Through Texas-Mexico Border: Truck (6.8.1)

- Value of goods moved by truck grows from $305.5 billion in 2017 to $1,123 billion in 2050, an increase of 268% (compared to an increase of 251% for tonnage).
- In 2050, the Laredo/Coahuila/Nuevo León/Tamaulipas Region accounts for $555.3 billion (49%) of $1,123 billion moved by trucks (compared to 59% share in 2017).
- Value of goods moved by truck through Laredo POE grows from $165 billion in 2017 to $482 billion in 2050, an increase of 192%
- **Four POEs surpass $100 billion in annual trade by truck by 2050**: Laredo, El Paso, Hidalgo, and Santa Teresa
Future Truck Movement Through Texas-Mexico Border (6.8.1)

- Truck movements grow from 4.3 million in 2017 to 12.3 million in 2050, an increase of 186%.
- In 2050, the Laredo/Coahuila/Nuevo León/Tamaulipas Region accounts for 7.1 million (58%) of 12.3 million truck movements (compared to 56% share in 2017).
Future Truck Movement Through Texas-Mexico Border (6.8.1)

- Truck movements through World Trade grows from 1.7 million in 2017 to 5.1 million in 2050, an increase of 200%
- In 2050, the World Trade accounts for 5.1 million (or 41%) of 12.3 million truck movements, an increase from a 40% share in 2017
Future Rail Movement of Goods by Tonnage Through Texas-Mexico Border: Rail (6.8.1)

- Rail tons increase from 42.9 million in 2017 to 116.1 million in 2050, an increase of 171%
- In 2050, the Laredo/Coahuila/Nuevo León/Tamaulipas Region accounts for 86.8 million (75%) of 116.1 million rail tons, a decrease from an 85% share in 2017
Future Movement of Goods by Value Through Texas-Mexico Border: Rail (6.8.1)

- Value of goods moved by rail increase from $71.3 billion in 2017 to $196.9 billion in 2050, an increase of 176%
- In 2050, the Laredo/Coahuila/Nuevo León/Tamaulipas Region accounts for $165.1 billion (84%) of $196.9 billion moved by rail, a decrease from a 86% share in 2017.
Future Movement of Goods by Rail Through Texas-Mexico Border: Rail (6.8.1)

- By 2050, the Eagle Pass Rail Bridge will move more goods by tonnage than any other rail crossing, compared to 2017 when Laredo Rail Bridge had the most tonnage.
- Laredo Rail Bridge will move the most goods by value at $108.6 billion in 2050.
Future Movement of Goods by Rail Through Texas-Mexico Border (6.8.1)

- Railcar movements increase from 1.0 million in 2017 to 2.6 million in 2050, an increase of 160%.
- In 2050, the Laredo/Coahuila/Nuevo León/Tamaulipas Region accounts for 2.1 million (88%) of 2.6 million rail movements, an increase from a 80% share in 2017.
Future Movement of Goods by Rail Through Texas-Mexico Border (6.8.1)

- In 2050, the Laredo Rail Bridge accounts for 1.1 million (44%) of 2.6 million rail movements, an increase from a 42% share in 2017
- In 2050, the Eagle Pass Rail Bridge accounts for 0.9 million (37%) of 2.6 million rail movements, an increase from a 36% share in 2017
Future Movement of Goods by Air Through Texas-Mexico Border (6.10.1)

- Air cargo volumes between Texas and Mexico will grow from 28.5 thousand tons in 2017 to 130.3 thousand tons in 2050, an increase of 357%
- **Air cargo values will increase from $1.8 billion in 2017 to $13.0 billion in 2050, an increase of 622%**
Future Movement of Goods by Pipeline Through Texas-Mexico Border (6.10.2)

- Pipeline tonnage increases from 25.6 million in 2017 to 52.0 million in 2050, an increase of 103% (primarily southbound shipments of natural gas and petroleum products)

- The value of goods moved by pipeline will increase from $4.0 billion in 2017 to $8.3 billion in 2050, an increase of 108%
Future Movement of Goods by Maritime Through Texas-Mexico Border (6.10.3)

- Maritime tonnage will grow from 36.9 million tons in 2017 to 45.6 million tons in 2050, an increase of 24%
- Overall value shipped by maritime will increase from $25.8 billion in 2017 to $53.8 billion in 2050, an increase of 109%
Mid-Case Forecast for Movement of People

- By mode of travel
- By borderwide, regional, and border crossing
People crossing the border increase from 87.7 million in 2017 to 112.4 million in 2050, an increase of 28% (25 million people).

El Paso/Santa Teresa/Chihuahua and Rio Grande Valley/Tamaulipas regions each account for 40.8 million (or 36%) of 112.4 million total crossings in 2050.
Future Movement of People Through Texas-Mexico Border: Personally Owned Vehicles (6.8.2)

- Personally owned vehicle movements increase from 35.2 million in 2017 to 44.5 million in 2050, an increase of 26%
- The greatest increase (38%) is in the Rio Grande Valley/Tamaulipas Region, which increases from 11.7 million in 2017 to 16.2 million vehicles in 2050.

**Graphs:**

- **Bar Chart:** Personally Owned Vehicle Movements, 2017-2050
  - 2017: 35.2 million
  - 2050: 44.5 million

- **Bar Chart:** Personally Owned Vehicle Movements by Region, 2017-2050
  - El Paso: 14.2 million (2017), 16.0 million (2050)
  - Laredo: 9.3 million (2017), 12.3 million (2050)
  - Rio Grande Valley: 11.7 million (2017), 16.2 million (2050)
Future Movement of People Through Texas-Mexico Border: Personally Owned Vehicles (6.8.2)

![Graph showing personally owned vehicle movements by border crossing, 2017-2050.](image)

- **2017**
- **2050**

- **Bridge of the Americas**
- **McAllen - Hidalgo International**
- **Del Rio - Ciudad Acuña International Bridge at Los Tomates**
- **Blanco - Reynosa International**
- **Eagle Pass - Ciudad Juárez International**
- **El Paso - Ciudad Juárez**
- **Laredo - Ciudad Acuña**
- **Brownsville - Ciudad Madero**
- **Paso del Norte**
- **Ysleta - Zaragoza**
- **Los Ebanos Ferry**
Future Movement of People Through Texas-Mexico Border: Bicycles and Pedestrians (6.8.2)

- Bicycle and pedestrian movements increase from 17.3 million in 2017 to 23.0 million to 2050, an increase of 33%
- The greatest increase (39%) is in the Rio Grande Valley/Tamaulipas Region, which increases from 6.1 million in 2017 to 8.5 million movements in 2050
### Future Movement of People Through Texas-Mexico Border: Bicycles and Pedestrians (6.8.2)

#### Bicycle and Pedestrian Movements by Border Crossing*, 2017-2050

<table>
<thead>
<tr>
<th>Border Crossing</th>
<th>2017</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paso del Norte</td>
<td>4.6</td>
<td>5.5</td>
</tr>
<tr>
<td>Gateway to the Americas</td>
<td>2.2</td>
<td>2.3</td>
</tr>
<tr>
<td>McAllen - Hidalgo International</td>
<td>3.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Gateway International</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Yeleta - Zaragoza</td>
<td>1.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Weslaco - Progresso International</td>
<td>1.4</td>
<td>0.9</td>
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<td>Veterans International Bridge at Los...</td>
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*for border crossings with more than 100,000 crossings in 2050
Future Movement of People Through Texas-Mexico Border: Passenger Bus (6.8.2)

- Bus movements increase from 86.6 million in 2017 to 88.5 million movements in 2050, an increase of 2.2%
- The El Paso/Santa Teresa/Chihuahua Region will increase from 16.8 million bus movements in 2017 to 18.8 million in 2050, an increase of 12% (unlike other regions)
Future Movement of People Through Texas-Mexico Border: Mid-Case Forecast – Passenger Bus (6.8.2)

Bus Movements by POE*, 2017-2050

Thousands

<table>
<thead>
<tr>
<th>Location</th>
<th>2017</th>
<th>2050</th>
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<tr>
<td>Laredo</td>
<td>40.2</td>
<td>39.4</td>
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<td>Hidalgo</td>
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<td>20.9</td>
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<tr>
<td>Santa Teresa</td>
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*information not available at the border crossing level
Forecast of Future System Performance

- Passenger and commercial wait times
- Vehicle miles traveled
Forecast of System Performance: Passenger Wait Times (6.11.1)

- Passenger vehicle growth from 2017 to 2050 is moderate (26%), which leads to a small escalation in wait times at most crossings.

- Wait times increase 506% from 16 minutes in 2017 to 97 minutes in 2050 at Anzalduas International and 485% from 13 minutes in 2017 to 76 minutes in 2050 at Donna International, highlighting the need for solutions to address demand.
Forecast of System Performance: Commercial Wait Times (6.11.1)

- Commercial vehicle wait times increase dramatically by 2050 for both average and 90th percentile.
- For many of the larger crossings, average wait times will be 2 to 3 hours in 2050.
- At the largest crossing, World Trade Bridge, the average wait time will increase from 24 minutes in 2017 to 204 minutes in 2050, an increase of 750%.
Vehicle miles traveled in Texas border counties will grow from 64.8 million in 2017 to 134.6 million in 2050, an increase of 108%.

Travel in the Rio Grande Valley/Tamaulipas Region will grow from 27.4 million vehicle miles in 2017 to 63.9 million in 2050, an increase of 133% (largest among regions).
Alternate Future Scenarios

- Assumptions
- Movement of people and goods
Alternate Future Scenarios for the Texas-Mexico Border (6.12)

- 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

---

### Low-Case Scenario

- Slower employment growth (1.3% per year)
- Slower national economic growth (1.6% per year)
- Peso (40% devaluation)
- Restrictive border & trade policies (-25% impact on people, -10% on goods)

### High-Case Scenario

- Additional infrastructure investments
- Faster employment growth (2.4% per year)
- Faster national economic growth (2% per year)
- Peso (20% appreciation)
- Greater trade integration (+10% impact)
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 22 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
Alternate Future Scenarios: Movement of Goods (6.12)

- 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

Northbound Freight Crossings (2050)

<table>
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<th>2017</th>
<th>Low</th>
<th>Mid</th>
<th>High</th>
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<td>Rail Containers</td>
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<td>2.6</td>
<td>2.8</td>
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</table>
Preliminary Assessment of Future Congestion (6.11.2)

- **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.
- The mix of traffic across the border will shift towards the movement of goods.
- Infrastructure improvements will be needed to accommodate future demand.
BNRSC Feedback
1. Have we missed anything?
2. Did we address your comments?
### Study Tasks/Three Month Look-Ahead

<table>
<thead>
<tr>
<th>Economic Analysis (Task 7)</th>
<th>Recommendations &amp; Investment Plan (Task 8)</th>
<th>Implementation Plan (Task 9)</th>
<th>Final Report</th>
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<tr>
<td>Assess economic impact of BTMP recommendations</td>
<td>Finalize project prioritization process</td>
<td>Identify methodology to create implementation plan</td>
<td>Draft version of final report</td>
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<td></td>
<td>Draft prioritize programs &amp; projects from existing plans and stakeholders</td>
<td>Draft implementation plans for high-priority policies, programs &amp; projects</td>
<td>Draft version of executive summary</td>
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<td>Identify funding sources</td>
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<th>Next BTAC Meeting</th>
<th>Next BTAC Meeting Content</th>
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<td>August 2020</td>
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<td>Chapter 8: Identification and Evaluation of Strategies to Address Current and Future Needs</td>
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<td>Chapter 9: Stakeholder Engagement</td>
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<td>Chapter 10: Recommendations</td>
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<td>Chapter 11: Implementation Plan</td>
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Final Thoughts?